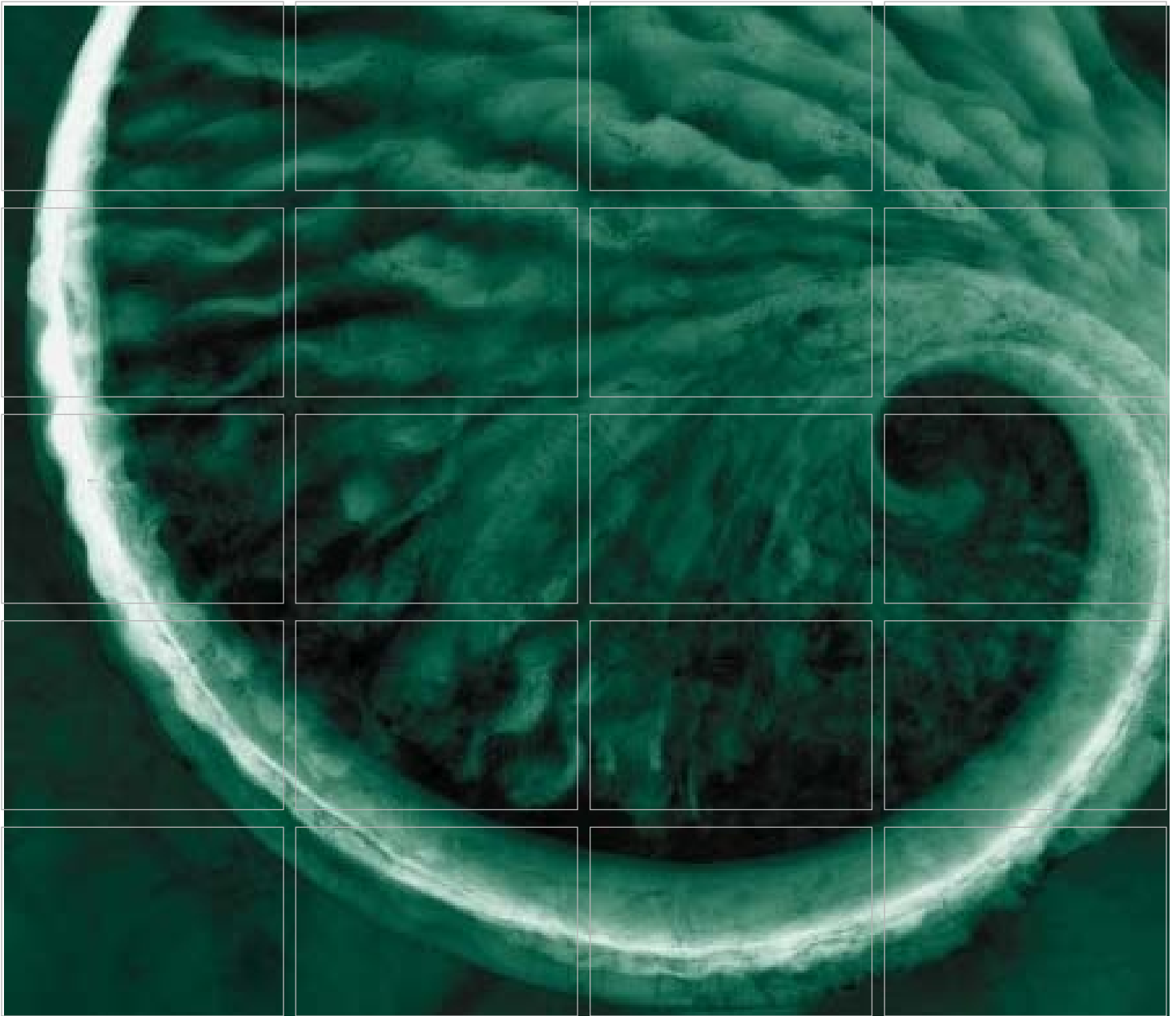




Site Characterization Report

Former K2 Facility
19215 Vashon Highway SW
Vashon, Washington

Prepared for:
K2

September 2015

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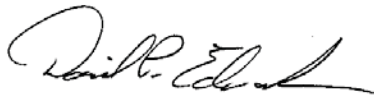
K2

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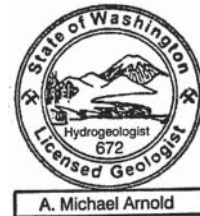
Former K2 Facility
19215 Vashon Highway SW
Vashon, Washington

September 2015

Project No. 0266125



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EXECUTIVE SUMMARY

ERM-West, Inc. (ERM), on behalf of K2, completed a Site Characterization (SC) at the Former K2 Facility at 19215 Vashon Highway SW in Vashon, King County, Washington (subject property). The objective of the SC effort is to evaluate soil and groundwater conditions in the vicinity of known and suspected sources of chemical releases at the subject property toward completing site characterization compliant with the Model Toxics Control Act Regulation (MTCA, Chapter 173-340 Washington Administrative Code [WAC]).

The subject property area is characterized predominately by rural residential development with some scattered commercial and light industrial development. The unincorporated community of Vashon is approximately 1 mile north of the subject property.

Site investigation activities between 2007 and 2008 included completion of subsurface soil sample collection and analysis in the vicinity of 13 areas of recognized environmental conditions (RECs). The only contaminant identified in the samples at a concentration greater than applicable regulatory cleanup standards was diesel-range petroleum hydrocarbons (TPH-D) from a sample collected adjacent to an underground storage tank (UST) outside the north wall of the main facility building. The UST was removed in 2008 and soil contaminated with TPH-D was excavated from the vicinity of the UST. After UST removal and remedial excavation were complete, TPH-D concentrations greater than the applicable regulatory cleanup standard remained in soil beneath the footer slab of the main production building adjacent to the UST location.

The current SC was completed to evaluate soil and groundwater conditions adjacent to the UST removed in 2008, as well as in the vicinity of the remaining 12 RECs at the subject property, which were consolidated into seven areas of concern (AOCs) as part of the SC.

During the SC, ERM confirmed physical subject property conditions related to previous operations and potential contamination and directed the collection and analysis of soil and/or groundwater samples from 22 borings, 11 monitoring wells, and one surface soil location to evaluate contaminant conditions. Project screening goals (PSGs) were developed for analytes detected in subject property soil and groundwater samples by identifying the lowest available state and federal numeric cleanup standard values. Contaminants of potential concern (COPCs) were identified as those analytes detected at concentrations greater than the

PSGs, except in cases of conditions that are not indications of contamination, such as naturally-occurring metals.

Based on the results of the SC and previous investigations, the following conditions were identified at the subject property:

- Soils at the subject property are silt to silty sand with varying amounts of gravel, and groundwater at the subject property is present approximately 2 to 10 feet below ground surface (bgs) and flows toward the south to southeast;
- COPCs at the subject property include:

Soil:

- TPH-D and heavy oil-range petroleum hydrocarbons (TPH-HO) in less than approximately 10 cubic yards of soil immediately beneath a floor drain sump in the machine shop building at AOC 1 in the northeast corner of the subject property;
- TPH-D in less than approximately 10 cubic yards of soil adjacent to the UST removed in 2008 from AOC 2 at the subject property;

Groundwater:

- Trichloroethene (TCE) and, in some areas, associated cis-1,2-DCE and vinyl chloride, in groundwater near the hazardous waste storage area in the western area of the subject property at AOC 3 (approximately 13,000 square feet) and under the main facility building footprint at AOC 4 (approximately 70,000 square feet);
- Bromodichloromethane in groundwater at one sample location under the main facility building at AOC 4; and
- Dissolved arsenic adjacent to the machine shop building at AOC 1.
- Based on concentrations of COPCs detected in monitoring wells installed downgradient of each of the wells where elevated contaminant concentrations were detected, the areas of groundwater having COPC concentrations greater than the PSGs appear to be within the boundary of the subject property.

Vapor intrusion model results indicate that the human health risk from breathing TCE vapors infiltrating from beneath the facility building is less than applicable regulatory standards.

The results of the site-specific Terrestrial Ecological Evaluation (TEE) indicate that exposure of terrestrial organisms to contaminants at the subject property is not a regulatory concern under current conditions.

It is ERM's opinion that the existing data are of sufficient quantity and quality for characterization of the subject property under Chapter 173-340-350 WAC to be considered complete.

1.0

INTRODUCTION

This report includes a description of site characterization (SC) activities completed in 2015 at the Former K2 manufacturing facility at 19215 Vashon Highway SW in Vashon, Washington (the “subject property”). A subject property location and site plan map is included in Figure 1. This document has been prepared to address site characterization requirements in Chapter 173-340-350(7)(c) Washington Administrative Code (WAC) and in accordance with sampling and analysis plan elements in Chapter 173-340-820 WAC. Both are sections of the Model Toxics Control Act (MTCA), the Washington State contaminated site cleanup regulation. The SC was completed in accordance with the methods, procedures, and sampling and analysis plan outlined in the Draft Final Site Characterization Work Plan and Sampling and Analysis Plan (Work Plan, ERM 2014).

The subject property has been entered into the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) as project number NW2894.

1.1

PROJECT OBJECTIVE

The objective of the scope of work described in this document is to evaluate soil and groundwater conditions in the vicinity of known and suspected sources of chemical releases at the subject property toward completing site characterization compliant with the MTCA regulation.

2.0 *SITE DESCRIPTION, ENVIRONMENTAL SETTING, AND BACKGROUND*

This section describes the subject property in the context of its location, environmental setting, and current and historic uses. Previous environmental investigations and remedial actions are presented in this section.

2.1 *PROPERTY DESCRIPTION*

The Former K2 manufacturing facility is on an 11.6 acre property parcel at 19215 Vashon Highway SW in Vashon, King County, Washington (Figure 1). The surrounding area is characterized predominately by rural residential development with some scattered commercial and light industrial development. The unincorporated community of Vashon is approximately 1 mile north of the subject property.

2.1.1 *Geology and Hydrogeology*

2.1.1.1 *Geology*

The subject property is located on Vashon Island, in the Puget Lowlands. The primary geological units in the island are glacial sediments related to multiple continental glaciation events in the Pleistocene, during which ice flowed southward across the Puget Lowlands, as well as sediments deposited during interglacial periods.

On-site soils include glacial till and outwash deposited during the most recent glaciation approximately 13,000 to 16,000 years ago. Soils at the subject property are glacial till associated with this glaciation event. The till is composed of very dense silt with sand and gravel and extends to at least 16 feet bgs, the deepest exploration completed to date on the subject property. Based on available geologic mapping, the till at the subject property is approximately 60 to 80 feet thick and is underlain by the Esperance Sand member of the Vashon advance outwash (Booth 1991).

2.1.1.2 *Hydrogeology*

Groundwater in subject property monitoring wells is observed at approximately 2 to 10 feet below ground surface (bgs), or approximately 383 to 396 feet above mean sea level (amsl) and is present under unconfined conditions. Aquifer soils encountered consist of dense silt

with fine sand and variable amounts of gravel. Groundwater flow direction at the subject property is toward the south to southeast.

2.1.2 *Topography, Drainage, and Climate*

The subject property is situated near the south end of a low north-south-trending ridge and the ground surface across the subject property generally slopes to the south and southeast with a total relief across the subject property of approximately 16 feet (387 to 403 feet amsl). The topography of the surrounding area is gently rolling hills and ridges with surfaces ranging in elevation from approximately 300 feet to 439 feet amsl, bounded to the west, north, and east by steep slopes down to Puget Sound and to the south by moderate to steep slopes bounding the Judd Creek valley. The property is mostly covered with buildings and asphalt paving with some manicured lawn and ornamental planter areas. Areas of dense brush dominate the perimeter of the subject property to the west and south. The surrounding area is a lightly to moderately developed rural area with mixed commercial, industrial, and single-family residential development and open land (Figure 1).

Vashon Island receives an average of 42.57 inches of precipitation annually, typically in the form of rain (Western Regional Climate Center 2015). Precipitation that falls on the site is conveyed via overland drainage and subsurface storm drains to a drainage basin in the southeast corner of the site via overland flow and on-site storm drains, and is discharged from the basin into a drainage ditch along Vashon Highway South. The nearest surface water body is the Matsuda Reservoir approximately 700 feet west of the subject property.

The average annual temperature of Vashon Island is 59.0 degrees Fahrenheit (°F), with a normal annual temperature range of 33.8°F in January to 74.7°F in July (Western Regional Climate Center 2015).

2.1.3 *Ecological Setting*

The site is situated in an area of mixed light to moderate density development in a rural setting with significant areas of fallow land and pastureland with some forested areas.

2.2 *HISTORICAL, CURRENT, AND FUTURE SITE USE*

The property history has been summarized from information included in Berg (2007). A greenhouse and florist business is reported previously in the northern portion of the site. It is not known when this facility was

constructed, but it had been removed by the late 1960s when K2 acquired the property and relocated their manufacturing operations there. At that time, there were two buildings on the property, the machine shop that remains in the northeastern portion of the site, and a fabrication building that makes up the northernmost portion of the current main industrial building at the site. Much of the current industrial building was added in the 1970s as K2 expanded their snow sports equipment manufacturing operations. Fabrication of skis and snowboards ceased in approximately the late 1990s, at which time the facility was repurposed as a production facility for K2 bicycles. Bicycle production ceased at the facility in approximately 2004, and it has been vacant since that time. Additional detail about site operations is included in Section 2.4.

K2 has no plans to restart operations at the subject property. Future subject property use is not known. The site is zoned by King County as CB-P-SO: Community Business, Parcel-Specific Condition, Special District Overlay, and is subject to Vashon Town Plan restrictions for CB-zoned properties and for groundwater protection as the Special District Overlay.

2.3 *PREVIOUS ENVIRONMENTAL INVESTIGATIONS*

The following reports are available that detail site investigations and remedial actions conducted at the subject property:

- A Phase I Environmental Site Investigation (ESA) by Berg Environmental Services (Berg) dated 16 March 2007;
- A Phase II ESA by White Shield, Inc. (White Shield) dated 11 July 2008; and
- An underground storage tank (UST) removal, site assessment, and soil remediation report by White Shield dated 11 February 2009.

The subject property conditions identified during each of these programs are summarized below. The summary of the recognized environmental conditions (RECs) at the subject property in the following section was developed based on the comprehensive findings in Berg (2007) and White Shield (2008 and 2009) documents.

2.3.1 *Recognized Environmental Conditions*

As part of their investigation activities, Berg and White Shield identified and evaluated the presence of RECs at the subject property. RECs are defined as the presence or likely presence of hazardous substances or petroleum products in soil, groundwater, and/or surface water on a

property under conditions that indicate an existing release, a past release, or a material threat of a release of those substances from current or past operations at or near the property.

The table of RECs developed from the Berg and White Shield subject property data evaluations are summarized as follows:

Recognized Environmental Conditions

REC Location 1	Potential releases of materials from the former chemical handling area on the north side of the main plant building, including in the area of operations and drain field of the former florist shop and greenhouse. This area also includes a steel 300-gallon heating oil UST.
REC Location 2	Potential releases of materials in the solvent still area to the west of the main plant building.
REC Location 3	Potential releases from the hazardous waste shed, centrifuge area, and abandoned vehicle area (where possible contaminated soil was removed in the early 2000s), each in the area to the west of the main plant building.
REC Location 4	Potential releases from the former resin tank farm area south of the main plant building.
REC Location 5	Potential releases of intermittently-stored materials on the lawn area south of the main plant building, and potential seepage from the adjacent process area within the building.
REC Location 6	Potential releases of materials from the boiler room area on the southeast corner of the main plant building.
REC Location 7	Potential releases in the machine shop area in the northeast corner of the subject property, which includes a reported open-ended sump, a gel coat area, a paint booth, and a 300-gallon steel heating oil UST.
REC Location 8	Potential releases in areas of equipment and materials storage on paved areas west of the main plant building.
REC Location 9	Potential releases from the storm water retention pond into the ditch along Vashon Highway.
REC Location 10	Potential releases from the storm water retention pond to underlying soils and groundwater.
REC Location 11	Potential releases related to a second drain field serving the former greenhouse and florist business.

Recognized Environmental Conditions (continued)

REC Location 12	Potential solvent releases related to two former vapor degreasers operated inside the main plant building.
Site-wide REC	Groundwater quality related to releases.

Each of the numbered REC areas is shown on Figure 2. Additional information regarding the USTs at the subject property is included in Section 2.3.3 below.

2.3.2 2008 Site Investigation Results

In 2008, White Shield collected soil samples from 11 direct-push borings completed at scattered locations around the subject property to evaluate conditions in the vicinity of the RECs identified above (White Shield 2008). Borings were advanced to depths of up to 14 feet bgs at the locations shown in Figure 3. Associated soil sample results are summarized in Table 1.

Groundwater was not reported encountered in the borings. At least one soil sample was collected from each boring and the soil samples were analyzed for one or more of the following: petroleum hydrocarbons, pesticides, herbicides, volatile organic compounds (VOCs), and the metals arsenic, cadmium, chromium, lead, and mercury.

Petroleum hydrocarbons were detected in one soil sample collected at a depth of 1 foot bgs adjacent to the UST in REC Location 1. Diesel-range petroleum hydrocarbons (TPH-D) was detected at a concentration of 2,200 milligrams per kilogram (mg/kg), which is greater than the MTCA Method A cleanup standard of 2,000 mg/kg. That sample also contained heavy oil-range petroleum hydrocarbons (TPH-HO) at a concentration of 740 mg/kg, less than the MTCA Method A cleanup standard of 2,000 mg/kg. The report characterized the contaminated soil as being within a band several inches thick that appeared to be related to a surficial release of petroleum product.

The VOC trichloroethene (TCE), a common industrial solvent, was detected in soil samples collected from three borings completed near REC locations 2, 3, and 10 (borings B-6, B-4, and B-10, respectively). The TCE concentration in each of the samples was less than the MTCA Method A Soil Cleanup level for Unrestricted Land Uses of 0.03 mg/kg. Methylene chloride was also detected in one sample from boring B-9-1, but at a concentration less than the MTCA Method A cleanup level. The

methylene chloride detection was attributed to laboratory-related sample contamination.

The metals arsenic, chromium, and lead were detected in one or more of the samples, but at concentrations less than the applicable MTCA Method A cleanup levels and at concentrations generally within the ranges of regional background concentrations in soils for the area.

Pesticides and herbicides were not detected in the samples analyzed for those compounds.

2.3.3 *Underground Storage Tanks*

The Berg Phase I ESA stated that three heating oil USTs were reported closed in place at the subject property in 1988. The White Shield Phase II confirms the location of two of the USTs, but does not mention the third. The two USTs reported by White Shield were 300-gallon steel tanks; one beneath the machine shop building in the northeast corner of the subject property and the other adjacent to the north wall of the main plant building. K2 personnel have confirmed that only two USTs containing petroleum or other hazardous materials are present on the subject property, and that the third UST reported by Berg is in error, or is in reference to a potable water tank (cistern) west of the boiler room area.

The UST under the machine shop remains in place, but the UST adjacent to the north wall of the main plant building was removed by White Shield in August 2008, and diesel-contaminated soil was identified in the vicinity of the UST during decommissioning activities. The accessible petroleum-contaminated soil was removed to the extent practicable, but the soil sample collected from soils adjacent to the plant building foundation contained 6,100 milligrams per kilogram (mg/kg) of TPH-D. The regulatory cleanup standard reported by White Shield (2009) is the MTCA Method A soil cleanup level for TPH-D of 2,000 mg/kg.

A map showing the outline of the UST removal and remedial excavation is shown in Figure 4. A summary of the soil sample analytical results is included in Table 1.

The finished UST removal and soil remedial excavation was a maximum of 9 feet deep, and groundwater was not reported encountered. A total of approximately 115 cubic yards of soil, including the petroleum-contaminated soil, were removed from the UST excavation and disposed at the RABANCO Regional Landfill in Roosevelt, Washington.

2.4 *SITE INVESTIGATION OVERVIEW*

This section includes an overview of the approach and scope of work for the current site characterization. It includes a summary of the seven areas of concern (AOCs) designated to group adjacent and similar REC areas into single comprehensive investigation areas.

2.4.1 *Designation of Areas of Concern*

Based on the RECs summarized above, and the findings from site investigation and UST decommissioning activities, ERM has developed a set of AOCs for the subject property. Table 2 includes a correlation of the AOCs with the previously-identified REC areas and conditions. The AOCs are shown on Figure 5.

The following subsections include summaries of the past activities and known conditions, available site investigation results, and a list of the known and potential constituents of concern identified for each AOC.

2.4.1.1 *AOC 1 – Machine Shop*

This area was the original manufacturing facility for the K2 plant on the subject property, and has the longest history of use by K2. The machine shop houses a gel coat pit, a paint booth, and reportedly has a sump with an unknown history of use. A 300-gallon heating oil UST is also reported beneath the building. A drain field serving the former greenhouse and florist shop on the subject property also may be present in whole or in part in AOC 1. The location of this drain field could not be confirmed on existing subject property plans.

No contamination associated with operations at the machine shop was detected in soil samples collected from two borings completed adjacent to the east side of the machine shop building in 2008 (White Shield 2008). Reconnaissance activities in November 2014 confirmed the location of the UST, paint booth, and sump. During the reconnaissance, no gel coat pit was observed in the machine shop and K2 personnel confirmed that no gel coat pit was present, although available information indicates that fiberglass ski components were manufactured in the building.

The sump was observed to consist of an approximately 10-inch-diameter corrugated, galvanized metal pipe secured into the floor slab and extending down approximately 4 feet below grade. Sediments in the sump prevented confirmation of whether the sump had an open or sealed bottom. K2 personnel indicated that the sump previously collected spilled

water and was periodically pumped when it was observed to be full. The sediments in the sump appeared to be wood, plastic, and metal shavings. Former K2 personnel report that the only metals processed (cutting and grinding) at the facility during K2 operations were high-strength steel edging used for skis and snowboards. The most common alloy metals used to create the steel of the type used for edging material are manganese, nickel, chromium, molybdenum, vanadium, silicon, and boron.

Potential constituents of concern in soil and groundwater associated with AOC 1 include:

- Petroleum hydrocarbons;
- VOCs (solvents and petroleum-related VOCs);
- Semi-volatile organic compounds (SVOCs) associated with petroleum products and gel coating materials;
- Pesticides associated with the former greenhouse; and
- Metals associated with paint and machining wastes.

2.4.1.2

AOC 2 – Decommissioned UST and North Lot

A 300-gallon UST was removed from this area in 2008. Approximately 115 cubic yards of soils contaminated with TPH-D were excavated during removal of the UST in 2008, and TPH-D concentrations greater than the cleanup level remain in soils beneath the main plant building adjacent to the former UST location (White Shield 2009). The north lot area was also previously used as the chemical loading and offloading area for the K2 facility, and transformers containing polychlorinated biphenyls (PCBs) were identified at the subject property during a 1989 audit that have since been replaced. A drain field serving the former greenhouse and florist on the subject property also may be present in whole or in part in AOC 2. The location of this drain field could not be confirmed on existing subject property plans.

Known constituents of concern in AOC 2 include TPH-D in soil. Potential constituents of concern in soil and groundwater associated with AOC 2 include:

- Petroleum hydrocarbons;
- VOCs (solvents and petroleum-related VOCs);
- SVOCs associated with petroleum products, coatings, and resins;
- Pesticides associated with the former greenhouse;

- PCBs (soil only); and
- Metals associated with pigments, paint, and machining wastes.

2.4.1.3 *AOC 3 – Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Areas*

This AOC includes several chemical handling and storage areas, including the solvent still, the hazardous waste shed, and storage areas periodically used for chemicals, equipment, and supplies. This area also includes the former location of an abandoned vehicle, which Berg (2007) reported removed in approximately 2000 along with 3 to 4 feet of underlying soil. In November 2014, ERM discussed the vehicle issue with K2 personnel, who confirmed that this “abandoned” vehicle was actually a truck periodically used for trash hauling from the facility, and that it was eventually sold and driven from the subject property under its own power. The former vehicle parking spot was identified by the K2 representative and observed by ERM staff, who confirmed that the parking spot was paved with concrete that was part of the broader facility parking lot, and did not appear to have been cut or have any other indication of excavation activity. K2 personnel confirmed that no excavation had been completed in the area.

TCE was detected at concentrations less than applicable regulatory cleanup standards in soil samples from two of three soil samples collected from borings completed within AOC 3 in 2008 (White Shield 2008). No TCE was detected in the third sample. The sample results for the 2008 investigation soil samples from borings B-4 through B-7 are summarized in Table 1.

Known constituents of concern in AOC 3 include TCE in soil. Potential constituents of concern in soil and groundwater associated with AOC 3 include:

- Petroleum hydrocarbons;
- VOCs (solvents and petroleum-related VOCs);
- SVOCs associated with petroleum products, coatings, and resins; and
- Metals associated with pigments, paint, and machining wastes.

2.4.1.4 *AOC 4 – Former Drain Field and Vapor Degreasers*

This AOC includes an area inside the main plant building where two vapor degreasers were previously operated. A second drain field

attributed to the former greenhouse and florist operation is also located in this area.

No soil or groundwater sampling has been completed in this area.

Potential constituents of concern in soil and groundwater associated with AOC 4 include:

- Petroleum hydrocarbons;
- VOCs (solvents and petroleum-related VOCs);
- SVOCs associated with petroleum products, coatings, and resins;
- Pesticides associated with the former greenhouse; and
- Metals.

2.4.1.5 *AOC 5 – Former Resin Tank and Grinding Process Area*

This AOC includes the aboveground resin storage tanks south of the main plant building, the open lawn area along the south side of the main plant building, and the grinding process area just inside the plant building on the south side. A release of 30 to 50 gallons of resin was reported in the tank area in 1996. The other concerns in this area include potential historical releases of grinding fluids and potential historical releases from the resin storage tanks.

No contaminants were detected in soil samples obtained from two borings drilled near the resin tanks and in the lawn area in 2008 (White Shield 2008). The analytical results from the soil samples collected from these borings (B-8 and B-9) are included in Table 1.

Potential constituents of concern in soil and groundwater associated with AOC 5 include:

- Petroleum hydrocarbons;
- VOCs (solvents and petroleum-related VOCs);
- SVOCs associated with petroleum products and resins; and
- Metals.

2.4.1.6 *AOC 6 – Boiler Room*

This AOC includes the plant boiler room, where some petroleum-related staining was reported observed on the concrete floor. A transformer that

may have contained PCBs was present in this room prior to the 1980s, when it was replaced with a non-PCB transformer.

No soil or groundwater sampling has been completed in this area.

Potential constituents of concern in soil and groundwater associated with AOC 4 include:

- Petroleum hydrocarbons;
- VOCs (petroleum-related VOCs);
- SVOCs associated with petroleum products; and
- PCBs (soil only).

2.4.1.7 AOC 7 – Storm Water Retention Pond

Surface water from across the subject property is collected and channeled to the storm water retention pond, from which it is discharged into the adjacent ditch along the Vashon Highway. Releases of hazardous materials to the ground surface across the subject property may have made their way to this retention pond through storm runoff. Two releases to the retention pond and adjoining ditch have been reported by K2: approximately 20 gallons of heating oil in 1993 and an unreported volume of grinding fluid in 1997 (Berg 2007).

TCE was detected at a concentration less than the applicable regulatory cleanup level in a soil sample from a boring completed at AOC 7 in 2008 (White Shield 2008). The analytical results from this boring (B-10) are summarized in Table 1.

The known constituent of concern at AOC 7 is TCE in soil. Potential constituents of concern in soil and groundwater associated with AOC 7 include:

- Petroleum hydrocarbons;
- VOCs (solvents and petroleum-related VOCs);
- SVOCs associated with petroleum products, coatings, and resins;
- PCBs (soil only); and
- Metals associated with pigments, paint, and machining wastes.

2.4.2 *Site Investigation Scope Overview*

Based on the conditions in each AOC summarized above, ERM developed the following scope of work to meet the SC objectives:

- Completion of a geophysical survey at AOCs 1, 2, and 4 to investigate the location of the drain field(s) associated with the former greenhouse and florist operations;
- Collection of soil and groundwater samples from 23 soil borings, 18 monitoring wells, and one surface soil location for field screening and laboratory analysis of contaminants of concern for the applicable AOC; and
- Completion of aquifer hydraulic conductivity testing at select monitoring wells.

The specific SC scope of work and sampling program details are described in Section 3.0 and are described in the Work Plan (ERM 2014).

2.5 *REGULATORY FRAMEWORK*

2.5.1 *Soil and Groundwater Cleanup Levels*

The SC results were compared with state and federal contaminated media cleanup standards to complete a preliminary screen for regulatory compliance. Preliminary screening goals (PSGs) for the SC project are established using the following method:

1. If available, the MTCA Method A cleanup level for unrestricted land use for each potential contaminant in soil and groundwater is used as the PSG.
2. If a MTCA Method A cleanup level is not available for a potential groundwater contaminant identified at the subject property, then the Federal Maximum Contaminant Limit (MCL) is used as the PSG.
3. If a MTCA Method A cleanup level is not available for a potential contaminant in soil, or an applicable MTCA Method A cleanup level or MCL is not available for a potential contaminant in groundwater, the lowest applicable standard MTCA Method B level is used as the PSG.

This process is designed to generate the lowest, most protective regulatory values expected to be applicable to contaminants at the subject property. MTCA Method A cleanup levels are used as primary PSGs because they represent very stringent standards applicable for soil and groundwater

conditions related to unrestricted land use. In the absence of MTCA Method A standards for some constituents, MCLs and MTCA Method B standards represent a similar level of protectiveness.

The PSGs developed for this project using this method are summarized in Table 3.

2.5.2 *Terrestrial Ecological Evaluation*

A site-specific terrestrial ecological evaluation (TEE) was completed for this subject property based on a determination by Ecology, as communicated by Mr. Dale R. Myers of Ecology (Personal Communication, 25 June 2015), that a site-specific TEE is required as part of the SC program for the K2 facility. This requirement of additional measures is authorized under Chapter 173-340-7490(5) WAC. The site-specific TEE based on the results of this SC is included in Appendix A.

The results of the TEE are discussed in detail in Appendix A and summarized in Section 5.0. No modification to the PSGs listed above was required based on the TEE results.

3.0 FIELD ACTIVITIES

3.1 FIELD ACTIVITY SUMMARY

The SC field investigation at the subject property consisted of the following activities as outlined in the Work Plan (ERM 2014) reviewed and accepted by Ecology:

- Completion of an underground utility location survey at each planned subsurface exploration location to confirm that no utilities or underground structures would be encountered or damaged during the investigation activities;
- Completion of a geophysical survey at AOCs 1, 2, and 4 to investigate the location of the drain field(s) associated with the former greenhouse and florist operations at the subject property;
- Collection of one surface soil sample from near the outfall of the retention pond at AOC 7;
- Drilling 11 soil borings using a hollow-stem auger or direct-push drilling rig and collection of soil samples from each boring and collection of grab groundwater samples at nine of the borings;
- Drilling 11 borings using air knife/vacuum and/or hand auger methods and collection of soil samples at each boring;
- Installation of 18 monitoring wells and collection of groundwater samples from each well;
- Completion of rising-head aquifer testing at four monitoring wells; and
- Completion of a location and elevation survey of each sample point.

The SC field work was completed in two phases in February through April 2015 and in May through June 2015. The following sections describe the SC field work activities in detail.

3.2 UNDERGROUND UTILITY LOCATION

Prior to initiating ground disturbance activities that had the potential for damaging underground utilities or other subsurface infrastructure, ERM completed underground utility screening to minimize the potential for encountering and damaging underground features. The screening was completed at each planned soil disturbance location and included the following tasks:

- Review of utility locations on existing facility as-built plans;
- Notification of the public utility “one-call” hotline at least 72 hours prior to digging;
- Completion of a private utility locate at each exploration location that included standard utility location practices and a sweep of the area using a ground-penetrating radar (GPR) device; and
- At each drilling location, completion of a pilot boring using hand tools or an air knife to a depth of 5 to 8 feet bgs, with the depth depending on proximity of known or suspected underground utilities.

No underground utilities were exposed or damaged during the SC drilling activities at the subject property.

3.3 *GEOPHYSICAL SURVEY*

On 4 March 2015, a GPR unit was used to evaluate the areas that have been identified as possible drain fields associated with the former greenhouse and florist business. The possible drain field locations were identified based on information in previous reports (Berg 2007 and White Shield 2008) and from discussions with K2 personnel familiar with the subject property history.

The GPR used was calibrated to evaluate excavations in the range of 4 to 6 feet bgs, consistent with the expected depth of a septic drain field with some allowance for grade aggradation as part of subsequent facility development. The approximate locations of survey transits completed are shown in Figure 6. The GPR results were screened for evidence of multiple linear trenches typically indicative of drain fields.

3.4 *SURFACE SOIL SAMPLE COLLECTION*

On 19 March 2015, one surface soil sample (SS7-1) was collected from the location shown in Figure 7. The sample was collected from soil directly beneath the outfall from the retention pond in the southeast corner of the subject property (AOC 7) to the adjacent public drainage ditch along Vashon Highway South. The soil sample was collected from within the upper 6 inches of soil at that location using a stainless-steel trowel. The soil sample was submitted for laboratory analysis of parameters as summarized in Table 4.

In March through June 2015, 22 borings (B1-1, B2-1, B2-2, B2-3, B3-1, B3-2, B3-3, B3-4, B3-5, B4-1, B4-2, B4-3, B4-4, B4-5, B5-1, B5-2, HA1-1, HA2-1, HA4-1, HA4-2, HA6-1, HA7-1) were advanced at the subject property using hollow-stem auger drill rig, air knife/vacuum, and/or hand auger methods by Cascade Drilling, Inc., of Woodinville, Washington, and Holocene Drilling Inc. of Puyallup, Washington, both Washington state-licensed drillers. The borings were completed to depths ranging from 2.5 to 15.5 feet bgs at the locations shown in Figure 7. The purpose of the borings was to collect soil and groundwater samples to evaluate the nature and extent of contaminants at the subject property.

Soil lithology and conditions were evaluated by an ERM geologist during drilling activities, and the conditions encountered are described in the boring logs in Appendix B. Soils recovered from the borings were field screened for the presence of VOCs using a photoionization detector (PID). For each drilling interval of approximately 2 to 3 feet, a portion of the recovered soil was sealed in a plastic bag. After at least 10 minutes, the soil in the bag was gently agitated and the bag then pierced by the PID probe. The resulting PID response was recorded on the boring logs included in Appendix B.

Soil samples were collected from each of the borings for laboratory analysis. Soil samples for laboratory analysis were typically collected from depth intervals in which field screening indicated the highest likely concentrations of target contaminants. Absent any indications of contamination, the laboratory samples were collected from the soil interval immediately above the first observed saturated soil in the boring.

Grab groundwater samples for laboratory analysis were collected from nine borings (B1-1, B2-1, B2-2, B3-1, B3-2, B3-3, B3-4, B4-1, and B5-2). The groundwater samples were collected through 2-inch-diameter slotted PVC well screen temporarily installed into each borehole and stabilized in place with silica sand. A submersible pump was used to purge several gallons of water from each temporary well in order to allow sample collection from formation water undisturbed by drilling. The groundwater samples were collected by filling containers directly from the discharge line of the submersible pump. Groundwater samples from the borings were not filtered and were submitted to the laboratory for total metals analysis.

Soil and groundwater samples collected from the borings were submitted for laboratory analysis of parameters as summarized in Table 4.

After sampling activities were completed, the soil borings were abandoned by backfilling the hole with bentonite chips. The well screens were removed from the borings used for groundwater sample collection prior to filling the borings with bentonite.

3.6

MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLE COLLECTION

ERM installed 18 monitoring wells at the subject property to evaluate groundwater conditions in the vicinity of RECs and confirmed areas of groundwater contamination. The monitoring wells were completed using a truck-mounted, hollow-stem auger rig operated by Cascade Drilling, Inc., of Woodinville, Washington and by Holocene Drilling Inc. of Puyallup, Washington using a hybrid direct-push and hollow-stem auger drilling rig. The monitoring well borings were advanced to total depths of 8.5 to 16.0 feet bgs. Monitoring well locations are shown in Figure 7, and well construction details are summarized in Table 5.

Soil was recovered during drilling of each of the monitoring wells using split-spoon samplers or sleeve-type samplers. The recovered soil was used to describe lithology, and a portion of the soil from each 2.5- to 4-foot interval was collected for field screening for volatile organic vapors using a PID. Soil recovery intervals, lithology, drilling observations, and organic vapor screening results are included on the monitoring well logs in Appendix B.

Monitoring wells MW1-1, MW1-2, MW2-1, MW2-2, MW3-1, MW3-2, MW4-1, MW5-1, MW6-1, and MW7-1 were constructed of 2-inch-diameter threaded Schedule 40 PVC casing and a 10-foot long, 0.010-inch slot size PVC screen with the bottom set at 8.5 to 16.0 feet bgs. Monitoring well MW2-1 was constructed using a 5-foot-long screen. Number 10-20 silica sand was placed around the well screen to approximately 1 to 2 feet above the top of the well screen, and 1 foot bentonite chips were placed above the sand pack. The remaining annular space was filled with a bentonite-cement grout to approximately 1 foot below the surface, where a flush-with-grade protective casing was installed in Portland cement concrete.

Monitoring wells MW1-3, MW3-3, MW3-4, MW3-5, MW4-1, MW4-2, MW4-3, MW4-5, and MW4-6 were installed as 1-inch diameter pre-pack wells with 10 feet of 0.010-inch slot size PVC screen. Well MW4-4 was installed as a ¾ -inch diameter pre-pack well with 10 feet of 0.010-inch slot size PVC screen. Different well construction techniques and materials were used for the wells because of access limitations at some well

locations, especially those inside buildings. Monitoring well construction details are included in Appendix B and are summarized in Table 5.

Well development was completed at least 24 hours after well construction to remove particulates introduced during well construction and to establish hydraulic continuity between the filter pack and the formation. The monitoring wells were developed using a submersible pump or a peristaltic pump to purge at least 10 well casing volumes of groundwater for wells that produced water or at least three well casing volumes of groundwater for wells that pumped dry.

Groundwater samples were collected from subject property monitoring wells in two separate events in March and June 2015. The groundwater samples were collected using a bladder pump or peristaltic pump and low-flow purging and sampling procedures (USEPA 1996) to minimize disturbance and ensure samples are representative of groundwater within the formation.

Field parameters (specific conductance, temperature, dissolved oxygen, oxygen reduction potential, and pH) were measured during purging and sampling using a Horiba water quality meter with a flow-through cell. The groundwater quality in each well was considered representative of aquifer conditions once all the field indicator parameter values had stabilized for three consecutive readings or more as follows:

- Temperature: ± 1 degree Celsius;
- pH: ± 0.1 unit;
- Specific conductance: ± 10 percent; and
- Turbidity: ± 10 percent.

After water quality parameters stabilized, groundwater samples were collected directly into the appropriate laboratory-provided sample containers. The groundwater samples were transported under chain-of-custody procedures in chilled coolers to the analytical laboratory for analysis of parameters as indicated in Table 4.

Static groundwater levels were measured in each existing well at the subject property during both groundwater monitoring events. An electronic water level indicator was used to measure the depth to groundwater from the top of each well casing to the nearest 0.01 foot.

Samples were packed in coolers with ice and sent under chain-of-custody procedures to one of the following Washington-certified laboratories for analysis using methods summarized on Table 4:

- TestAmerica, Inc. in Tacoma, Washington; and
- Analytical Resources, Inc., in Tukwila, Washington.

Soil samples for natural oxidant demand were sent to Alpha Analytical in Westborough, Massachusetts. This laboratory is not Washington-certified, but the custom analyses performed by this laboratory for this project are not subject to certification requirements.

Field QA/QC samples were collected, including trip blanks, equipment rinsate blanks, field duplicates, and field blanks, as indicated in Table 4. The field QA/QC information and the internal laboratory QA/QC information were reviewed by ERM to confirm data reliability. The results of the analytical data review are included with the laboratory reports in Appendix D.

3.7 *AQUIFER TESTING*

Rising-head tests were completed at wells MW3-2, MW4-1, MW5-1, and MW6-1 to evaluate aquifer groundwater flow conditions. The tests were completed by removing a known volume of water or a previously-installed slug from each well, and then measuring the rate at which the groundwater level recovered to static conditions. Water levels were measured using an in-well pressure transducer or an electric water level indicator.

3.8 *LOCATION AND ELEVATION SURVEY*

True North Land Surveying Inc. of Seattle, Washington completed a location and elevation survey of the soil borings and monitoring wells at the subject property. The survey results are included in Appendix C, and locations and top of casing elevations for each monitoring well are summarized on Table 5.

4.0 RESULTS AND DISCUSSION

This section provides details of the SC, including, where appropriate, reference to data generated during previous site investigation and remediation efforts.

4.1 GEOPHYSICAL SURVEY

The geophysical survey indicated the possible presence of *en echelon* trenches indicative of a septic drain field in the area within AOC 2 shown on Figure 6. Boring B2-2 was installed in this area.

4.2 SOIL

This section summarizes the nature and extent of contaminants detected by field screening and laboratory analysis of soil samples. Soil lithology encountered during SC activities is described in Section 2.1.1.1. The location of a cross section showing the soil conditions encountered during the SC activities at the site is included in Figure 8, and the cross section is in Figure 9.

Locations from which SC soil samples were collected are shown in Figure 7. Soil sample results are summarized in Tables 5 and 6, and select soil analytical results for petroleum hydrocarbons are included on Figure 10. Laboratory analytical reports are included in Appendix D.

Based on the results of the laboratory data quality assurance/quality control (QA/QC) review included in Appendix D, the soil analytical data developed as part of this project are suitable for use for site characterization, and appropriate data qualifiers have been included in Table 6 to indicate QA/QC exceptions identified during the review.

4.2.1 Area of Concern 1 - Machine Shop

Analytes detected in soil samples collected from AOC 1 include petroleum hydrocarbons, TCE, the SVOCs bis (2-ethylhexyl) phthalate and pyrene, and 11 metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc). Only TPH-D and TPH-HO were detected at concentrations greater than the respective PSGs (2,000 mg/kg for each), and only in soil sample HA1-1-4.5, which was collected from soil directly below the bottom of the drainage sump

described in Section 2.4.1.1. TPH-D was detected at a concentration of 3,800 mg/kg in the sample, and TPH-HO was detected at a concentration of 8,300 mg/kg. The inferred distribution of petroleum hydrocarbons in soil at AOC 1 is shown in Figure 8.

No petroleum-related analytes were detected in the soil sample collected from boring B1-1 completed immediately adjacent to the UST beneath the machine shop building.

TCE was detected at a concentration of 0.0019 mg/kg in soil sample HA1-1-4.5 collected from soil directly below the bottom of the drainage sump described in Section 2.4.1.1. The soil PSG for TCE is 0.030 mg/kg. No other VOCs were detected in AOC 1 soil samples.

The SVOC bis (2-ethylhexyl) phthalate and pyrene were detected at concentrations less than the respective soil PSGs of 16,000 mg/kg and 2,400 mg/kg in soil sample HA1-1-4.5. No other SVOCs were detected in AOC 1 soil samples. Additionally, no organochlorine pesticides or PCBs were detected in the AOC 1 soil samples analyzed for those parameters.

The metals antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected in one or both soil samples collected from AOC 1, but each of the metals was detected at concentrations less than its respective PSG. Note that the soil sample from boring HA1-1 was collected from soil immediately beneath sediments in the sump containing metal filings from manufacturing activities at the facility.

4.2.2 *Area of Concern 2 – Decommissioned UST and North Lot*

No petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, or PCBs were detected in the soil samples collected from AOC 2. The metals antimony, arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, and zinc were detected in one or more soil samples from AOC 2, but each of the metals was detected at concentrations less than the respective PSG.

The inferred distribution of petroleum hydrocarbons in soil at AOC 2 is shown in Figure 10. The figure includes petroleum hydrocarbon results for soil samples collected during previous investigations, including the 2008 UST removal and soil remedial excavation (White Shield 2009).

4.2.3 *Area of Concern 3 – Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area*

No petroleum hydrocarbons were detected in the soil samples collected from AOC 3. The VOC methylene chloride was detected at a concentration less than the PSG of 0.020 mg/kg in the soil sample from 3 feet bgs in boring B3-5 (0.0022 mg/kg). The metals antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected in one or more soil samples from AOC 3, but the metals were detected at concentrations less than their respective PSGs.

4.2.4 *Area of Concern 4 – Former Drain Field and Vapor Degreasers*

No petroleum hydrocarbons were detected in the soil samples collected from AOC 4. The VOCs acetone, 2-butanone, methylene chloride, toluene, and TCE were detected at concentrations less than their respective PSGs in one or more soil samples collected from AOC 4. The metals arsenic, chromium, copper, lead, mercury, nickel, and zinc were detected in one soil sample from AOC 4, but each at a concentration less than the respective PSG.

4.2.5 *Area of Concern 5 – Former Resin Tank and Grinding Process Area*

No petroleum hydrocarbons, VOCs, or SVOCs were detected in the soil samples collected from AOC 5. The metals antimony, arsenic, beryllium, chromium, copper, lead, mercury, nickel, and zinc were detected in one soil sample from AOC 5, but the metals were detected at concentrations less than the respective PSGs.

4.2.6 *Area of Concern 6 – Boiler Room*

No petroleum hydrocarbons, PCBs, or SVOCs were detected in the soil sample collected from a depth of 3 feet bgs at AOC 6. TCE was detected in the soil sample (HA6-1-3) at a concentration of 8.2 micrograms per kilogram (µg/kg), which is less than the PSG of 30 µg/kg.

4.2.7 *Area of Concern 7 – Storm Water Retention Pond*

TPH-D, TPH-HO, butyl benzyl phthalate, and 10 metals were detected in one or both of the soil samples collected from AOC 7; however, each of the concentrations detected were less than the respective PSGs. No VOCs, SVOCs, or PCBs were detected in the soil samples.

4.2.8 *Natural Oxidant Demand Analytical Results*

Four soil samples from the saturated zone in borings completed for monitoring wells MW3-4, MW3-5, MW4-2, and MW4-6 were analyzed for natural oxidant demand to evaluate the amount of oxidant that would be required to overcome the natural oxidant demand of aquifer soils before the oxidant would be effective in reacting with contaminants. Natural oxidant demand ranged from less than 0.10 grams to 0.21 grams of potassium permanganate per kilogram of soil, with an average of 0.14 grams of potassium permanganate per kilogram of soil. The natural oxidant demand analysis results are summarized in Table 7.

4.3 *GROUNDWATER*

This section summarizes the findings of the groundwater conditions and quality investigation completed at the subject property. Boring and monitoring well locations where measurements were taken and from which SC groundwater samples were collected are shown in Figure 7.

4.3.1 *Groundwater Elevation and Flow*

Water levels measured in the monitoring wells on 27 March and 3 June 2015 are summarized in Table 8. Potentiometric surface maps showing groundwater elevation contours and flow directions based on the groundwater measurements on these dates are included in Figures 11 and 12.

The depth to groundwater in subject property monitoring wells ranges from approximately 2 to 10 feet below grade, or approximately 383 to 396 feet above mean sea level (amsl). The groundwater is present under unconfined conditions. Aquifer soils encountered consist primarily of silt with variable amounts of sand and gravel. Groundwater flow direction at the subject property is toward the south and southeast with an average horizontal gradient of 0.019 feet per foot.

Between 27 March and 3 June 2015 changes in groundwater elevation at existing monitoring wells at the subject property ranged from +0.99 to -2.96 feet, with decreasing water levels observed in each well except well MW2-1.

Results of rising-head aquifer testing at wells MW3-2, MW4-1, MW5-1, and MW6-1 indicate that hydraulic conductivity in the shallow aquifer at

the subject property ranges from 9.8×10^{-8} meters per second to 4.4×10^{-6} meters per second:

<u>Monitoring Well</u>	<u>Hydraulic Conductivity</u>
MW3-2	9.8×10^{-8} meters per second
MW4-1	1.3×10^{-7} meters per second
MW5-1	4.4×10^{-6} meters per second
MW6-1	1.3×10^{-7} meters per second

The hydraulic conductivities measured at the site are consistent with the standard range of values for silt and silty sand. The data and evaluation summary for the aquifer tests are included in Appendix E.

Based on the groundwater gradient and hydraulic conductivity values developed from monitoring well data, the horizontal groundwater velocity at the subject property ranges from 1.9×10^{-9} meters per second (0.16 millimeters per day) to 8.4×10^{-8} meters per second (7.2 millimeters per day).

4.3.2 Groundwater Analytical Results

Groundwater sample analysis results are summarized in Table 9, and the inferred distribution of TCE in groundwater at the subject property is shown in Figure 13. Laboratory analytical reports for the groundwater samples are included in Appendix D. Appendix F includes the groundwater sampling logs for each well, and a table summarizing final pH, temperature, specific conductivity.

Note that in March 2015, groundwater samples were collected from wells MW2-1, MW3-2, MW5-1, and MW7-1 for SVOC analyses. As described in the data quality summary in Appendix D, the SVOC results for those samples were rejected because of multiple significant data quality exceptions. Groundwater samples for SVOC analysis were collected from each of these wells in June 2015 to accommodate the SVOC analysis requirement for these wells that was included as part of the Work Plan (ERM 2014).

Based on the results of the laboratory data quality assurance/quality control (QA/QC) review included in Appendix D, the soil analytical data developed as part of this project are suitable for use for site characterization, with the exception of several results that were rejected as a result of serious laboratory QA/QC issues. The appropriate data

qualifiers have been included in Table 9 to indicate QA/QC exceptions identified during the review.

4.3.2.1 *Area of Concern 1 – Machine Shop*

TPH-D was detected in two groundwater samples from boring B1-1 and well MW1-2 at AOC 1 at concentrations of 180 micrograms per liter ($\mu\text{g/L}$) and 190 $\mu\text{g/L}$, respectively. Both concentrations detected were less than the PSG for TPH-D of 500 $\mu\text{g/L}$. Gasoline-range petroleum hydrocarbons (TPH-G) and TPH-HO were not detected in the groundwater samples from AOC 1. Boring B1-1 was completed adjacent to the UST beneath the machine shop building.

The VOC TCE was detected in groundwater samples from wells MW1-1, MW1-2, and MW1-3 at concentrations ranging from 0.60 $\mu\text{g/L}$ to 5.0 $\mu\text{g/L}$. The PSG for TCE in groundwater is 5.0 $\mu\text{g/L}$. The TCE detection of 5.0 $\mu\text{g/L}$ was identified in a groundwater sample from well MW1-3 installed adjacent to the drainage sump described in Section 2.4.1.1. No other VOCs were detected in the groundwater samples collected from AOC 1.

The SVOCs butyl benzyl phthalate, naphthalene, and phenanthrene were each detected at concentrations less than the respective PSGs in March 2015 groundwater samples collected from boring B-1, well MW1-1, and well MW1-2, respectively. Naphthalene and phenanthrene were not detected in the groundwater samples collected from wells MW1-1 and MW1-2 in June 2015. No other SVOCs were detected in AOC 1 groundwater samples.

Total arsenic, beryllium, chromium, copper, lead, nickel, and zinc were detected in one or more groundwater samples collected from AOC 1 in March 2015. Of these metals detected, the following were greater than the PSGs:

- Arsenic greater than the PSG of 5 $\mu\text{g/L}$ in samples from boring B1-1 (5.6 $\mu\text{g/L}$) and well MW1-2 (8.5 $\mu\text{g/L}$); and
- Chromium greater than the PSG of 50 in the sample from boring B1-1 (63 $\mu\text{g/L}$).

Dissolved (field-filtered) groundwater samples were collected from wells MW1-1 and MW1-2 in June 2015 to confirm the mobile metals concentrations in groundwater at AOC 1. Dissolved arsenic, chromium, and nickel were detected in both groundwater samples, but only arsenic in the sample from well MW1-2 (8.5 $\mu\text{g/L}$) was detected at a concentration greater than the PSG of 5 $\mu\text{g/L}$.

4.3.2.2 *Area of Concern 2 – Decommissioned UST and North Lot*

TPH-D was detected in the March 2015 groundwater samples collected from boring B2-1 and well MW2-1 at AOC 2 at concentrations of 210 µg/L and 360 µg/L, respectively. Both concentrations detected were less than the PSG for TPH-D of 500 µg/L. Note that well MW2-1 was installed at the location of the former diesel UST removed from that area in 2008. TPH-G and TPH-HO were not detected in the groundwater samples from AOC 2.

The VOCs chloroform and methylene chloride were detected in the March 2015 groundwater sample collected from well MW2-1 at concentrations less than the respective PSGs. No other VOCs were detected in the groundwater samples collected from AOC 2.

No SVOCs or organochlorine pesticides were detected in the groundwater samples collected from AOC 2.

Total arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, and zinc were detected in the grab groundwater sample collected from boring B2-1 at AOC 2 in March 2015. Of these metals detected, the following were greater than the PSGs:

- Arsenic at 89 µg/L, greater than the PSG of 5 µg/L;
- Beryllium at 4.2 µg/L, greater than the PSG of 4 µg/L;
- Chromium at 650 µg/L, greater than the PSG of 50 µg/L;
- Lead at 62 µg/L, greater than the PSG of 15 µg/L; and
- Nickel at 930 µg/L, greater than the PSG of 100 µg/L.

4.3.2.3 *Area of Concern 3 – Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area*

TPH-D was detected in the groundwater sample collected from boring B3-3 at AOC 3 at a concentration of 180 µg/L, which is less than the PSG for TPH-D of 500 µg/L. TPH-G and TPH-HO were not detected in the groundwater samples from AOC 3.

The VOCs acetone, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane, and TCE were detected in one or more of the groundwater samples collected from the borings and wells at AOC 3. Of these detections, only the TCE concentrations detected in groundwater samples from borings B3-3 and B3-4 (9.1 µg/L and 16 µg/L, respectively),

and wells MW3-4 and MW3-5 (20 µg/L and 26 µg/L, respectively) were greater than the PSG for TCE in groundwater of 5.0 µg/L. The distribution of TCE in groundwater at AOC 3 and across the subject property is shown in Figure 13.

The SVOC naphthalene was detected in the March 2015 groundwater sample from well MW3-1 at a concentration of 0.010 µg/L, which is less than the PSG of 160 µg/L. No other SVOCs were detected in AOC 3 groundwater samples.

Total arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc were detected in one or more groundwater samples collected from borings completed at AOC 3. Of these metals detected, the following were greater than the PSGs:

- Arsenic greater than the PSG of 5 µg/L in samples from borings B3-1 (370 µg/L), B3-2 (91 µg/L), B3-3 (15 µg/L), and B3-4 (15 µg/L);
- Beryllium greater than the PSG of 4 µg/L in samples from borings B3-1 (22 µg/L), B3-2 (6.0 µg/L), B3-3 (9.6 µg/L), and B3-4 (9.8 µg/L);
- Cadmium greater than the PSG of 5 µg/L in samples from borings B3-1 (12 µg/L) and B3-3 (5.2 µg/L);
- Chromium greater than the PSG of 50 µg/L in samples from borings B3-1 (2,900 µg/L), B3-2 (760 µg/L), and B3-3 (56 µg/L);
- Copper greater than the PSG of 1,300 µg/L in the sample from boring B3-1 (1,900 µg/L);
- Lead greater than the PSG of 15 µg/L in samples from borings B3-1 (280 µg/L) and B3-2 (73 µg/L);
- Mercury greater than the PSG of 2 µg/L in the sample from boring B3-1 (5.2 µg/L);
- Nickel greater than the PSG of 100 µg/L in samples from borings B3-1 (5,700 µg/L), B3-2 (1,400 µg/L), B3-3 (1,300 µg/L), and B3-4 (610 µg/L);
- Selenium greater than the PSG of 50 µg/L in the sample from boring B3-1 (56 µg/L); and
- Thallium greater than the PSG of 2 µg/L in the sample from boring B3-1 (7.4 µg/L).

Total metals were not detected in the March 2015 groundwater samples collected from wells MW3-1 and MW3-2.

TPH-D was detected in the groundwater sample collected from boring B4-1 at AOC 4 at a concentration of 340 µg/L, which is less than the PSG for TPH-D of 500 µg/L. TPH-G and TPH-HO were not detected in the groundwater samples from AOC 4.

The VOCs acetone, chloroethane, chloroform, dichlorobromomethane, 1,1-DCE, cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene, toluene, 1,1,2-trichloroethane, TCE, and vinyl chloride were detected in one or more of the groundwater samples collected from the borings and wells at AOC 4. Of the VOCs detected, the following were at concentrations greater than the PSGs:

- Dichlorobromomethane greater than the PSG of 0.083 µg/L in the sample from boring B4-1 (0.20 µg/L);
- cis-1,2-DCE greater than the PSG of 70 µg/L in the sample from well MW4-5 (180 µg/L);
- TCE greater than the PSG of 5 µg/L in the samples from boring B4-1 (23 µg/L) and wells MW4-2 (13 µg/L), MW4-3 (65 µg/L), MW4-4 (31 µg/L), MW4-5 (1,600 µg/L), and MW4-6 (290 µg/L); and
- Vinyl chloride greater than the PSG of 0.2 µg/L in the samples from wells MW4-3 (0.69 µg/L), MW4-5 (5.9 µg/L), and MW4-6 (2.0 µg/L).

The distribution of TCE in groundwater at AOC 4, and across the subject property, is shown in Figure 13. TCE distribution in groundwater across AOC 4 is also shown in the cross section in Figure 9.

The SVOCs benzoic acid and phenanthrene were detected in the March 2015 groundwater samples from boring B4-1 and well MW4-1, respectively. The concentration of benzoic acid detected was less than the PSG of 64,000 µg/L. There is no available regulatory standard for phenanthrene, which was detected in groundwater from well MW4-1 at a concentration of 0.022 µg/L. No other SVOCs were detected in AOC 4 groundwater samples.

Organochlorine pesticides were not detected in the groundwater sample collected from boring B4-1 at AOC 4.

Total arsenic, chromium, copper, lead, mercury, nickel, and zinc were detected in the groundwater sample collected from boring B4-1 at AOC 4. Of these metals detected, only arsenic was detected at a concentration greater than the respective PSGs. The concentration of arsenic detected

was 11 µg/L, and the PSG is 5 µg/L. Metals were not detected in the March 2015 groundwater sample collected from well MW4-1.

4.3.2.5 *Area of Concern 5 – Former Resin Tank and Grinding Process Area*

TPH-D was detected in the groundwater sample collected from boring B5-2 at AOC 5 at a concentration of 130 µg/L, which is less than the PSG for TPH-D of 500 µg/L. TPH-G and TPH-HO were not detected in the groundwater samples from AOC 5.

TCE was detected at concentrations less than the PSG of 5 µg/L in March 2015 groundwater samples collected from boring B5-2 (3.6 µg/L) and well MW5-1 (0.50 µg/L). TCE was not detected in the June 2015 groundwater sample collected from well MW5-1. No other VOCs were detected in groundwater samples collected from AOC 5.

No SVOCs were detected in AOC 5 groundwater samples.

Total arsenic, chromium, copper, lead, mercury, nickel, and zinc were detected in the groundwater sample collected from boring B5-1 at AOC 5. Of these metals detected in the sample, the following were detected at a concentration greater than the respective PSGs:

- Arsenic at 7.2 µg/L, greater than the PSG of 5 µg/L;
- Chromium at 64 µg/L, greater than the PSG of 50 µg/L; and
- Nickel at 110 µg/L, greater than the PSG of 100 µg/L.

4.3.2.6 *Area of Concern 6 – Boiler Room*

TPH-D was detected in the groundwater sample collected from well MW6-1 at AOC 6 at a concentration of 230 µg/L, which is less than the PSG for TPH-D of 500 µg/L. TPH-G and TPH-HO were not detected in the groundwater samples from AOC 6.

The VOCs chloroform and vinyl chloride were detected at concentrations less than the respective PSGs in the March 2015 groundwater sample from well MW6-1. These compounds were not detected in the June 2015 sample from the well, but benzene was detected in that sample at a concentration of 0.21 µg/L, which is less than the PSG of 5 µg/L. No other VOCs were detected in the groundwater samples collected from AOC 6.

The SVOCs 1-methylnaphthalene and naphthalene were detected at concentrations less than the respective PSGs in the March and June 2015

groundwater samples collected from well MW6-1. No other SVOCs were detected in the samples.

4.3.2.7 *Area of Concern 7 – Storm Water Retention Pond*

TPH-D was detected in the March 2015 groundwater sample collected from well MW7-1 at AOC 7 at a concentration of 130 µg/L, which is less than the PSG for TPH-D of 500 µg/L. TPH-G and TPH-HO were not detected in the groundwater samples from AOC 7.

The VOCs cis-1,2-DCE and TCE were detected at concentrations less than the PSGs of 70 µg/L and 5 µg/L, respectively in both the March and June 2015 groundwater samples collected from well MW7-1. No other VOCs were detected in groundwater samples collected from AOC 7.

No SVOCs or total metals were detected in AOC 7 groundwater samples.

4.4 **VAPOR INTRUSION SCREENING**

The potential for vapor intrusion risk related to the TCE in groundwater at the subject property was screened based on the procedures outlined in the Draft Ecology vapor intrusion guidance document (Ecology 2009). The procedures and results of the vapor intrusion evaluation are included in Appendix G.

A vapor intrusion model was created for the subject property using the Ecology Tier 2 procedure (Ecology 2009). The model was constructed to evaluate the concentration of TCE in groundwater that would result in an indoor air TCE concentration of 0.37 microgram per cubic meter within the main production building at the subject property. This value is equal to the MTCA Method B standard for TCE in air.

The model results indicate that a TCE concentration of 750 µg/L in groundwater beneath the building would result in an indoor air concentration equal to the MTCA Method B air standard. Note that this groundwater concentration should be considered a conservative value, as it assumes a consistent TCE concentration of 750 µg/L in groundwater beneath the entire building footprint. Only one groundwater sample collected from the subject property contained TCE at a concentration greater than 750 µg/L (well MW4-5 at 1,600 µg/L), and the average concentration of TCE in groundwater samples collected from beneath the building is 250 µg/L.

DISCUSSION OF RESULTS

The results of the SC and previous site investigation activities show the following analytes are present in subject property soil and/or groundwater at concentrations greater than their applicable PSGs:

Soil:

- TPH-D and TPH-HO.

Groundwater:

- The VOCs dichlorobromomethane, cis-1,2-DCE, TCE, and vinyl chloride;
- The total metals arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, and thallium; and
- The dissolved metal arsenic.

Each of these sets of detected analytes is discussed further in the sections below.

4.5.1

Petroleum Hydrocarbons in Soil

Petroleum hydrocarbons were detected at greater than the PSGs in two areas of the subject property:

- TPH-D in soils adjacent to the heating oil UST removed from the north side of the main production building in 2008; and
- TPH-D and TPH-HO in soils at the bottom of a floor drain sump in the machine shop in the northeast corner of the subject property.

Note that the SC information used to evaluate the distribution of TPH-D in soil near the UST removed in 2008 is supplemented by data from soil samples collected during the 2008 site investigation (White Shield 2008), the 2008 UST removal and remedial action (White Shield 2009).

The soil samples collected in 2008 indicate that the only remaining TPH-impacted soil was beneath the building footing at the south side of the excavation. A soil sample collected from boring HA2-1 a few feet south of that location did not contain detectable concentrations of TPH. Based on available analytical data and observations, the area of soil impact in the former UST area at AOC 2 is likely limited to less than 10 cubic meters of contaminated soil.

The volume of impacted soil near the sump at AOC 1 also appears to be limited to soils in the immediate vicinity of the sump. Since the soil sample was collected from immediately beneath the layer of sediment at the bottom of the sump, the concentrations detected are expected to be maximum concentrations of TPH in soils related to releases to the sump. Based on the concentrations detected in soil and the lack of similar TPH distribution in groundwater samples from AOC 1, the aerial extent of TPH-D and TPH-HO at this location is expected to be limited to the immediate vicinity of the sump.

4.5.2 *Volatile Organic Compounds in Groundwater*

TCE is present in groundwater at the subject property in three areas with confirmed or suspected historical use or handling of organic solvents:

- The main production building;
- The hazardous waste storage area to the west of the main production building; and
- The machine shop in the northeast corner of the subject property.

Of these areas, TCE concentrations in groundwater in the main production building and the hazardous waste storage area have been confirmed at greater than the PSG. The maximum groundwater concentration of TCE identified at the machine shop is equal to the PSG in a well adjacent to the assumed source of the release: a floor drain sump within the building.

Dense nonaqueous-phase liquid (DNAPL) is typically a concern at sites where TCE is present in groundwater at greater than 1% of solubility (USEPA 1993). The solubility of TCE in water at 25 degrees C is 1,100,000 µg/L, so the threshold for consideration of the presence of dense DNAPL of 1% of solubility is 11,000 µg/L (Technology Planning and Management Corporation 2000). The greatest concentration of TCE detected in subject property groundwater is 1,600 µg/L; therefore, there is no indication that DNAPL is present at the subject property.

The VOCs cis-1,2-DCE and vinyl chloride at concentrations greater than the respective PSGs are associated with the TCE in some areas. These VOCs are common TCE degradation products and are interpreted as such based on the distribution relative to TCE in groundwater observed at the subject property.

The only other VOC detected in groundwater at a concentration greater than the PSG is dichlorobromomethane detected at the practical

quantitation limit of 0.20 µg/L in a single groundwater sample from boring B4-1 in the main production building. Follow-up groundwater sampling in nearby monitoring wells, including well MW4-2 installed immediately adjacent to boring B4-1, did not confirm the presence of dichlorobromomethane in subject property groundwater.

4.5.3 *Metals in Groundwater*

Although several metals (arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, and thallium) were detected in grab groundwater samples collected from the soil borings, the available information indicates that these concentrations are attributable to leaching of otherwise insoluble minerals from soil particles by the nitric acid sample preservative. The elimination of these metals, except arsenic, as contaminants of concern at the subject property is supported by the following rationale:

- The soil sample collected from boring HA1-1 at AOC 1 adjacent to sediment containing metal shavings did not contain elevated concentrations of steel alloying metals that would indicate that metals processing at the facility has resulted in a release of toxic metals to the environment;
- No other anthropogenic sources for the metals detected in groundwater have been identified at the subject property that would account for the presence and distribution of the metals observed;
- With the exception of thallium and silver, each of the metals detected in the groundwater samples were also detected in multiple soil samples across the subject property at concentrations indicative of naturally-occurring conditions (San Juan 1994, Shacklette and Boerngen 1984);
- The two metals that were not detected in the soil samples but were detected in groundwater (silver and thallium) were detected in a groundwater sample having a very high turbidity, suggesting that the metals were present in trace amounts as otherwise insoluble minerals in soil;
- The higher values of metals detected in groundwater samples are generally correlated to higher turbidity in those groundwater samples; and
- With the exception of arsenic at well MW1-2, total metals concentrations in lower-turbidity water samples from the monitoring wells at the subject property are one to three orders of magnitude less

than the concentrations of total metals in nearby groundwater grab samples from borings.

Based on the observed conditions and analytical data described above, only dissolved arsenic in monitoring well MW1-2 appears to be present at a concentration greater than the PSG in groundwater that could be considered indicative of concentrations expected in groundwater from a properly-constructed well in the formation. The remainder of the total metals detected in the grab groundwater samples at concentrations greater than the PSGs are not confirmed by total and dissolved groundwater samples collected from the associated monitoring wells.

4.6 *CONCEPTUAL SITE MODEL*

Based on the results of site investigation efforts to date and the evaluation in Section 4.5 above, the contaminants of potential concern (COPCs) at the subject property are:

Soil:

- TPH-D and TPH-HO.

Groundwater:

- The VOCs dichlorobromomethane, cis-1,2-DCE, TCE, and vinyl chloride; and
- The dissolved metal arsenic.

Initial development of the PSGs for the subject property focused on risk related to human exposure to COPCs through direct contact and ingestion of soil and groundwater, respectively. Potential human health risk related to contact with VOCs through vapor intrusion into buildings was evaluated by completing a vapor intrusion model for the subject property (Section 4.4 and Appendix G), and potential risk to terrestrial organisms was evaluated by completing a site-specific TEE (Section 2.5.2 and Appendix A). The result of these evaluations eliminates vapor intrusion and exposure of terrestrial organisms to COPCs as exposure pathways of concern.

Based on SC findings, the exposure pathways of concern for COPCs at the subject property are:

- Direct contact with contaminated soil; and
- Ingestion of groundwater.

Areas of soil containing TPH-D and TPH-HO at concentrations greater than the PSGs are shown in Figure 10. These areas are beneath concrete slabs and do not appear to be contributing to TPH concentrations greater than the PSG in groundwater.

The area of VOC impacts to groundwater at concentrations greater than the PSGs is included within the area of TCE impact shown in Figures 9 and 13. Dissolved arsenic in groundwater at a concentration greater than the PSG is limited to monitoring well MW1-2 (Figure 7). Human exposure to these COPCs assumes a scenario where the affected groundwater is used as a source of drinking water. Note that the relatively low hydraulic conductivity values for the shallow aquifer at the site (Section 4.3.1) indicate that groundwater production from wells in this aquifer may not meet the 0.5 gallon per minute sustainable yield threshold for consideration as a potable water aquifer under MTCA Chapter 173-340-720(2)(b)(i).

Based on the results of the SC and previous investigations, the following conditions are present at the subject property:

- Soils at the subject property are silt to silty sand with varying amounts of gravel, and groundwater at the subject property is present approximately 2 to 10 feet bgs and flows toward the south to southeast at an average velocity of 0.16 to 7.2 millimeters per day;
- Contaminants of potential concern at the subject property include:

Soil:

- TPH-D and TPH-HO in soil immediately beneath a floor drain sump in the machine shop building at AOC 1;
- TPH-D in soil adjacent to the UST removed in 2008 from AOC 2 at the subject property;

Groundwater:

- TCE and, in some areas, associated cis-1,2-DCE and vinyl chloride, in groundwater near the hazardous waste storage area at AOC 3 and under the main facility building at AOC 4;
- Bromodichloromethane in groundwater under the main facility building at AOC 4; and
- The dissolved metal arsenic at AOC 1.
- Based on concentrations from monitoring wells installed downgradient of each of the wells where elevated contaminant concentrations were detected, the areas of contaminants of potential concern identified in groundwater at concentrations greater than PSGs are limited to within the subject property boundaries.
- Although TCE was detected in several soil samples from the subject property, no concentrations detected in soil were greater than the soil PSG of 0.030 µg/kg. Since groundwater is relatively shallow at the subject property (typically 10 feet bgs or less), it is likely that any residual TCE source areas in soil are either very small in area, or have naturally attenuated.
- No petroleum hydrocarbons at concentrations greater than applicable PSGs were identified in soil or groundwater samples collected adjacent to the UST beneath the machine shop building at AOC 1.

- Vapor intrusion modeling results indicate that the concentration of TCE vapors infiltrating into the building from underlying groundwater is less than applicable regulatory standards.
- The TEE results indicate that exposure of terrestrial organisms to contaminants at the subject property is not a concern under current conditions.

It is ERM's opinion that characterization of the subject property under Chapter 173-340-350 WAC is sufficient to perform a feasibility study and complete a draft cleanup action plan.

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White Shield, Inc. 2009. Underground Heating Oil Storage Tank Decommissioning Report, K2 Sports USA, 19215 Vashon Highway, Vashon, Washington. Prepared for K2 Sports. 11 February 2009.

Figures

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LEGEND

--- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

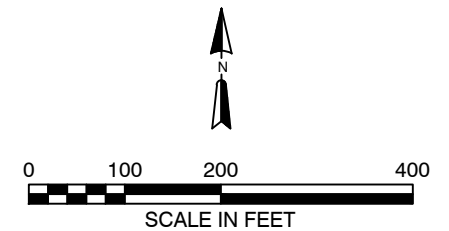


Figure 1
Site Location and Site Plan
K2 Site Investigation
Vashon, Washington

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LEGEND

1

Recognized Environmental
Condition Location from
Previous Investigation

----- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation



Figure 2
*Recognized Environmental
Conditions
K2 Site Investigation
Vashon, Washington*

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B-1
Soil Boring, White Shield, 2008

--- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

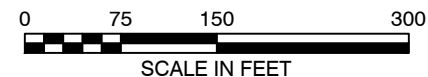
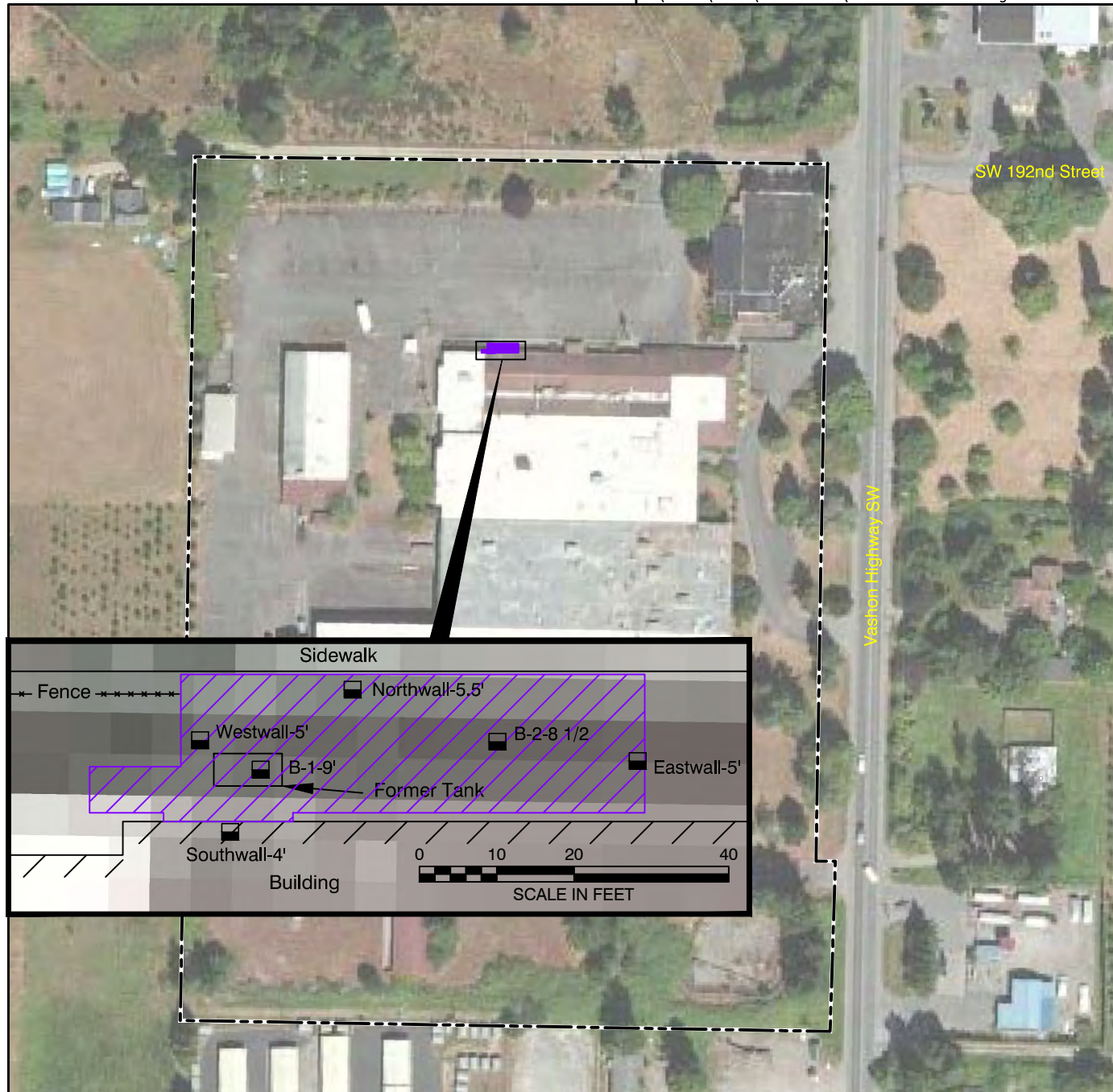


Figure 3
*Previous Investigation
Soil Boring Locations
K2 Site Investigation
Vashon, Washington*

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LEGEND

B-1-9'  Soil Sample, White Shield, 2008

 Underground Storage Tank
Decommissioning Area

 Property Boundary

Aerial Photo Source: Bing Maps © 2015
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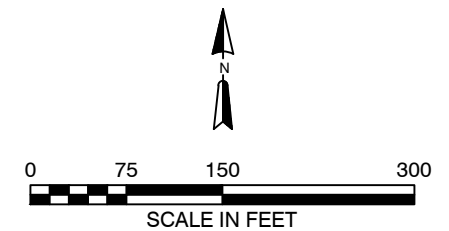


Figure 4
*Underground Storage Tank
Decommissioning
K2 Site Investigation
Vashon, Washington*

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LEGEND

- Area of Concern
- 1** Recognized Environmental Condition Location from Previous Investigation

Aerial Photo Source: Bing Maps © 2015
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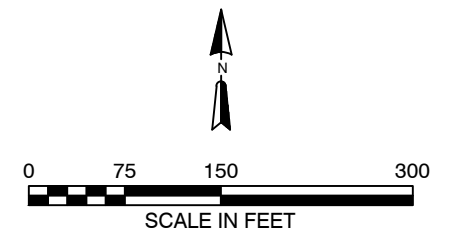


Figure 5
*Areas of Concern Designation
K2 Site Investigation
Vashon, Washington*

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LEGEND

-  Ground-Penetrating Radar Transit Lines
-  Area of Geophysical Anomaly Indicative of Drain Field Trenching
-  Area of Concern
-  Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

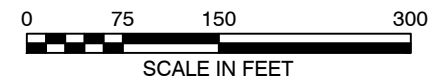
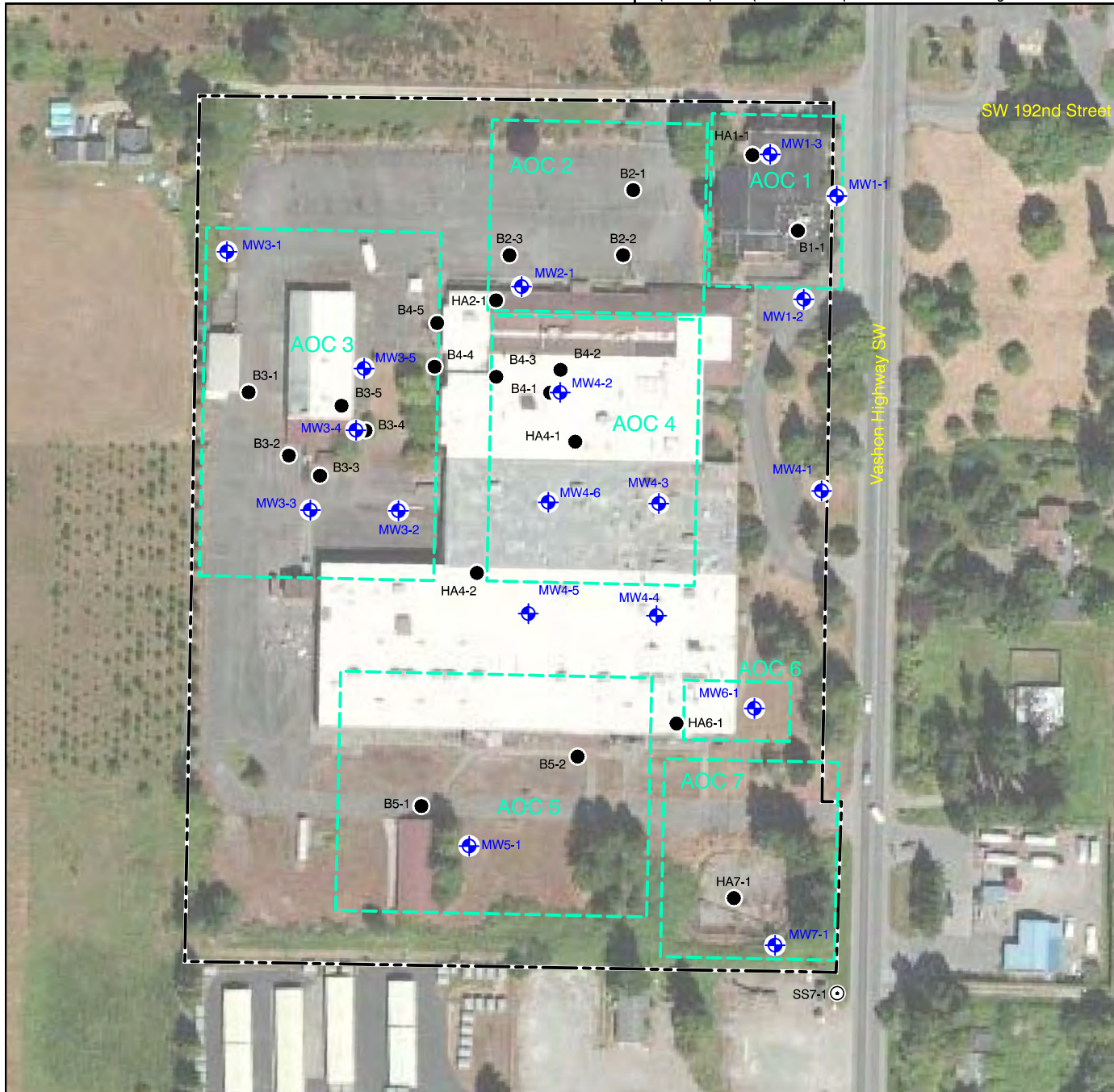


Figure 6
Geophysical Survey
K2 Site Investigation
Vashon, Washington

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LEGEND

- MW1-1 Monitoring Well
- B1-1 Soil Boring
- SS7-1 Surface Soil Sample

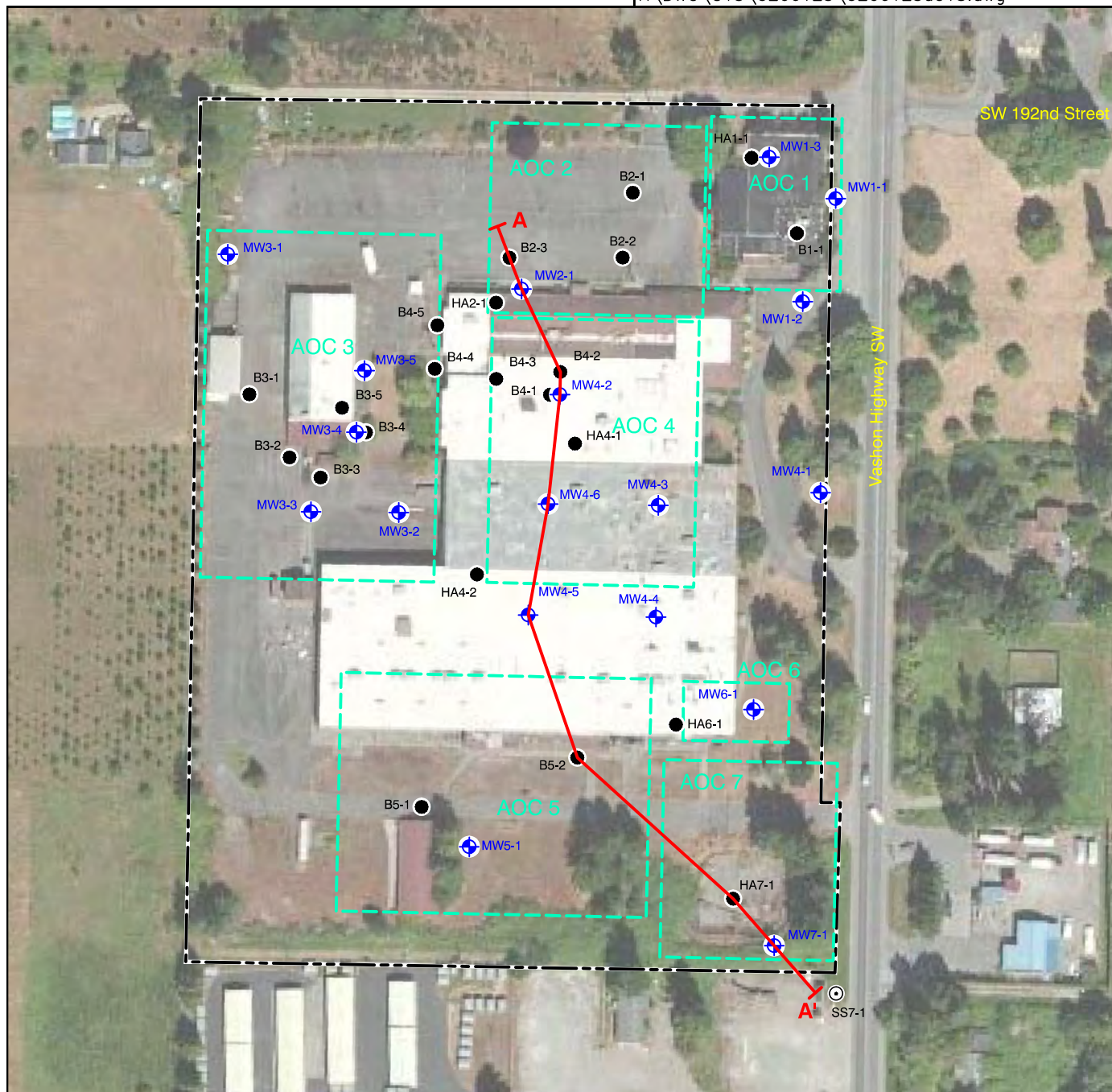
- Area of Concern
- Property Boundary

Aerial Photo Source: Bing Maps © 2015
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Figure 7
*Soil and Groundwater
Sample Locations
K2 Site Investigation
Vashon Highway SW
Vashon, Washington*

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LEGEND

- MW1-1 Monitoring Well
- B1-1 Soil Boring
- SS7-1 Surface Soil Sample
- Area of Concern
- Property Boundary

Aerial Photo Source: Bing Maps © 2015
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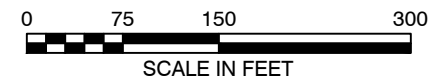


Figure 8
Cross Section A-A' Location
K2 Site Investigation
Vashon, Washington

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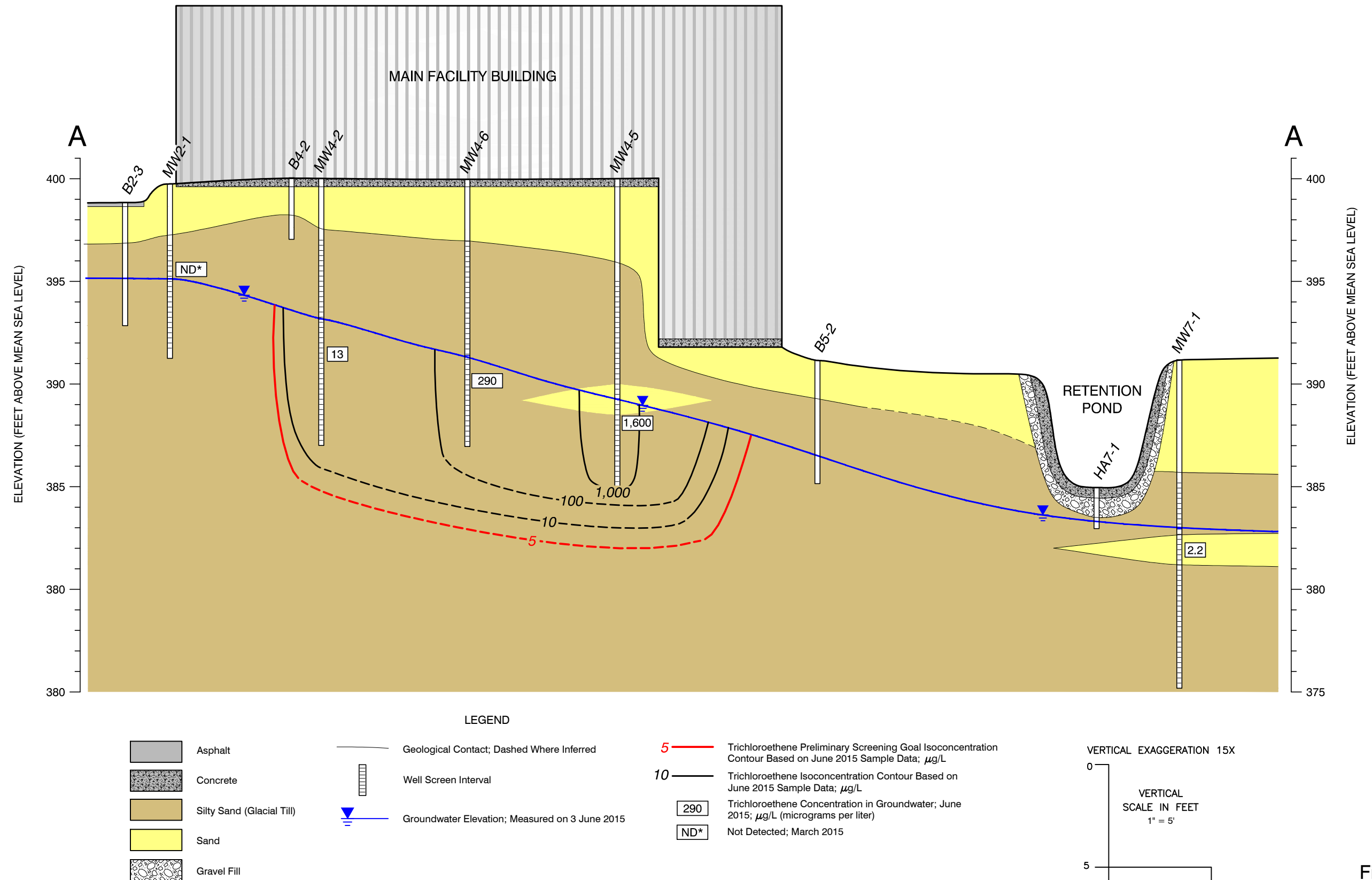
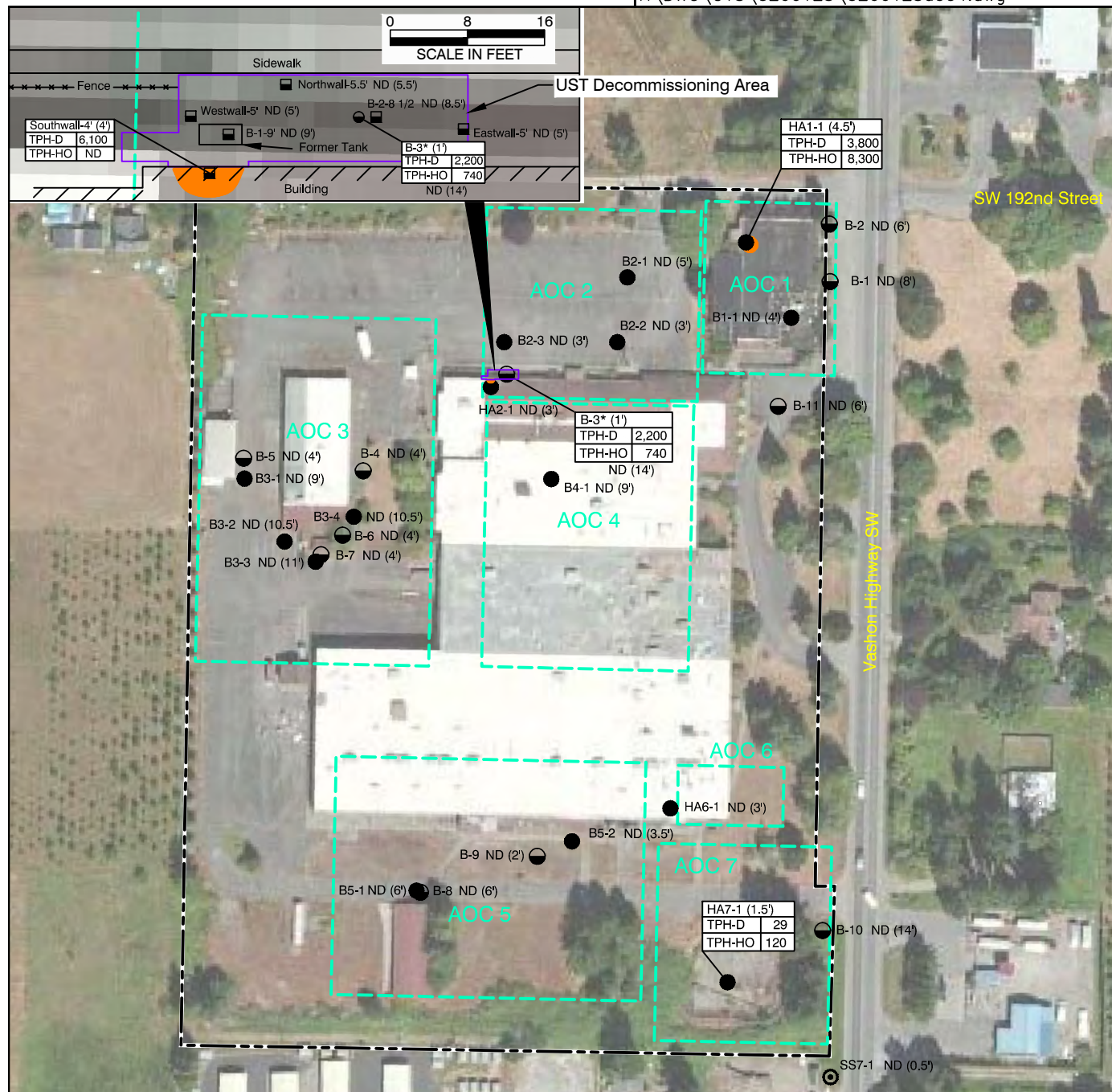
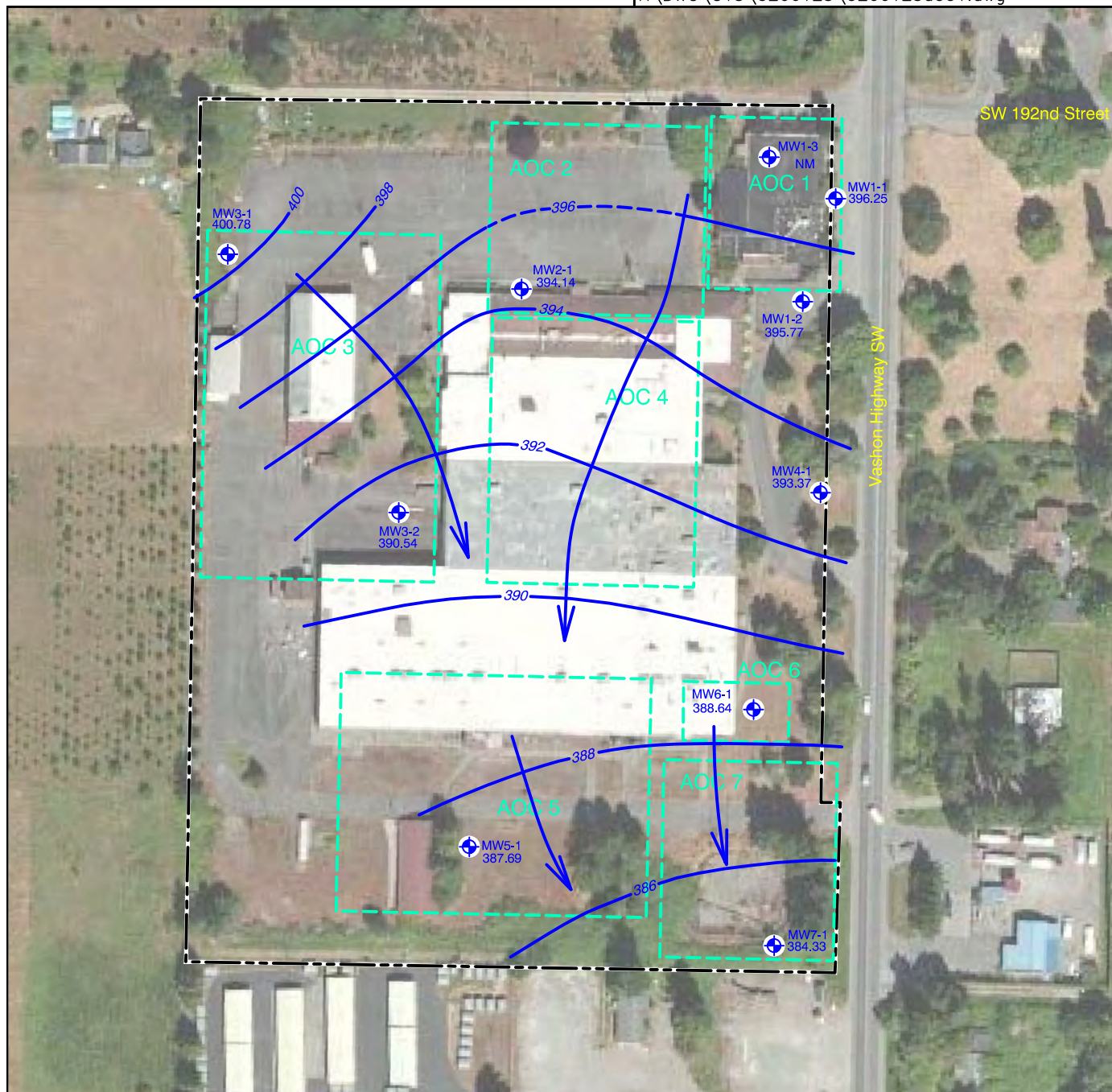


Figure 9
Cross Section A-A'
K2 Site Investigation
Vashon, Washington

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LEGEND

MW6-1

Monitoring Well

388.64

Groundwater Elevation, Feet Above Mean Sea Level

389

Groundwater Isoelevation Contour; Dashed Where Inferred



Inferred Groundwater Flow Direction

Area of Concern

Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

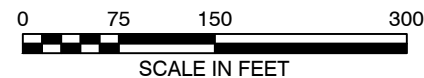
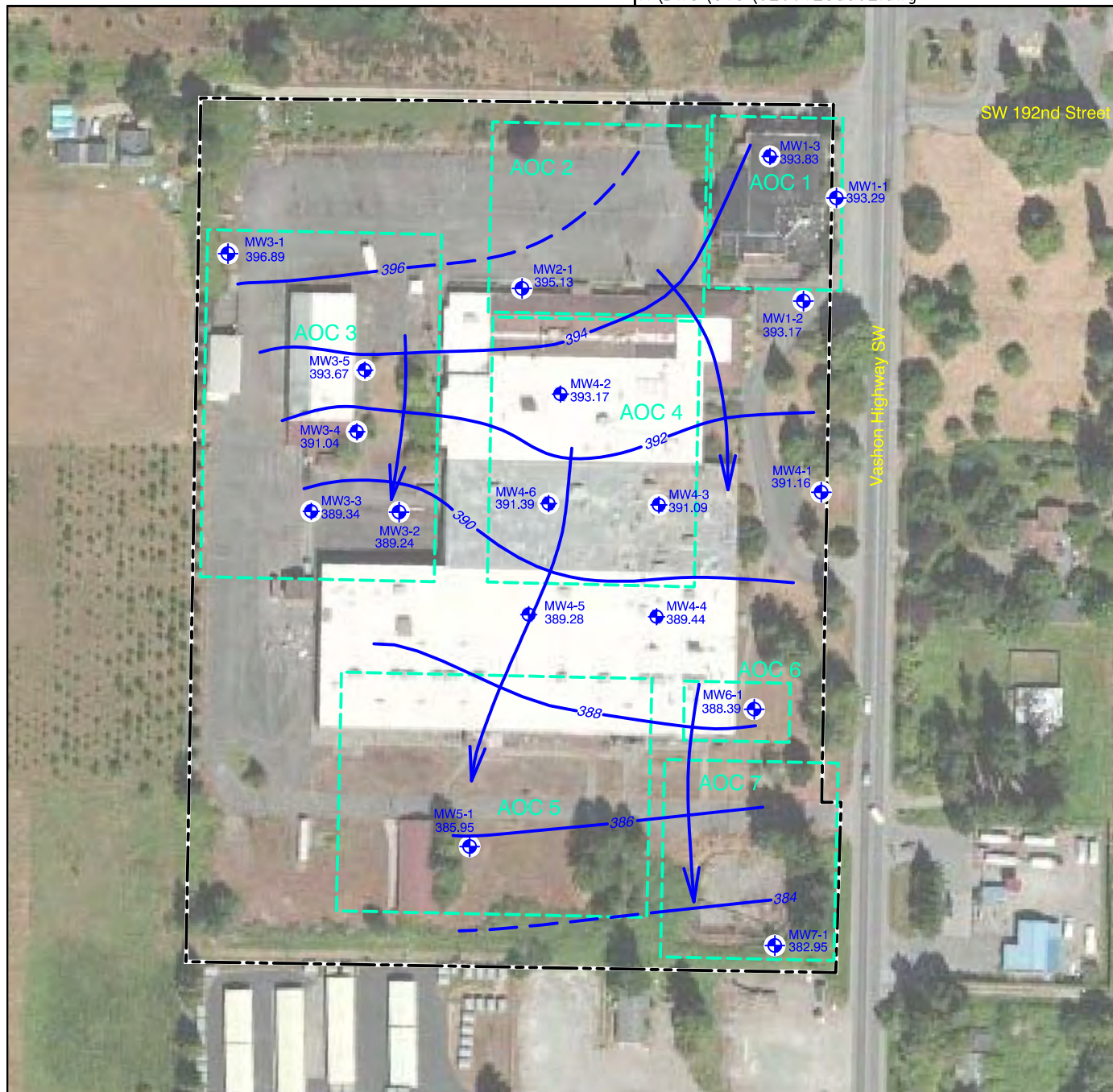


Figure 11
Groundwater Elevations
27 March 2015
K2 Site Investigation
Vashon, Washington

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LEGEND

MW6-1

Monitoring Well

388.38

Groundwater Elevation, Feet Above Mean Sea Level

390

Groundwater Isoelevation Contour; Dashed Where Inferred



Inferred Groundwater Flow Direction

Area of Concern

Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

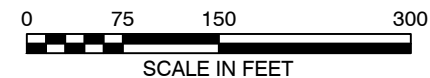


Figure 12
Groundwater Elevations
3 June 2015
K2 Site Investigation
Vashon, Washington

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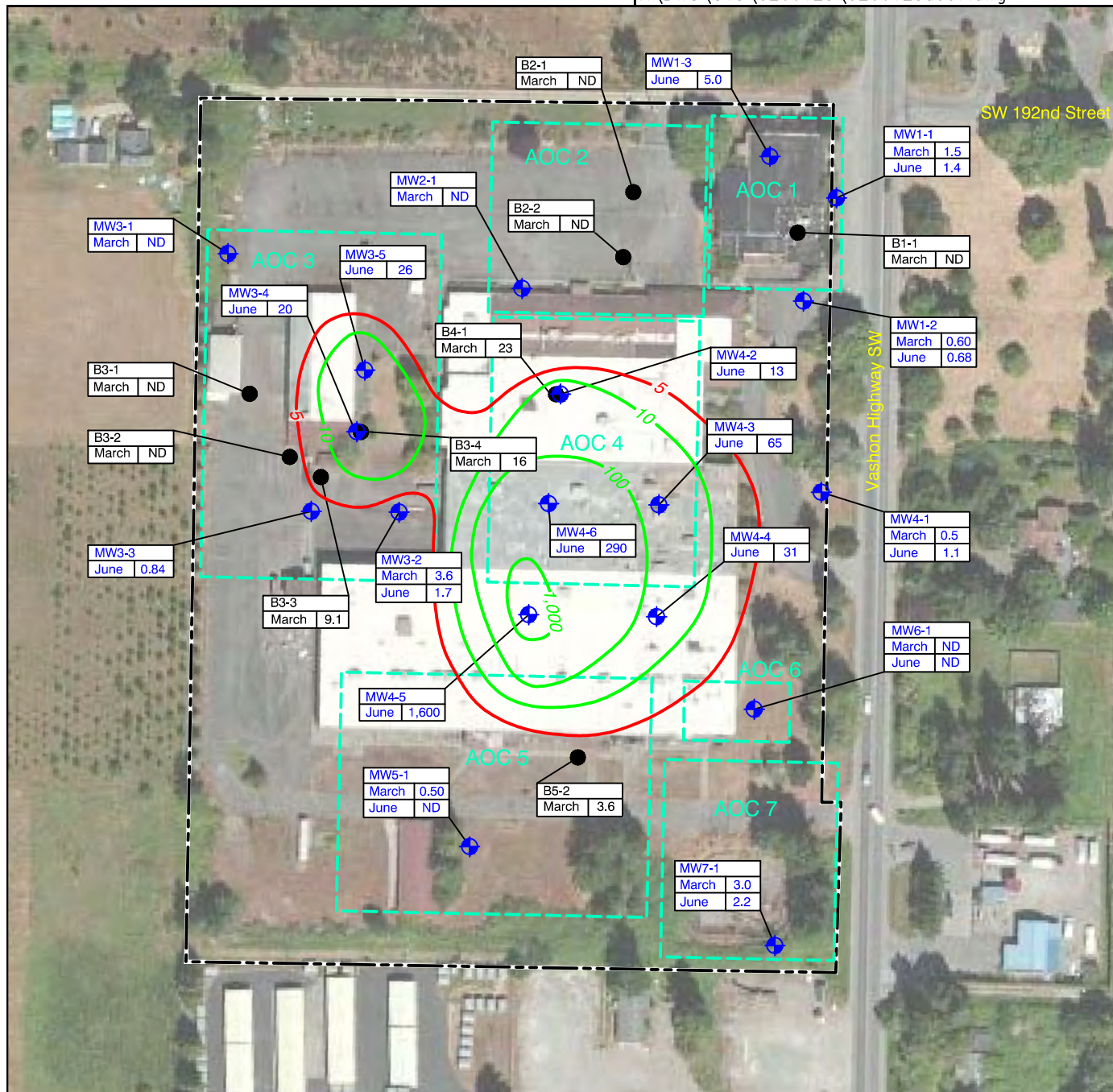


Figure 13
*Trichloroethene in Groundwater
K2 Site Investigation
Vashon, Washington*

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Tables

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Table 1
 Constituents Detected in Soil Samples
 2008 Site Investigation and UST Decommissioning
 K2 Facility, Vashon, Washington

Boring/ Sample Location	Sample Identifier	Sample Depth (feet bgs)	TPH-D	TPH-HO	Volatile Organic Compounds		Pesticides/ Herbicides	Metals		
					Methylene Chloride	Trichloroethene		Arsenic	Chromium	Lead
Site Investigation Borings										
B-1	B-1-8	8	ND	ND	ND	ND	NA	ND	28	ND
B-2	B-2-6	6	ND	ND	ND	ND	NA	ND	34	ND
B-3	B-3-1	1	2,200	740	NA	NA	NA	NA	NA	NA
	B-3-10	10	ND	ND	NA	NA	NA	NA	NA	NA
B-4	B-4-4	4	ND	ND ¹	ND	0.0035	NA	ND	35	ND
B-5	B-5-4	4	ND	ND ¹	ND	ND	ND	ND	30	ND
B-6	B-6-4	4	ND	ND	ND	0.0016	NA	ND	29	ND
B-7	B-7-4	4	ND	ND	ND	ND	NA	ND	27	ND
B-8	B-8-6	6	ND	ND	ND	ND	NA	NA	NA	NA
B-9	B-9-2	2	ND	ND	ND	ND	NA	16	47	28
B-10	B-10-14	14	ND	ND	ND	0.009	NA	ND	27	ND
B-11	B-11-6	6	ND	ND	ND	ND	NA	NA	NA	NA
UST Excavation Limits										
North Lot UST	Northwall-5 1/2'	5.5	ND	ND	NA	NA	NA	NA	NA	NA
	Westwall-5'	5	ND	ND	NA	NA	NA	NA	NA	NA
	Southwall-4'	4	6,100	ND	NA	NA	NA	NA	NA	NA
	Eastwall-5'	5	ND	ND	NA	NA	NA	NA	NA	NA
	B-1-9'	9	ND	ND	NA	NA	NA	NA	NA	NA
	B-2-8 1/2'	8.5	ND	ND	NA	NA	NA	NA	NA	NA
MTCA Method A Cleanup Level ²			2,000	2,000	0.02	0.03	NS	20	2,000 ³	250

Notes:

Concentrations reported in milligrams per kilogram.

Shaded cells indicate concentrations that are greater than the respective MTCA Method A Cleanup Level.

¹TPH-HO reported detected using Method NWTPH-HCID, but not detected in follow-up analysis using Method NWTPH-Dx.

²MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses (Chapter 173-340-900 Washington Administrative Code, Table 740-1).

³Value for Chromium(III). Chromium(VI) value is 19 milligrams per kilogram.

bgs = Below ground surface

MTCA = Model Toxics Control Act

NA = Not analyzed

ND = Not detected

NS = No standard

TPH-D = Diesel-range petroleum hydrocarbons

TPH-HO = Heavy oil-range petroleum hydrocarbons

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Table 2

Summary of Areas of Concern
K2 Facility, Vashon, Washington

Area of Concern	Recognized Environmental Concern Areas
AOC 1 - Machine Shop	REC 7 - Open-Ended Sump in the Machine Shop
	REC 7 - Possible Former Drain Field
	REC 7 - Area Near the Northwest Corner of the Machine Shop, Former Gel Coat Pit, and Paint Booth
	300-gallon underground storage tank under building
	Groundwater
AOC 2 - Decommissioned UST and North Lot	REC 1 - Former Florist Shop and Greenhouses
	REC 1 - Former Chemical Loading/Unloading Area on North Side of Main Building
	REC 7 - Possible Former Drain Field
	Groundwater
AOC 3 - Still; Centrifuge Room; and Chemical, Equipment, and Hazardous Waste Storage Areas	REC 2 - Still Area
	REC 3 - Hazardous Waste Shed
	REC 3 - Centrifuge Room
	REC 8 - Former Equipment and Materials Storage Areas Near the West Side of the Property
	Rooms on the West Side of Carpenter Shop Building and Nearby Pavement
	Soil Cleanup Area on South Side of Carpenter Building
	Groundwater
AOC 4 - Former Drain Field and Vapor Degreasers	REC 11 - Former Drain Field
	REC 12 - Former Vapor Degreaser Areas
	Groundwater
AOC 5 - Former Resin Tank and Grinding Process Area	REC 4 - Former Resin Tank Farm Area
	REC 5 - Unpaved Areas and Soil on the South End of the Property
	Groundwater
AOC 6 - Boiler Room	REC 6 - Soil and Groundwater Near the Boiler Room
	Groundwater
AOC 7 - Storm Water Retention Pond	REC 9 - Discharges to Storm Drain Including Ditch
	REC 10 - Soil Underneath Retention Pond
	Groundwater

Notes:

AOC = Area of concern

REC = Recognized environmental condition

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Table 3
Preliminary Screening Goals
K2 Facility, Vashon, Washington

Potential Contaminant	Preliminary Screening Goals			
	Soil		Groundwater	
	Value (mg/kg)	Source	Value (µg/L)	Source
Total Petroleum Hydrocarbons				
Gasoline-range Petroleum Hydrocarbons	30	MTCA A	800	MTCA A
Diesel-range Petroleum Hydrocarbons	2,000	MTCA A	500	MTCA A
Heavy Oil-range Petroleum Hydrocarbons	2,000	MTCA A	500	MTCA A
Volatile Organic Compounds				
Acetone	72,000	MTCA B, NC	7,200	MTCA B, NC
Benzene	--	--	5	MTCA A
2-Butanone	48,000	MTCA B, NC	--	--
Carbon Tetrachloride	--	--	5	MCL
Chloroform	--	--	8	MCL
Dichlorobromomethane	--	--	0.083	MCL
1,1-Dichloroethane	--	--	7.68	MTCA B, C
1,1-Dichloroethene	--	--	7	MCL
cis-1,2-Dichloroethene	--	--	70	MCL
trans-1,2-Dichloroethene	--	--	100	MCL
Methylene Chloride	0.020	MTCA A	5	MTCA A
Tetrachloroethene	--	--	5	MTCA A
1,1,1-Trichloroethane	--	--	200	MTCA A
1,1,2-Trichloroethane	--	--	5	MCL
Trichloroethene	0.030	MTCA A	5	MTCA A
Vinyl Chloride	--	--	0.2	MTCA A
Semivolatile Organic Compounds				
Benzoic Acid	--	--	64,000	MTCA B, NC
Butyl Benzyl Phthalate	526		46.1	MTCA B, NC
bis (2-Ethylhexyl) Phthalate	16,000		--	--
1-Methylnaphthalene	--	--	1.51	MTCA B, NC
Naphthalene	--	--	160	MTCA A
Pyrene	2,400		--	--
Polychlorinated Biphenyls				
Polychlorinated Biphenyl Mixtures	1	MTCA A	0.1	MTCA A
Metals				
Antimony	32	MTCA B, NC	6	MCL
Arsenic	20	MTCA A	5	MTCA A
Beryllium	160	MTCA B, NC	4	MCL
Cadmium	2	MTCA A	5	MTCA A
Chromium	2,000	MTCA A	50	MTCA A
Copper	3,200	MTCA B, NC	1,300	MCL
Lead	250	MTCA A	15	MTCA A
Mercury	2	MTCA A	2	MTCA A
Nickel	880	MTCA B, NC	100	MCL
Selenium	400	MTCA B, NC	50	MCL
Silver	--	--	80	MTCA B, NC
Thallium	--	--	2	MCL
Zinc	24,000	MTCA B, NC	4,800	MCL

Notes:

-- = Analyte not detected in sample medium, no Project Screening Goal developed

µg/L = Micrograms per liter

C = Carcinogenic standard

MCL = Federal Maximum Contaminant Level

mg/kg = Milligrams per kilogram

MTCA A = Model Toxics Control Act Method A Cleanup Level

MTCA B = Model Toxics Control Act Method B Cleanup Level

NC = Noncancer standard

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Table 4
Soil and Groundwater Sample Collection and Analysis Summary
K2 Facility, Vashon, Washington

Area of Concern	Sample Location	Sample Type	Sample Analyses						
			TPH-G	TPH-D/HO	VOCs	SVOCs	Pesticides	PP Metals	PCBs
Ecology or USEPA Analytical Method			NWTPH-Gx	NWTPH-Dx	8260	8270 SIM	8080	6010/6020/ 7000 Series	8082
AOC 1 - Machine Shop	B1-1	Soil	1	1	1	1	0	1	0
		Groundwater	1	1	1	1	0	1	0
	HA1-1	Soil	1	1	1	1	0	1	0
	MW1-1	Groundwater	1	1	2	1	0	2	0
	MW1-2	Groundwater	1	1	2	1	0	2	0
	MW1-3	Groundwater	0	0	1	0	0	1	0
		QA/QC Samples	Trip Blank	1	0	1	0	0	0
		Rinsate Blank (Groundwater)	1	1	1	1	1	1	0
Subtotal Analyses			7	6	10	6	1	9	0
AOC 2 - Decommissioned UST and North Lot	B2-1	Soil	1	1	1	0	1	1	0
		Groundwater	1	1	1	0	1	1	0
	B2-2	Soil	1	1	1	0	0	1	1
		Groundwater	1	1	1	0	0	0	0
	B2-3	Soil	0	1	1	1	0	0	0
	HA2-1	Soil	0	1	1	1	0	0	0
	MW2-1	Groundwater	1	1	1	1	0	0	0
	QA/QC Samples	Trip Blank	1	0	1	0	0	0	0
Rinsate Blank (Soil)		1	1	1	1	1	1	1	
Subtotal Analyses			7	8	9	4	3	4	2
AOC 3 - Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area	B3-1	Soil	1	1	1	0	0	1	0
		Groundwater	1	1	1	0	0	1	0
	B3-2	Soil	1	1	1	0	0	1	0
		Groundwater	1	1	1	0	0	1	0
	B3-3	Soil	1	1	1	0	0	1	0
		Groundwater	1	1	1	0	0	1	0
	B3-4	Soil	1	1	1	0	0	1	0
		Groundwater	1	1	1	0	0	1	0
	B3-5	Soil	0	0	1	0	0	0	0
	MW3-1	Groundwater	1	1	1	1	0	1	0
	MW3-2	Groundwater	1	1	1	1	0	1	0
	MW3-3	Groundwater	0	0	1	0	0	0	0
	MW3-4	Groundwater	0	0	1	0	0	0	0
	MW3-5	Groundwater	0	0	1	0	0	0	0
	QA/QC Samples	Trip Blank	2	0	2	0	0	0	0
Field Blank (Soil)		1	1	1	1	0	1	0	
Subtotal Analyses			13	11	17	3	0	11	0

Table 4
Soil and Groundwater Sample Collection and Analysis Summary
K2 Facility, Vashon, Washington

Area of Concern	Sample Location	Sample Type	Sample Analyses						
			TPH-G	TPH-D/HO	VOCs	SVOCs	Pesticides	PP Metals	PCBs
Ecology or USEPA Analytical Method			NWTPH-Gx	NWTPH-Dx	8260	8270 SIM	8080	6010/6020/ 7000 Series	8082
AOC 4 - Former Drain Field and Vapor Degreasers	B4-1	Soil	1	1	1	1	1	1	0
		Groundwater	1	1	1	1	1	1	0
	B4-2	Soil	0	0	1	0	0	0	0
	B4-3	Soil	0	0	1	0	0	0	0
	B4-4	Soil	0	0	1	0	0	0	0
	B4-5	Soil	0	0	1	0	0	0	0
	HA4-1	Soil	0	0	1	0	0	0	0
	HA4-2	Soil	0	0	1	0	0	0	0
	MW4-1	Groundwater	1	1	2	1	1	1	0
	MW4-2	Groundwater	0	0	1	0	0	0	0
	MW4-3	Groundwater	0	0	1	0	0	0	0
	MW4-4	Groundwater	0	0	1	0	0	0	0
	MW4-5	Groundwater	0	0	1	0	0	0	0
	MW4-6	Groundwater	0	0	1	0	0	0	0
QA/QC Samples	Trip Blank	1	0	1	0	0	0	0	
	Field Duplicate (Groundwater)	1	1	1	1	1	1	0	
Subtotal Analyses			5	4	17	4	4	4	0
AOC 5 - Former Resin Tank and Grinding Process Area	B5-1	Soil	0	1	1	1	0	0	0
	B5-2	Soil	1	1	1	1	0	1	0
		Groundwater	1	1	1	1	0	1	0
	MW5-1	Groundwater	0	1	2	1	0	0	0
	QA/QC Samples	Trip Blank	0	0	2	0	0	0	0
		Rinsate Blank (Soil)	0	1	1	1	0	1	0
		Field Duplicate (Groundwater)	0	1	1	1	0	1	0
Subtotal Analyses			2	6	9	6	0	4	0
AOC 6 - Boiler Room	HA6-1	Soil	0	1	1	1	0	0	1
	MW6-1	Groundwater	0	1	2	1	0	0	0
		Trip Blank	0	0	1	0	0	0	0
	QA/QC Samples	Field Blank (Groundwater)	0	1	1	1	0	0	0
Subtotal Analyses			0	3	5	3	0	0	1
AOC 7 - Storm Water Retention Pond	HA7-1	Soil	2	2	2	2	0	2	2
	SS-1	Soil	1	1	1	1	0	1	1
	MW7-1	Groundwater	1	1	2	1	0	1	0
	QA/ QC Samples	Trip Blank	1	0	1	0	0	0	0
Subtotal Analyses			5	4	6	4	0	4	3
Total Analyses			39	42	73	30	8	36	6

Notes:

AOC = Area of Concern

Ecology = Washington State Department of Ecology

PCBs = Polychlorinated biphenyls

PP Metals = Priority Pollutant metals

QA/QC = Quality assurance/quality control

SVOCs = Semivolatile organic compounds

TPH-G = Gasoline-range petroleum hydrocarbons

TPH-D/HO = Diesel- and heavy oil-range petroleum hydrocarbons

USEPA = United States Environmental Protection Agency

VOCs = Volatile organic compounds

Table 5
Monitoring Well Construction Information
K2 Facility, Vashon, Washington

Monitoring Well	Installation Date	Total Well Depth (feet bgs)	Well Construction Material	Casing Diameter (inches)	Screen Length (feet)	Screen Slot Size (inches)	Screen Zone Interval (feet bgs)	Northing Washington State Plane NAD 83(91) (feet)	Easting Washington State Plane NAD 83(91) (feet)	Top of Casing Measuring Point Elevation (feet amsl)
MW1-1	3/12/2015	13	PVC	2	10	0.01	3-13	162065.58	1237669.31	399.30
MW1-2	3/12/2015	13	PVC	2	10	0.01	3-13	161965.43	1237637.18	398.02
MW1-3	6/1/2015	13	PVC	1	10	0.01	3-13	162105.80	1237604.71	399.72
MW2-1	3/18/2015	8	PVC	2	5	0.01	3-8	161977.70	1237364.07	399.54
MW3-1	3/11/2015	13	PVC	2	10	0.01	3-13	162011.39	1237079.04	402.58
MW3-2	3/11/2015	15	PVC	2	10	0.01	5-15	161760.63	1237245.00	395.77
MW3-3	5/27/2015	15	PVC	1	10	0.01	5-15	161761.50	1237159.80	396.99
MW3-4	5/27/2015	16	PVC	1	10	0.01	6-16	161838.72	1237203.82	399.99
MW3-5	5/27/2015	16	PVC	1	10	0.01	6-16	161898.44	1237211.71	399.39
MW4-1	3/12/2015	13	PVC	2	10	0.01	3-13	161779.97	1237654.53	397.38
MW4-2	5/28/2015	13	PVC	1	10	0.01	3-13	161875.10	1237401.47	399.48
MW4-3	5/29/2015	13	PVC	1	10	0.01	3-13	161767.65	1237496.92	399.75
MW4-4	5/29/2015	15	PVC	0.75	10	0.01	5-15	161659.28	1237494.69	399.49
MW4-5	5/29/2015	15	PVC	1	10	0.01	5-15	161661.14	1237370.61	399.31
MW4-6	5/28/2015	13	PVC	1	10	0.01	3-13	161769.06	1237389.96	399.29
MW5-1	3/12/2015	15	PVC	2	10	0.01	5-15	161436.12	1237313.35	392.51
MW6-1	3/13/2015	13	PVC	2	10	0.01	3-13	161569.39	1237589.41	390.97
MW7-1	3/18/2015	16	PVC	2	10	0.01	6-16	161340.14	1237609.52	390.51

Notes:

amsl = Above mean sea level
bgs = Below ground surface
NAD = North American Datum
PVC = Polyvinyl chloride

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Table 6
Analytes Detected in Soil Samples
K2 Facility, Vashon, Washington

Area of Concern	Sample Location	Sample Identifier	Depth (feet bgs)	Date	Petroleum Hydrocarbons (mg/kg)			Volatile Organic Compounds (µg/kg)					Semivolatile Organic Compounds (µg/kg)			Organochlorine Pesticides (µg/kg)	Polychlorinated Biphenyls (mg/kg)
					TPH-G	TPH-D	TPH-HO	Acetone	2-Butanone	Methylene Chloride	Toluene	Trichloroethene	Butyl Benzyl Phthalate	bis (2-Ethylhexyl) Phthalate	Pyrene		
AOC 1 - Machine Shop	B1-1	B1-1-4	4	3/16/2015	<7.4	<31	<63	NA	NA	<13	<1.7	<1.7	<250	<740	<25	NA	NA
	HA1-1	HA1-1-4.5	4.5	3/19/2015	<9.2	3,800 NJ	8,300 NJ	NA	NA	<14	<1.9	1.9	<270	9,900	28	NA	NA
AOC 2 - Decommissioned UST and North Lot	B2-1	B2-1-5	5	3/11/2015	<7.6	<29	<59	NA	NA	<14	<1.8	<1.8	NA	NA	NA	ND	NA
	B2-2	B2-2-3	3	3/13/2015	<8.8	<28	<56	NA	NA	<13	<1.7	<1.8	NA	NA	NA	NA	ND
	B2-3	B2-3-3	3	3/13/2015	NA	<31	<62	NA	NA	<13	<1.8	<1.7	<250	<750	<25	ND	NA
	HA2-1	HA2-1-3	3	3/17/2015	NA	<29	<58	NA	NA	<14	<1.9	<1.9	<230 UJ	<680 UJ	<23 UJ	NA	NA
AOC 3 - Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area	B3-1	B3-1-9	9	3/13/2015	<7.0	<27	<55	NA	NA	<12	<1.6	<1.6	NA	NA	NA	NA	NA
	B3-2	B3-2-10.5	10.5	3/13/2015	<7.3	<28	<56	NA	NA	<12	<1.6	<1.6	NA	NA	NA	NA	NA
	B3-3	B3-3-11	11	3/16/2015	<6.7	<28	<55	NA	NA	<12	<1.6	1.8	NA	NA	NA	NA	NA
	B3-4	B3-4-10.5	10.5	3/16/2015	<6.9	<29	<57	NA	NA	<12	<1.6	3.4	NA	NA	NA	NA	NA
	B3-5	B3-5-3	3	6/1/2015	NA	NA	NA	5.5	<5.5	2.2	<1.1	<1.1	NA	NA	NA	NA	NA
AOC 4 - Former Drain Field and Vapor Degreasers	HA4-1	HA4-1-3	3	3/17/2015	NA	NA	NA	NA	NA	<13	<1.7	19	NA	NA	NA	NA	NA
	HA4-2	HA4-2-2.5	2.5	3/17/2015	NA	NA	NA	NA	NA	<20	<2.7	<2.7	NA	NA	NA	NA	NA
	B4-1	B4-1-9	9	3/18/2015	<7.7	<27	<54	NA	NA	<12	<1.6	4.3	<220	<670	<22	ND	NA
	B4-2	B4-2-3	3	5/28/2015	NA	NA	NA	35	<5.2	3.1	1.4	4.1	NA	NA	NA	NA	NA
	B4-3	B4-3-3	3	5/28/2015	NA	NA	NA	37	<5.4	2.2	1.3	<1.1	NA	NA	NA	NA	NA
	B4-4	B4-4-3	3	5/26/2015	NA	NA	NA	19 J	3.1	<3.8 U	1.5	<1.0	NA	NA	NA	NA	NA
	B4-5	B4-5-3	3	5/16/2015	NA	NA	NA	12 J	<4.4	<2.7 U	2.6	0.7	NA	NA	NA	NA	NA
AOC 5 - Former Resin Tank and Grinding Process Area	B5-1	B5-1-6	6	3/16/2015	NA	<29	<59	NA	NA	<16	<2.1	<2.1	<230	<690	<23	NA	NA
	B5-2	B5-2-3.5	3.5	3/16/2015	<9.2	<31	<63	NA	NA	<13	<1.8	<1.8	<250 UJ	<750 UJ	<25 UJ	NA	NA
AOC 6 - Boiler Room	HA6-1	HA6-1-3	3	3/17/2015	NA	<30	<61	NA	NA	<13	<1.7	8.2	<240	<730	<24 UJ	NA	ND
AOC 7 - Storm Water Retention Pond	HA7-1	HA7-1-1.5	1.5	3/19/2015	<9.6	29 NJ	120 NJ	NA	NA	<12	<1.6	<1.6	1,300	<710	<24	NA	ND
	SS7-1	SS7-1-0.5	0.5	3/19/2015	<12	<29	<57	NA	NA	<14	<1.8	<1.8	<230	<690	<23	NA	ND
Preliminary Screening Goals ¹					30	2,000	2,000	72,000,000 ²	48,000,000 ²	20	7,000	30	526,000 ³	16,000,000 ²	2,400,000 ²	Varies	1

Notes:
Bolded values indicate the analyte was detected.
Shaded cells indicate concentrations greater than the Preliminary Screening Goal.
¹Model Toxics Control Act Method A Cleanup Level for Unrestricted Land Use, unless otherwise indicated
²Model Toxics Control Act Method B Noncancer Cleanup Level
³Model Toxics Control Act Method B Carcinogenic Cleanup Level
bgs = Below ground surface
mg/kg = Milligrams per kilogram
µg/kg = Micrograms per kilogram
J = Result should be considered estimated
NA = Not analyzed
ND = Analyte suite not detected in sample
TPH-D = Diesel-range petroleum hydrocarbons
TPH-G = Gasoline-range petroleum hydrocarbons
TPH-HO = Heavy oil-range petroleum hydrocarbons
U = Result considered not detected because of analyte detected in associated blank sample
UJ = Not detected, reporting limit estimated

Table 6
Analytes Detected in Soil Samples
K2 Facility, Vashon, Washington

Area of Concern	Sample Location	Sample Identifier	Depth (feet bgs)	Date	Metals (mg/kg)										
					Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
AOC 1 - Machine Shop	B1-1	B1-1-4	4	3/16/2015	0.24	4.7	0.34	<0.17	58	18	4.0	0.032	53	<0.84	32
	HA1-1	HA1-1-4.5	4.5	3/19/2015	3.2	7.2	0.40	0.25	49	30	9.0	0.031	42	<1.0	49
AOC 2 - Decommissioned UST and North Lot	B2-1	B2-1-5	5	3/11/2015	<0.20	3.6	0.23	<0.20	30	12	2.7	0.034	50	<0.98	34
	B2-2	B2-2-3	3	3/13/2015	0.16	3.4	0.24	<0.16	33 J	13	2.7	<0.021	45	1.0	24
	B2-3	B2-3-3	3	3/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HA2-1	HA2-1-3	3	3/17/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOC 3 - Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area	B3-1	B3-1-9	9	3/13/2015	0.39	2.9	<0.20	<0.20	29	16	2.5	0.022	49	<1.0	33
	B3-2	B3-2-10.5	10.5	3/13/2015	0.24	2.8	<0.20	<0.20	29	17	2.4	<0.019	50	<1.0	33
	B3-3	B3-3-11	11	3/16/2015	<0.19	2.7	<0.19	<0.19	29	14	2.2	0.023	46	<0.93	30
	B3-4	B3-4-10.5	10.5	3/16/2015	0.18	3.1	0.19	0.17	34	16	2.5	0.021	53	<0.87	33
AOC 4 - Former Drain Field and Vapor Degreasers	B3-5	B3-5-3	3	6/1/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HA4-1	HA4-1-3	3	3/17/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HA4-2	HA4-2-2.5	2.5	3/17/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	B4-1	B4-1-9	9	3/18/2015	<0.19	2.7 J	<0.19	<0.19	29 J	13 J	2.1 J	0.029	44 J	<0.94	30 J
	B4-2	B4-2-3	3	5/28/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	B4-3	B4-3-3	3	5/28/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOC 5 - Former Resin Tank and Grinding Process Area	B4-4	B4-4-3	3	5/26/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	B4-5	B4-5-3	3	5/16/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOC 6 - Boiler Room	B5-1	B5-1-6	6	3/16/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	B5-2	B5-2-3.5	3.5	3/16/2015	0.26	3.9	0.24	<0.21	43	17	3.0	0.034	45	<1.0	34
AOC 7 - Storm Water Retention Pond	HA6-1	HA6-1-3	3	3/17/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOC 7 - Storm Water Retention Pond	HA7-1	HA7-1-1.5	1.5	3/19/2015	0.51	6.6	0.24	0.25	36	20	11	0.043	45	<1.0	50
	SS7-1	SS7-1-0.5	0.5	3/19/2015	0.59	3.8	0.18	<0.18	50	12	6.1	0.030	36	<0.92	53
Preliminary Screening Goals ¹					32 ²	20	160 ²	2	2,000	3,200 ²	250	2	880 ²	400 ²	24,000 ²

Notes:
Bolded values indicate the analyte was detected.
Shaded cells indicate concentrations greater than the Preliminary Screening Goal.
¹Model Toxics Control Act Method A Cleanup Level for Unrestricted Land Use, unless otherwise indicated
²Model Toxics Control Act Method B Noncancer Cleanup Level
³Model Toxics Control Act Method B Carcinogenic Cleanup Level
bgs = Below ground surface
mg/kg = Milligrams per kilogram
µg/kg = Micrograms per kilogram
J = Result should be considered estimated
NA = Not analyzed
ND = Analyte suite not detected in sample
TPH-D = Diesel-range petroleum hydrocarbons
TPH-G = Gasoline-range petroleum hydrocarbons
TPH-HO = Heavy oil-range petroleum hydrocarbons
U = Result considered not detected because of analyte detected in associated blank sample
UJ = Not detected, reporting limit estimated

Table 7

Soil Natural Oxidant Demand
K2 Facility, Vashon, Washington

Sample Location	Sample Identifier	Depth (feet bgs)	Date	Natural Oxidant Demand as Permanganate (g/kg)
MW3-4	MW3-4-12	12.0	5/27/2015	0.21
MW3-5	MW3-5-11.5	11.5	5/27/2015	0.18
MW4-2	MW4-2-10	10.0	5/28/2015	<0.10
MW4-6	MW4-6-8	8.0	5/28/2015	0.13

Notes:

bgs = Below ground surface

g/kg = Grams per kilogram

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Table 8
Groundwater Level Measurements and Elevations
K2 Facility, Vashon, Washington

Monitoring Well	Measuring Point Elevation (feet amsl)	Date	Time	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet amsl)
MW1-1	399.30	3/27/2015	10:22	3.05	396.25
		6/3/2015	9:09	6.01	393.29
MW1-2	398.02	3/27/2015	10:08	2.25	395.77
		6/3/2015	9:15	4.85	393.17
MW1-3	399.72	6/3/2015	9:04	5.89	393.83
MW2-1	399.54	3/27/2015	11:04	5.40	394.14
		6/3/2015	8:57	4.41	395.13
MW3-1	402.58	3/27/2015	10:55	1.80	400.78
		6/3/2015	8:51	5.69	396.89
MW3-2	395.77	3/27/2015	10:59	5.23	390.54
		6/3/2015	8:38	6.53	389.24
MW3-3	396.99	6/3/2015	8:34	7.65	389.34
MW3-4	399.99	6/3/2015	8:43	8.95	391.04
MW3-5	399.39	6/3/2015	8:45	5.72	393.67
MW4-1	397.38	3/27/2015	10:30	4.01	393.37
		6/3/2015	9:20	6.22	391.16
MW4-2	399.48	6/3/2015	9:47	6.31	393.17
MW4-3	399.75	6/3/2015	9:43	8.66	391.09
MW4-4	399.49	6/3/2015	9:40	10.05	389.44
MW4-5	399.31	6/3/2015	9:37	10.03	389.28
MW4-6	399.29	6/3/2015	9:34	7.90	391.39
MW5-1	392.51	3/27/2015	11:10	4.82	387.69
		6/3/2015	8:26	6.56	385.95
MW6-1	390.97	3/27/2015	11:15	2.33	388.64
		6/3/2015	8:20	2.58	388.39
MW7-1	390.51	3/27/2015	11:22	6.18	384.33
		6/3/2015	8:15	7.56	382.95

Notes:

amsl = above mean sea level

btoc = below top of casing

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Table 9
Analytes Detected in Groundwater Samples
K2 Facility, Vashon, Washington

Area of Concern	Sample Location	Sample Identifier	Date	Petroleum Hydrocarbons (µg/L)			Volatile Organic Compounds (µg/L)																
				Gasoline	Diesel	Heavy Oil	Acetone	Benzene	Carbon Tetrachloride	Chloroethane	Chloroform	Dichloro- bromomethane	1,1- Dichloroethane	1,1- Dichloroethene	cis-1,2- Dichloroethene	trans-1,2- Dichloroethene	Methylene Chloride	Tetrachloro- ethene	Toluene	1,1,1- Trichloroethane	1,1,2- Trichloroethane	Trichloroethene	Vinyl Chloride
AOC 1 - Machine Shop	B1-1	B1-1-G	3/16/2015	<100	180 NJ	<250	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	<0.20	
	MW1-1	MW1-1-032015	3/20/2015	<100	<130	<260	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	1.5	
		MW1-1-060515	6/5/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	1.4	
	MW1-2	MW1-2-031915	3/19/2015	<100	190 NJ	<240	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	0.60	
		MW1-2-060515	6/5/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	0.68	
AOC 2 - Decommissioned UST and North Lot	MW1-3	MW1-3-060515	6/5/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	5.0	
	B2-1	B2-1-G	3/11/2015	<100	210 NJ	<250	NA	<0.20	<0.20	<0.30	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	<0.20	
	B2-2	B2-2-G	3/13/2015	<200 UJ	<140	<280	NA	<0.40 UJ	<0.40 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	<0.20 UJ	<0.20 UJ	<0.40 UJ	<0.40 UJ	<1.0 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	<0.40 UJ	<0.40 UJ	
	MW2-1	MW2-1-032315	3/23/2015	<50	360 NJ	<270	NA	<0.20	<0.20	<0.50	2.6	<0.20	<0.20	<0.10	<0.20	<0.20	0.67	<0.50	<0.20	<0.20	<0.20	<0.20	
		MW2-1-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
AOC 3 - Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area	B3-1	B3-1-G	3/13/2015	<200 UJ	<150	<290	NA	<0.40 UJ	<0.40 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	<0.40 UJ	<0.20 UJ	<0.40 UJ	<0.40 UJ	<1.0 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	<0.40 UJ	<0.40 UJ	
	B3-2	B3-2-G	3/13/2014	<200 UJ	<130	<270	NA	<0.40 UJ	<0.40 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	<0.40 UJ	<0.20 UJ	<0.40 UJ	<0.40 UJ	<1.0 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	C	<0.40 UJ	
	B3-3	B3-3-G	3/16/2015	<200 UJ	180 NJ	<300	NA	<0.40 UJ	<0.40 UJ	<1.0 UJ	<0.40 UJ	<0.40 UJ	0.44 J	1.8 J	1.7 J	<0.40 UJ	<1.0 UJ	<1.0 UJ	<0.40 UJ	3.9 J	V	9.1 J	
	B3-4	B3-4-G	3/16/2015	<200 UJ	<150	<290	NA	<0.50 UJ	<0.50 UJ	<1.3 UJ	<0.50 UJ	<0.50 UJ	<0.50 UJ	<0.25 UJ	<0.50 UJ	<0.50 UJ	<1.3 UJ	<1.3 UJ	<0.40 UJ	<0.50 UJ	<0.50 UJ	16 J	
	MW3-1	MW3-1-032015	3/20/2015	<100	<120	<240	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	<0.20	
		MW3-2-032315	3/23/2015	<50	<120	<240	NA	<0.20	<0.20	<0.50	<0.20	<0.20	0.57	0.66	<0.20	<0.20	<0.50	<0.50	<0.20	2.4	<0.20	3.6	
	MW3-2	MW3-2-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	0.38	0.29	<0.20	<0.20	<1.0	<0.20	<0.20	1.6	<0.20	1.7	
		MW3-3	MW3-3-060415	6/4/2015	NA	NA	NA	13	<0.20	<0.20	<0.20	<0.20	<0.20	0.54	3.4	0.26	<0.20	<1.0	<0.20	<0.20	1.1	<0.20	0.84
	MW3-4	MW3-4-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	20	
	MW3-5	MW3-5-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	0.29	<0.20	<0.20	<0.20	0.25	<0.20	0.39	<0.20	<1.0	2.8	<0.20	0.27	<0.20	26	
AOC 4 - Former Drain Field and Vapor Degreasers	B4-1	B4-1-G	3/19/2015	<100	340 NJ	<250	NA	<0.20	<0.20	<0.50	<0.20	0.20	<0.20	<0.10	2.0	<0.20	<0.50	0.79	<0.20	<0.20	<0.20	23	
	MW4-1	MW4-1-032315	3/23/2015	<50	<120	<240	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	0.50	
		MW4-1-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.27	<0.20	<1.0	<0.20	<0.20	<0.20	1.1	
	MW4-2	MW4-2-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	3.2	<0.20	<1.0	0.76	<0.20	<0.20	13	
	MW4-3	MW4-3-060515	6/5/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.44	6.3	<0.20	<1.0	0.58	<0.20	<0.20	<0.20	65	
	MW4-4	MW4-4-060515	6/5/2015	NA	NA	NA	6.8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2.0	<0.20	<1.0	0.22	<0.20	<0.20	<0.20	31	
	MW4-5	MW4-5-060515	6/5/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	0.57 J	<0.20	<0.20	0.92 J	180 J	1.8 J	<1.0	2.2 J	<0.20	<0.20	0.37 J	
AOC 5 - Former Resin Tank and Grinding Process Area	MW4-6	MW4-6-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	0.33	0.25	<0.20	<0.20	<0.20	<0.20	0.54	<1.0	0.71	<0.20	<0.20	<0.20	290	
	B5-2	B5-2-G	3/16/2015	<100	130 NJ	<260	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	3.6	
	MW5-1	MW5-1-032315	3/23/2015	NA	<120	<240	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	0.50	
MW6-1		MW5-1-060415	6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	
	AOC 6 - Boiler Room	MW6-1-032315	3/23/2015	NA	230 NJ	<260	NA	<0.20	<0.20	<0.50	0.24	<0.20	<0.20	<0.10	<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	0.030	
AOC 7 - Storm Water Retention Pond		MW6-1-060415	6/4/2015	NA	NA	NA	<5.0	0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	
	MW7-1	MW7-1-032315	3/23/2015	<50	130 NJ	<240	NA	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.10	0.45	<0.20	<0.50	<0.50	<0.20	<0.20	<0.20	3.0	
MW7-1-060415		6/4/2015	NA	NA	NA	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	2.2	
Preliminary Screening Goal ¹				800	500	500	7,200 ²	5	5 ³	NS	8 ³	0.083 ³	7.68 ⁴	7 ³	70 ³	100 ³	5	5	1,000	200	5 ³	5	0.2

Notes:
Bolded values indicate the analyte was detected.
Shaded cells indicate concentrations greater than the Preliminary Screening Goal.
¹Model Toxics Control Act Method A Cleanup Level, unless otherwise indicated
²Model Toxics Control Act Method B Noncancer Cleanup Level
³Federal Maximum Contaminant Level
⁴Model Toxics Control Act Method B Carcinogenic Cleanup Level
µg/L = Micrograms per liter
D = Dissolved metals result - groundwater sample filtered in the field
J = Result should be considered estimated
NA = Not analyzed
ND = Analyte suite not detected in sample
NJ = Estimated value - tentatively identified product, chromatogram did not resemble the standard hydrocarbon pattern
NS = No standard available under Model Toxics Control Act or Federal Maximum Contaminant Level standards
UJ = Not detected, reporting limit estimated
R = Rejected analysis results due to QA/QC inconsistencies, see Appendix C for detailed discussion

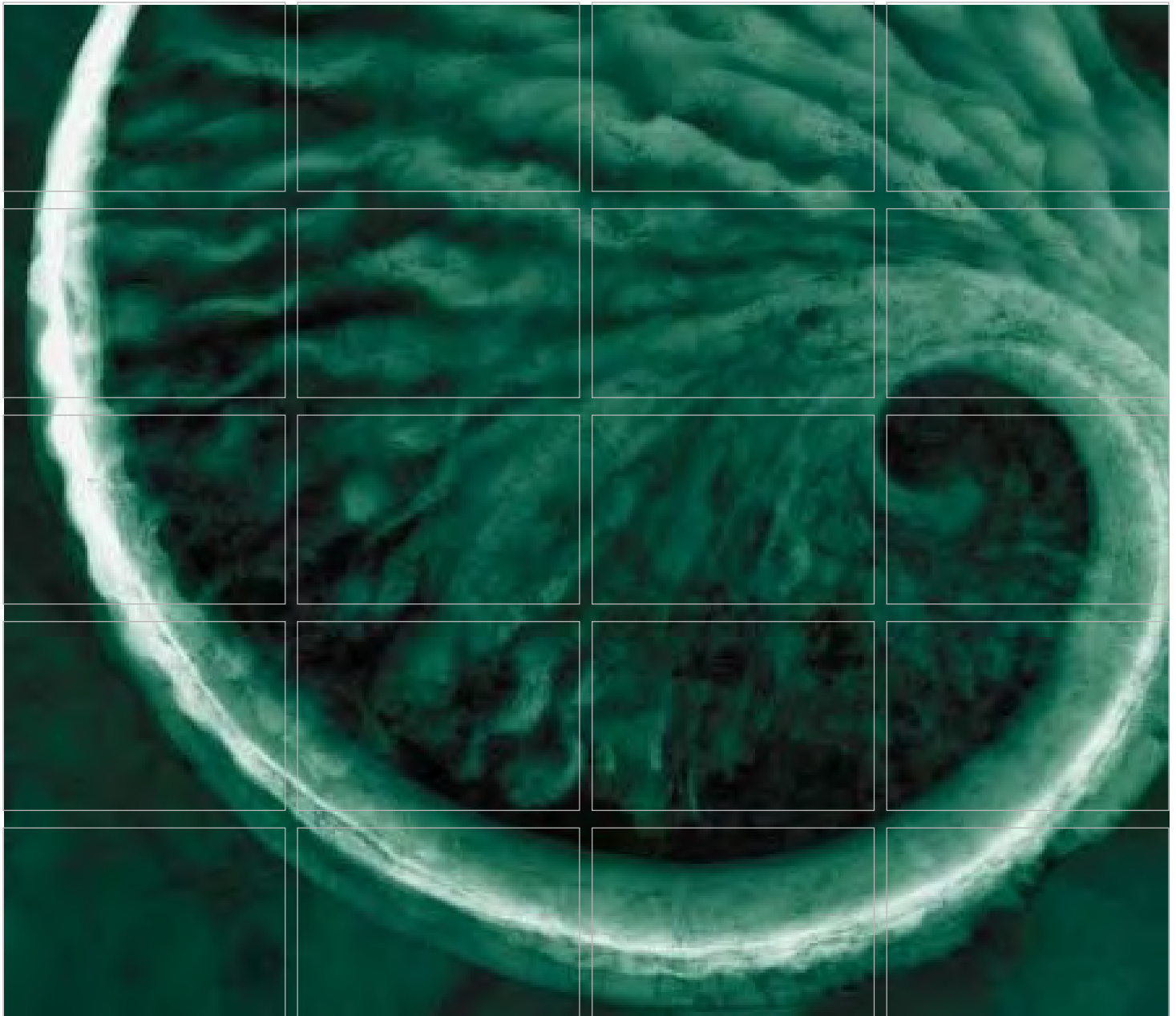
Table 9
Analytes Detected in Groundwater Samples
K2 Facility, Vashon, Washington

Area of Concern	Sample Location	Sample Identifier	Date	Semivolatile Organic Compounds (µg/L)					Organochlorine Pesticides	Total Metals (µg/L)												
				Benzoic Acid	Butyl Benzyl Phthalate	1-Methyl-naphthalene	Naphthalene	Phenanthrene		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
AOC 1 - Machine Shop	B1-1	B1-1-G	3/16/2015	<3.2	0.75	<0.020 UJ	<0.020 UJ	<0.020	NA	<2.0	5.6	2.1	<2.0	63	65	6.8	<0.20	90	<5.0	<2.0	<5.0	80
	MW1-1	MW1-1-032015	3/20/2015	<3.1 UJ	<0.62	<0.010	0.012	<0.010	NA	<2.0	<5.0	<2.0	<2.0	2.9	<10	<2.0	<0.20	<15	<5.0	<2.0	<5.0	<35
		MW1-1-060515	6/5/2015	NA	NA	NA	NA	NA	NA	<0.2	D 0.2	D <0.2	D <0.1	D 4	D <0.5	D <0.1	D <0.1	D 4.4	D <0.5	D <0.2	D <0.2	D <4.0
	MW1-2	MW1-2-031915	3/19/2015	<3.1 UJ	<0.61 UJ	<0.020 UJ	<0.021 UJ	0.028 J	NA	<2.0	8.5	<2.0	<2.0	<2.0	<10	<2.0	<0.20	<15	<5.0	<2.0	<5.0	<35
		MW1-2-060515	6/5/2015	NA	NA	NA	NA	NA	NA	D <0.2	D 18	D <0.2	D <0.1	D <0.5	D <0.5	D <0.1	D <0.1	D 1.7	D <0.5	D <0.2	D <0.2	D <4.0
AOC 2 - Decommissioned UST and North Lot	MW1-3	MW1-3-060515	6/5/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	B2-1	B2-1-G	3/11/2015	NA	NA	NA	NA	NA	ND	<2.0	89	4.2	<2.0	650	310	62	1.4	930	19	<2.0	<5.0	620
	B2-2	B2-2-G	3/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW2-1	MW2-1-032315	3/23/2015	<6.0	<1.2	<0.040	<0.040	<0.040	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		MW2-1-060415	6/4/2015	<3.1	<0.61	<0.020	<0.020	<0.020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOC 3 - Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Area	B3-1	B3-1-G	3/13/2015	NA	NA	NA	NA	NA	NA	<2.0	370	22	12	2,900	1,900	280	5.2	5,700	56	2.5	7.4	4,300
	B3-2	B3-2-G	3/13/2014	NA	NA	NA	NA	NA	NA	<2.0	91	6.0	3.1	760	510	73	1.0	1,400	22	<2.0	<5.0	1,000
	B3-3	B3-3-G	3/16/2015	NA	NA	NA	NA	NA	NA	<2.0	15	9.6	5.2	56	120	3.2	<0.20	1,300	<5.0	<2.0	<5.0	320
	B3-4	B3-4-G	3/16/2015	NA	NA	NA	NA	NA	NA	<2.0	15	9.8	4.5	33	75	2.4	<0.20	610	<5.0	<2.0	<5.0	270
	MW3-1	MW3-1-032015	3/20/2015	<2.8 UJ	<0.57	<0.0095	0.010	<0.0095	NA	<2.0	<5.0	<2.0	<2.0	<2.0	<10	<2.0	<0.20	<15	<5.0	<2.0	<5.0	<35
		MW3-2-032315	3/23/2015	<3.1	<0.61	<0.020	<0.020	<0.020	NA	<2.0	<5.0	<2.0	<2.0	<2.0	<10	<2.0	<0.20	<15	<5.0	<2.0	<5.0	<35
	MW3-2	MW3-2-060415	6/4/2015	<3.1	<0.61	<0.020	<0.020	<0.020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		MW3-3	MW3-3-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW3-4	MW3-4-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW3-5	MW3-5-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
AOC 4 - Former Drain Field and Vapor Degreasers	B4-1	B4-1-G	3/19/2015	10 J	<0.64 UJ	<0.020 UJ	<0.020 UJ	<0.086 UJ	ND	2.3	11	<2.0	<2.0	40	23	6.5	0.42	61	<5.0	<2.0	<5.0	41
	MW4-1	MW4-1-032315	3/23/2015	<2.8	<0.57	<0.019	<0.019	0.022	NA	<2.0	<5.0	<2.0	<2.0	<2.0	<10	<2.0	<0.20	<15	<5.0	<2.0	<5.0	<35
		MW4-1-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW4-2	MW4-2-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW4-3	MW4-3-060515	6/5/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW4-4	MW4-4-060515	6/5/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW4-5	MW4-5-060515	6/5/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW4-6	MW4-6-060415	6/4/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
AOC 5 - Former Resin Tank and Grinding Process Area	B5-2	B5-2-G	3/16/2015	<3.1 UJ	<0.61 UJ	<0.020 UJ	<0.020 UJ	<0.020 UJ	NA	<2.0	7.2	<2.0	<2.0	64	120	15	0.27	110	<5.0	<2.0	<5.0	210
AOC 6 - Boiler Room	MW5-1	MW5-1-032315	3/23/2015	<3.1	<0.62	<0.021	<0.021	<0.021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		MW5-1-060415	6/4/2015	<2.9	<0.57	<0.019	<0.019	<0.019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		MW6-1-032315	3/23/2015	R	<0.63	0.037	0.027	<0.021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOC 7 - Storm Water Retention Pond	MW6-1	MW6-1-060415	6/4/2015	<2.9	<0.57	0.04	0.035	<0.019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		MW7-1-032315	3/23/2015	<0.020	R	<0.020	<0.020	<0.020	NA	<2.0	<5.0	<2.0	<2.0	<2.0	<10	<2.0	<0.20	<15	<5.0	<2.0	<5.0	<35
		MW7-1-060415	6/4/2015	<3.1	<0.61	<0.020	<0.020	<0.020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Preliminary Screening Goal ¹				64,000 ²	46.1 ⁴	1.51 ⁴	160	NS	Varies	6 ³	5	4 ³	5	50	1,300 ³	15	2	100 ³	50 ³	80 ²	2 ³	4,800 ²

Notes:
Bolded values indicate the analyte was detected.
Shaded cells indicate concentrations greater than the Preliminary Screening Goal.
¹Model Toxics Control Act Method A Cleanup Level, unless otherwise indicated
²Model Toxics Control Act Method B Noncancer Cleanup Level
³Federal Maximum Contaminant Level
⁴Model Toxics Control Act Method B Carcinogenic Cleanup Level
µg/L = Micrograms per liter
D = Dissolved metals result - groundwater sample filtered in the field
J = Result should be considered estimated
NA = Not analyzed
ND = Analyte suite not detected in sample
NJ = Estimated value - tentatively identified product, chromatogram did not resemble the standard hydrocarbon pattern
NS = No standard available under Model Toxics Control Act or Federal Maximum Contaminant Level standards
UJ = Not detected, reporting limit estimated
R = Rejected analysis results due to QA/QC inconsistencies, see Appendix C for detailed discussion

Appendix A
Terrestrial Ecological Evaluation

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Site-Specific Terrestrial Ecological Evaluation

Prepared for:
K2

**Former K2 Facility
19215 Vashon Highway SW
Vashon, Washington**

July 2015

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Site Location and Site Plan

1.0 INTRODUCTION

This site-specific Terrestrial Ecological Evaluation (TEE) addresses contaminants of potential ecological concern (CPECs) identified as part of the site characterization activities completed in 2015 at the Former K2 manufacturing facility at 19215 Vashon Highway Southwest in Vashon, Washington (the “subject property”). This document has been prepared to address site characterization requirements in Chapter 173-340-7490 Washington Administrative Code (WAC) and in accordance with requirements of Chapter 173-340-7493 WAC. Both are sections of the Model Toxics Control Act (MTCA), the Washington State contaminated site cleanup regulation. The site characterization was completed based on the methods and procedures outlined in the Final Site Characterization Work Plan and Sampling and Analysis Plan (ERM 2014).

The objective of this document is to document the evaluation of potential risk to terrestrial ecological receptors (biota) for CPECs identified in soil at the subject property. As described in Chapter 173-340-7490, this evaluation will use site-specific and published, peer-reviewed information. This objective is addressed in the document by identifying potentially complete exposure pathways and, where relevant, comparing subject property concentrations to MTCA Ecological Indicator Soil Concentrations (soil benchmarks) that are protective of terrestrial receptors occurring at the subject property.

1.1 BACKGROUND

K2 is evaluating environmental conditions at the subject property as part of an ongoing site characterization program. Details of this program, including soil sample analytical results, are included in the Site Characterization Report, of which this document is an appendix.

1.2 SITE AND BIOTIC SETTING

The subject property location and layout are shown in Figure 1. The subject property covers approximately 11.6 acres, of which approximately 90 percent of the area is covered with buildings, pavement, and landscaped areas. The remainder of the subject property, primarily around the south and west perimeter, is primarily vegetated with non-

native successive vegetation (e.g., Himalayan blackberry and Scotch broom) with a few native evergreen and deciduous trees. Property use surrounding the subject property includes commercial and light industrial development, residential development, active agricultural land, and interspersed areas of successive vegetation consisting primarily of non-native plants interspersed with small groups of evergreen and deciduous trees. Photographs of the vegetation conditions at the subject property and surrounding area are included in Appendix A-A.

According to the Washington State Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) interactive mapping tool (WDFW 2015), there are not any priority habitats or species on or within 500 feet of the subject property. As such, consultation with the U.S. Fish and Wildlife Service or the WDFW is not anticipated for this Project. No sensitive habitat areas, wetlands, or other related environmentally-sensitive areas are identified on or within 500 feet of the subject property by King County (King County 2015).

1.3

OVERVIEW OF THE APPROACH

According to Chapter 173-340-7490[1][a] WAC, the purpose of the TEE is to:

- Determine whether a release of hazardous substances to soil may pose a threat to the terrestrial environment;
- Characterize existing or potential threats to terrestrial plants or animals exposed to hazardous substances in soil; and
- Establish site-specific cleanup standards for the protection of terrestrial plants and animals.

One of the following actions is required to protect terrestrial ecological receptors from exposure to contaminated soil with the potential to cause significant adverse effects:

- Initial exclusion screening (Chapter 173-340-7491 WAC);
- Simplified terrestrial ecological evaluation (Chapter 173-340-7492 WAC); or
- Site-specific terrestrial ecological evaluation (Chapter 173-340-7493 WAC).

Note that Ecology has required a site-specific TEE for the subject property as outlined in Chapter 173-340-7493 WAC under the authorization of Chapter 173-340-7490(5) WAC. For preliminary evaluation purposes, initial exclusion screening and a Simplified TEE under Chapters 173-340-7491 and -7492 WAC have been completed and results of those efforts are summarized below.

1.3.1

Initial Exclusion Screening

Site conditions were compared with the criteria for exclusion from the TEE process outlined in Chapter 173-340-7491 WAC. Based on the available site characterization information, the subject property meets the TEE exclusion criteria under Chapter 173-340-7491(1) WAC, as all soil contaminated with CPECs are beneath concrete or dunite slabs. Although institutional controls have not been established that require maintenance

of the slabs, the limited accessibility of the soils to terrestrial ecological receptors limits potential ecological exposures to the CPECs.¹

The subject property does not meet criteria under Chapter 173-340-7491(2)(a) that specifically require completion of a simplified or site-specific TEE.

1.3.2 *Simplified Terrestrial Ecological Evaluation*

The subject property was screened under the Simplified TEE procedures in Chapter 173-340-7492 WAC. The subject property qualifies for ending the Simplified TEE process under Chapter 172-340-7492(2)(a)(i) and (2)(b), as the area of soil contaminated by CPECs is likely less than 350 square feet and exposure pathways to the affected areas are limited by the presence of concrete or dunite slabs over the contaminated soil.

¹ To ensure a comprehensive and protective response, consideration of institutional controls will be performed when all site assessments are completed.

The methods used for conducting the site-specific TEE are described in the following sections, including completion of initial site screening and development of the subject property TEE process as outlined under Chapter 173-340-7490(2) WAC.

A modified site-specific TEE was completed for the subject property to accommodate Ecology requirements under Chapter 173-340-7490(5) WAC. A problem formulation was conducted in accordance with Chapter 173-240-7493(2) WAC to include:

- Identification of the CPECs;
- Identification of potential exposure pathways;
- Identification of potential terrestrial ecological receptors; and
- Completion of a toxicological assessment.

2.3.1

Chemicals of Potential Ecological Concern

The Site Characterization Report includes contaminants of potential concern (COPCs) in soil at the subject property, which include:

- Diesel-range petroleum hydrocarbons (TPH-D); and
- Heavy oil-range petroleum hydrocarbons (TPH-HO).

As COPCs, these contaminants have been identified as preliminary CPECs. The following contaminants were also detected in subject property soils at concentrations less than applicable MTCA cleanup standards, as outlined in the Site Characterization Report:

- 2-Butanone;
- Toluene;
- Trichloroethene;
- Butyl benzyl phthalate;
- bis (2-Ethylhexyl) phthalate; and
- Pyrene.

Metals detected in subject property soils are not considered as part of this evaluation since, as discussed in Section 4.5.3 of the Site Characterization Report, they are considered to be background concentrations and not

related to contamination conditions at the subject property. Additionally, none of the metals concentrations detected in soils are greater than the respective MTCA Method A or B soil cleanup standards.

In accordance with Chapter 173-340-7493(2)(a)(i) WAC, hazardous substances may be eliminated from further TEE consideration when the maximum soil concentrations at the subject property are not greater than the ecological indicator concentration in MTCA Table 749-3. Of the contaminants identified at the subject property, only TPH-D and toluene are included in Table 749-3.

The maximum concentration of toluene detected in subject property soils is 0.0026 milligrams per kilogram (mg/kg), which is less than the 200 mg/kg limit established in Table 749-3 for plant exposure. No toluene values for soil biota or wildlife exposure are included in Table 749-3; however, other sources of available toxicological information include standards for adverse effects on wildlife and soil biota from toluene in soil. The lowest threshold value for adverse effects identified is 0.010 mg/kg (Buchman 2008).² Concentrations of toluene in subject property soils are less than this value. Based on the low concentrations of toluene present as compared to available terrestrial ecological exposure standards, toluene is not retained as a confirmed CPEC at the subject property.

The concentration of TPH-D in subject property soils ranges up to 6,100 mg/kg, which is greater than the values of 200 mg/kg for soil biota exposure and 6,000 mg/kg for wildlife exposure included in Table 749-3. No plant exposure criterion is listed for TPH-D in Table 749-3.

Based on Chapter 173-340-7493(2)(a)(i) WAC, the only confirmed CPEC at the subject property is TPH-D. TPH-D has been identified in three areas of shallow soils at the subject property:

- At a concentration of up to 6,100 mg/kg in an estimated volume of approximately 5 to 10 cubic yards of soil remaining beneath the main facility building adjacent to an underground storage tank removed in 2008;
- At a concentration of up to 3,800 mg/kg in estimated volume of approximately 10 cubic yards of shallow soil adjacent to a former

² The soil benchmark of 0.010 mg/kg is based on the Dutch (RIVM) Target Value. The target value indicates the level at which there is a sustainable soil quality. The target value gives an indication of the benchmark for environmental quality in the long term on the assumption of negligible risks to the ecosystem.

sump in the machine shop building in the northeast corner of the subject property; and

- At a concentration of up to 29 mg/kg in an unknown volume of soil beneath the dunite slab forming the liner of the storm water retention pond in the southeast corner of the subject property.

2.3.2 *Exposure Pathways*

Complete pathways for exposure of plants or animals to TPH-D in subject property soils was evaluated under Chapter 173-340-7493(2)(a)(ii) WAC. Each of the areas of positive TPH-D detection is located beneath a concrete slab – two areas are beneath the floor slabs of existing buildings and one area is beneath the dunite slab lining a storm water retention pond. In the case of the affected soil near the former underground storage tank, that soil is beneath a slab near the outside wall of a building; however, the ground surface outside that wall consists of a narrow planting strip with coarse gravel cover, a concrete sidewalk, and asphaltic pavement. The planting strip is populated with unkempt ornamental vegetation and non-native, noxious successive vegetation (Himalayan blackberry).

Based on the location of the soils containing TPH-D, there are no complete exposure pathways for terrestrial organisms. In accordance with Chapter 173-340-7493(2)(a)(ii) WAC, no further evaluation is necessary or was performed because there are no complete exposure pathways.

2.3.3 *Potential Ecological Receptors*

No priority habitats or species were identified on or near the subject property based on WDFW information, and vegetation conditions on the subject property and surrounding properties do not provide critical or attractive habitat for potential terrestrial ecological receptors. Based on the subject property conditions and the exposure pathway assessment in Section 2.3.2, there are no potential terrestrial ecological receptors for the TPH-D in soil at the subject property.

2.3.4 *Contingency Site Standards*

Because no complete exposure pathways for terrestrial ecological receptors are present at the subject property, no site-specific toxicological assessment has been completed for TPH-D. Additionally, no change in use at the subject property is currently planned that would alter the current terrestrial ecological receptor exposure scenario. However, contingency site standards for terrestrial organism exposure to TPH-D in

soil have been developed based on values in MTCA Table 749-3 for soil biota and wildlife receptors, and on a value for vascular plant exposure to TPH-D in soil that was developed as part of a TEE completed for another site in the Puget Sound Lowland region (Northwest Pipeline GP et al. 2013). The contingency standards are as follows:

<u>Receptor</u>	<u>Standard</u>
Soil Biota	200 mg/kg
Wildlife	6,000 mg/kg
Vascular Plants	170 mg/kg

These standards have been developed for reference in the unlikely event that the concrete slabs covering the soils containing TPH-D are removed. It is expected that TPH-D in soils would be remediated or removed from the subject property should the concrete slabs be removed.

3.0

CONCLUSIONS

TPH-D is the only contaminant identified in subject property soils that qualifies as a CPEC. No complete pathways for exposure of terrestrial organisms of concern are present at the subject property; therefore, no further TEE effort is required under Chapter 173-340-7493(2)(a)(ii) WAC.

As a conservative approach, contingency standards have been developed for terrestrial organism exposure to TPH-D in soil. These standards are as follows:

<u>Receptor</u>	<u>Standard</u>
Soil Biota	200 mg/kg
Wildlife	6,000 mg/kg
Vascular Plants	170 mg/kg

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Figures

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LEGEND

--- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

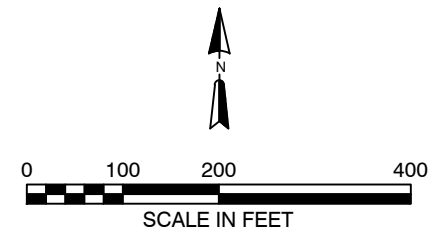


Figure 1
Site Location and Site Plan
K2 Site Investigation
Vashon, Washington

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Appendix A-A
Site Photographs

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Photograph: 1 | 2008 underground storage tank removal area. View to southwest.



Photograph: 2 | Vegetation conditions along western perimeter of site. View to west.





Photograph: 3 | Off-site vegetation conditions near south side of site.



Appendix B
Boring and Well Logs

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ERM
1218 3rd Avenue, Suite 1412
Seattle, WA 98101
Phone: (425) 462-8591
Fax: (425) 455-3573

LOG OF BOREHOLE: B1-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Vacuum Truck
Logged By: S. Terranova

Date Started: 3/16/2015
Date Completed: 3/16/2015
Total Depth: 8 feet bgs
Borehole Diameter: 14 inches
Ground Surface Elevation: 400.14 feet
Initial Water Level: 5 feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete.
0.3							
1					SP		Poorly Graded SAND (SP): dark brown, medium to coarse grained, trace silt, 1- to 3-inch subangular cobbles, moist.
2							
2.5				0.8			
3							Silty SAND (SM): light brownish yellow, very fine grained, no cobbles, moist.
4							Sample: B1-1-4
5					SM		Wet at 5 feet bgs.
6							
7							
8							8.0
							Total Depth - 8 feet bgs
9							



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LOG OF BOREHOLE: B2-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Hand Auger
Logged By: S. Terranova & M. Horine

Date Started: 3/11/2015
Date Completed: 3/11/2015
Total Depth: 8 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 399.977 feet
Initial Water Level: 6 feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Asphalt.
						0.3	
1							Silty SAND (SM): light brown, medium to coarse grained, 1- to 2-inch subangular cobbles.
2							
3				0.0			3- to 4-inch cobbles at 3 to 4 feet bgs.
4					SM		
5				0.0			
6							
7							
8						8.0	Total Depth - 8 feet bgs
9							



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LOG OF BOREHOLE: B2-2

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Vacuum Truck
Logged By: S. Terranova

Date Started: 3/13/2015
Date Completed: 3/13/2015
Total Depth: 6 feet bgs
Borehole Diameter: 14 inches
Ground Surface Elevation: 398.769 feet
Initial Water Level: 4 feet bgs
Notes: Set temporary screen at 7 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
0.2							Asphalt.
1							Poorly Graded SAND (SP): light brown, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, moist.
2							AS ABOVE EXCEPT: Light gray.
3					SP		AS ABOVE EXCEPT: Light brownish gray.
4							Sample: B2-2-3
5							
6							6.0
7							Total Depth - 6 feet bgs
8							
9							



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LOG OF BOREHOLE: B2-3

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Vacuum Truck
Logged By: S. Terranova

Date Started: 3/13/2015
Date Completed: 3/13/2015
Total Depth: 6 feet bgs
Borehole Diameter: 14 inches
Ground Surface Elevation: 398.84 feet
Initial Water Level: 4 feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							0.2 Asphalt.
1					SP		Poorly Graded SAND (SP): light brown, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, moist.
2							2.0
3							Silty SAND (SM): light brown, very fine grained, no cobbles, moist.
4					SM		Sample: B2-3-3
5							
6							6.0
							Total Depth - 6 feet bgs
7							
8							
9							



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LOG OF BOREHOLE: B3-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/13/2015
 Date Completed: 3/13/2015
 Total Depth: 12.5 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 399.635 feet
 Initial Water Level: 10 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
						0.2	Asphalt.
						0.3	1/2- to 3/4-inch crushed rock.
1					SP		Poorly Graded SAND (SP): dark brown, medium to coarse grained, trace silt, 1- to 3-inch subangular cobbles, moist.
2						1.5	
3				0.4			Silty SAND (SM): light gray, fine to medium grained.
4							AS ABOVE EXCEPT: light brownish yellow, very fine, no cobbles, dry.
5							
6		100	13 20 32	0.0	SM		
7		100	12 19 29				AS ABOVE EXCEPT: trace subrounded gravel to 2.5 inches, medium dense, moist.
8							
9		100	8 15 17	0.0			Sample: B3-1-9.0



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LOG OF BOREHOLE: B3-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/13/2015
 Date Completed: 3/13/2015
 Total Depth: 12.5 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 399.635 feet
 Initial Water Level: 10 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
11		100	5 9 12				Silty SAND (SM): light gray, fine to medium grained.
12		100	12 14 17	0.0	SM		
						12.5	Total Depth - 12.5 feet bgs
13							
14							
15							
16							
17							
18							
19							



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LOG OF BOREHOLE: B3-2

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: M. Horine

Date Started: 3/12/2015
 Date Completed: 3/13/2015
 Total Depth: 15.5 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 399.249 feet
 Initial Water Level: 11 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							0.2 Asphalt.
1					SP		Poorly Graded SAND (SP): dark brown, fine to medium grained, 1- to 3-inch subangular cobbles, moist.
2							2.0
3				0.0			Silty SAND (SM): light gray, fine grained, 1- to 2-inch subangular cobbles, moist.
4							Transitions to light brownish gray, very fine, gravel, no cobbles, dry.
5							
6		100	12 15 18	0.0	SM		AS ABOVE EXCEPT: with asphalt-like material at 6 feet bgs, black subangular to angular gravel to 0.75 inch.
7		100	18 34 38				
8							Asphalt and gravel stop at 8 feet bgs, transitions darker to a reddish brown.
9		100	18 24 28				



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LOG OF BOREHOLE: B3-2

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: M. Horine

Date Started: 3/12/2015
 Date Completed: 3/13/2015
 Total Depth: 15.5 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 399.249 feet
 Initial Water Level: 11 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
11		100	10 10 10	0.0	SM		Silty SAND (SM): light gray, fine grained, 1- to 2-inch subangular cobbles, moist. Transitions lighter to light gray. Sample: B3-2-10.5
12		100	9 7 10				
13		100	8 10 14				
14		100	8 12 15				
15		100	8 12 15			15.5	Total Depth - 15.5 feet bgs
16							
17							
18							
19							



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LOG OF BOREHOLE: B3-3

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/13/2015
 Date Completed: 3/16/2015
 Total Depth: 15 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 398.559 feet
 Initial Water Level: 11.5 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							0.2 Asphalt.
1					SP		Poorly Graded SAND (SP): light brownish gray, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, moist.
2							2.0
3				7.8			Silty SAND (SM): light gray, fine grained, no cobbles, dry.
4							AS ABOVE EXCEPT: light brownish yellow.
5							
6		78	8 20 25	0.0	SM		AS ABOVE EXCEPT: with trace subrounded gravel (less than 1 inch), moist.
7		94	8 20 25				
8							
9		100	8 18 25	0.4			



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LOG OF BOREHOLE: B3-3

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/13/2015
 Date Completed: 3/16/2015
 Total Depth: 15 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 398.559 feet
 Initial Water Level: 11.5 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
11		100	7 14 16	0.0	SM		Silty SAND (SM): light gray, fine grained, no cobbles, dry.
12		67	10 21 21				Sample: B3-3-11
13		100	12 13 15				
14		100	12 15	0.0			
15						15.0	Total Depth - 15 feet bgs
16							
17							
18							
19							



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LOG OF BOREHOLE: B3-4

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/12/2015
 Date Completed: 3/16/2015
 Total Depth: 14 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 400.436 feet
 Initial Water Level: 10 feet bgs
 Notes: Vacuum cleared and air knife to 8 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							0.2 Asphalt.
1					SM		Silty SAND (SM): light brownish yellow, fine grained, 1- to 3-inch subangular cobbles, moist.
2							2.0
3				0.0			SILT (ML): light gray, very fine, trace sand, no cobbles, dry.
4							
5					ML		
6				0.0			
7							AS ABOVE EXCEPT: light brown.
8							
9		78	2 4 6	0.0	SP		8.5 Poorly Graded SAND (SP): medium to coarse grained, loose, 4-inch lens of angular to subangular gravel less than 1.5 inches, moist.
							10.0



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LOG OF BOREHOLE: B3-4

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/12/2015
 Date Completed: 3/16/2015
 Total Depth: 14 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 400.436 feet
 Initial Water Level: 10 feet bgs
 Notes: Vacuum cleared and air knife to 8 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
11		100	8 9 10	0.4	SM		Silty SAND (SM): light gray, medium dense, trace medium grained, with subrounded less than 0.5-inch gravel, saturated. Sample: B3-4-10.5
12		100	4 7 9				
13		100	6 8 7				
14						14.0	Total Depth - 14 feet bgs
15							
16							
17							
18							
19							



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LOG OF BOREHOLE: B3-5

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Holocene Drilling
Drilling Method: Hand Auger
Logged By: M. Horine

Date Started: 6/1/2015
Date Completed: 6/1/2015
Total Depth: 3 feet bgs
Borehole Diameter: 4 inches
Ground Surface Elevation: 400.517 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete slab.
1					GP	0.5	Poorly Graded Sandy GRAVEL (GP): sandy subangular (to 3.5-inch), sand is fine to medium grained, loose.
2					SM	1.5	SAND (SM): light brown, fine grained, trace silt, loose, dry.
3				3.9		3.0	Sample B3-5-3 Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



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LOG OF BOREHOLE: B4-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Limited Access Rig
 Logged By: S. Terranova & M. Horine

Date Started: 3/16/2015
 Date Completed: 3/18/2015
 Total Depth: 12.5 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 400.042 feet
 Initial Water Level: 9.5 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete.
						0.3	
1							Poorly Graded SAND (SP): dark brown, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, dry.
2					SP		
3				0.7			
4						4.0	
5							Silty SAND (SM): light brown, fine grained, no cobbles, dry.
6		44	11 15 20	0.0			
7		56	14 21 40	0.1	SM		AS ABOVE EXCEPT: with subrounded gravel.
8							
9		33					Sample: B4-1-9



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LOG OF BOREHOLE: B4-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Limited Access Rig
Logged By: S. Terranova & M. Horine

Date Started: 3/16/2015
Date Completed: 3/18/2015
Total Depth: 12.5 feet bgs
Borehole Diameter: 8 inches
Ground Surface Elevation: 400.042 feet
Initial Water Level: 9.5 feet bgs
Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
11		78	20 35 40	0.0	SM		Silty SAND (SM): light brown, fine grained, no cobbles, dry.
12		83	30 35 40				AS ABOVE EXCEPT: color change to light grayish brown.
12.5							
13					Total Depth - 12.5 feet bgs		
14							
15							
16							
17							
18							
19							



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LOG OF BOREHOLE: B4-2

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Holocene Drilling
Drilling Method: Hand Auger
Logged By: S. Terranova

Date Started: 5/28/2015
Date Completed: 5/28/2015
Total Depth: 3 feet bgs
Borehole Diameter: 3-1/4 inches
Ground Surface Elevation: 400.049 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete.
1					SP	0.4	Poorly Graded SAND (SP): dark brownish, medium to coarse grained, trace silt, 1- to 3-inch subangular cobbles, moist.
2					ML	1.8	SILT (ML): dark brownish, some sand, fine, moist.
3				0.62		3.0	AS ABOVE EXCEPT: light brownish. Sample B4-2-3 Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



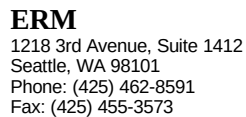
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LOG OF BOREHOLE: B4-3

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Holocene Drilling
Drilling Method: Hand Auger
Logged By: S. Terranova

Date Started: 5/28/2015
Date Completed: 5/28/2015
Total Depth: 3 feet bgs
Borehole Diameter: 3-1/4 inches
Ground Surface Elevation: 400.063 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete.
1					SP	0.4	Poorly Graded SAND (SP): light brownish, medium to coarse grained, trace silt, 1- to 2-inch subangular cobbles, moist.
2					SM	1.5	Sandy SILT (SM): dark brownish, some sand, fine grained, no cobbles, moist.
3				0.88		3.0	AS ABOVE EXCEPT: light brownish, dry.
							Sample B4-3-3
							Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Holocene Drilling
Drilling Method: Air Knife/Hand Auger
Logged By: S. Terranova

Date Started: 5/26/2015
Date Completed: 5/26/2015
Total Depth: 3 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 399.836 feet
Initial Water Level: feet bgs
Notes:

BOREHOLE - SEATTLE - 6/26/15 16:39 - F:\OPERATIONS\ADMINISTRATION\GINT\PROJECTS\K2\0266125 03-27-2015.GPJ

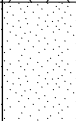


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LOG OF BOREHOLE: B4-5

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Holocene Drilling
Drilling Method: Hand Auger
Logged By: S. Terranova

Date Started: 5/26/2015
Date Completed: 5/26/2015
Total Depth: 3 feet bgs
Borehole Diameter: 3-1/4 inches
Ground Surface Elevation: 399.716 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Grass / 3/4-inch rock.
0.4							
1					SP		Poorly Graded SAND (SP): light brownish, medium to coarse grained, trace silt, 1- to 3-inch subangular cobbles, dry.
1.3							
2					SM		Silty SAND (SM): light brownish, fine grained, no cobbles, moist.
3				1.1			Sample B4-5-3
							Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



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LOG OF BOREHOLE: B5-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Vacuum Truck
 Logged By: S. Terranova

Date Started: 3/16/2015
 Date Completed: 3/16/2015
 Total Depth: 8 feet bgs
 Borehole Diameter: 14 inches
 Ground Surface Elevation: 394.782 feet
 Initial Water Level: 7 feet bgs
 Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
						0.3	Asphalt.
1					SP		Poorly Graded SAND (SP): light brown, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, moist.
1.5							
2							Silty SAND (SM): light gray, fine grained, 1- to 3-inch subangular cobbles, dry.
3				0.0			AS ABOVE EXCEPT: light brownish yellow, no cobbles.
4							
5					SM		
6				0.2			Sample: B5-1-6
7							
8						8.0	Total Depth - 8 feet bgs
9							



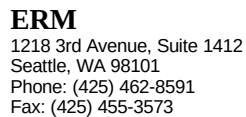
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LOG OF BOREHOLE: B5-2

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Vacuum Truck
Logged By: S. Terranova

Date Started: 3/16/2015
Date Completed: 3/16/2015
Total Depth: 6 feet bgs
Borehole Diameter: 14 inches
Ground Surface Elevation: 391.152 feet
Initial Water Level: 4.5 feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Grass / Topsoil.
0.5							
1					SP		Poorly Graded SAND (SP): light brown, fine to medium grained, trace silt, 1- to 3-inch cobbles, moist.
2							
2.0							
3				0.0			Silty SAND (SM): light gray, fine grained, no cobbles, moist.
4					SM		Sample: B5-2-3.5
5							
6							
6.0							Total Depth - 6 feet bgs
7							
8							
9							



Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: ERM
Drilling Method: Hand Auger
Logged By: S. Terranova

Date Started: 3/19/2015
Date Completed: 3/19/2015
Total Depth: 4.5 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 400.264 feet
Initial Water Level: 3.5 feet bgs
Notes:

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LOG OF BOREHOLE: HA2-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: ERM
 Drilling Method: Hand Auger
 Logged By: S. Terranova

Date Started: 3/17/2015
 Date Completed: 3/17/2015
 Total Depth: 3 feet bgs
 Borehole Diameter: 3 inches
 Ground Surface Elevation: 400.056 feet
 Initial Water Level: feet bgs
 Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete slab.
1				0.2	SP	0.4	Poorly Graded SAND (SP): light grayish brown, fine to medium grained, with gravel (angular to subangular less than 2 inches) and silt, loose, dry.
2				0.0	SM	2.5	Silty SAND (SM): dark brown, fine grained, medium dense, trace gravel, moist.
3						3.0	Sample: HA2-1-3
							Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



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LOG OF BOREHOLE: HA4-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: ERM
Drilling Method: Hand Auger
Logged By: S. Terranova

Date Started: 3/17/2015
Date Completed: 3/17/2015
Total Depth: 3 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 400.012 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete slab.
0.4							
1					SP		Poorly Graded SAND (SP): light brown, fine to medium grained, with subangular gravel (less than 1.5 inch), loose, dry.
2							
2.0							
					SM		Silty SAND (SM): fine grained, less gravel (subrounded, less than 1 inch), loose, dry.
3				0.1			Sample: HA4-1-3
							Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



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LOG OF BOREHOLE: HA4-2

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: ERM
Drilling Method: Hand Auger
Logged By: S. Terranova & M. Horine

Date Started: 3/17/2015
Date Completed: 3/17/2015
Total Depth: 2.5 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 400.024 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete slab.
						0.3	
1					SP		Poorly Graded SAND (SP): light brown, fine grained, with silt, subangular to subrounded gravel less than 0.5 inch, loose, dry.
2				0.0		2.5	Sample: HA4-2-2.5
							Total Depth - 2.5 feet bgs
3							
4							
5							
6							
7							
8							
9							



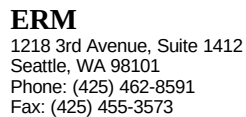
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LOG OF BOREHOLE: HA6-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: ERM
Drilling Method: Hand Auger
Logged By: S. Terranova & M. Horine

Date Started: 3/17/2015
Date Completed: 3/17/2015
Total Depth: 3 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 386.937 feet
Initial Water Level: feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
							Concrete slab.
1						0.6	
2					SP		Poorly Graded SAND (SP): light brownish gray, fine to medium grained, with silt, 0.5-inch subangular gravel, loose, wet.
3				0.0		3.0	Poorly Graded SAND (SP): fine grained, with silt, loose, medium dense, wet. Sample: HA6-1-3 Total Depth - 3 feet bgs
4							
5							
6							
7							
8							
9							



Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: ERM
Drilling Method: Hand Auger
Logged By: M. Horine

Date Started: 3/19/2015
Date Completed: 3/20/2015
Total Depth: 2 feet bgs
Borehole Diameter: 3 inches
Ground Surface Elevation: 384.96 feet
Initial Water Level: feet bgs
Notes:

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LOG OF MONITORING WELL: MW1-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/12/2015
 Date Completed: 3/12/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 399.753 feet
 Initial Water Level: 4 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Asphalt. Poorly Graded SAND (SP): light brown, fine to medium grained, some silt, 1- to 3-inch subangular cobbles, moist.	Flush-mounted
2								Cement/Bentonite Grout
3				0.0			Silty SAND (SM): dark reddish brown, fine, moist.	Bentonite Chips
4								Colorado 10/20 Sand
5				0.0				
6	100	3 4 5			SM		AS ABOVE EXCEPT: brownish gray, medium dense, trace subangular gravel to 1-inch.	
7	100	5 6 8		0.0				
8								
9	100	10 30 50		0.0			AS ABOVE EXCEPT: grayish brown, trace subrounded gravel to 1.5 inches.	0.010-slot, 2-inch Schedule 40 PVC Screen
10	50	14 26 30						
11				0.0				
12	100	18 28 34						
13	100	15		0.1			Total Depth - 13 feet bgs	
14								
15								
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW1-2

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Air Knife/Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/12/2015
 Date Completed: 3/12/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 398.363 feet
 Initial Water Level: 3.5 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Asphalt. Poorly Graded SAND (SP): light brown, fine to medium grained, 1- to 3-inch subangular cobbles, moist.	Flush-mounted
2								Cement/Bentonite Grout
3				0.0				Bentonite Chips
4								Colorado 10/20 Sand
5							Water started coming in hole at 5 feet bgs.	
6	100	2 3 6		9.8				
7	100	6 12 18			SM			
8	100	10 18 22		5.7			Silty SAND (SM): grayish brown, with medium grained sand, subrounded gravel to 1 inch, moist.	
9	100	8 14 20						
10	100	10 12 16		10.1				
11	100	12		11.2				0.010-slot, 2-inch Schedule 40 PVC Screen
12								
13							Total Depth - 13 feet bgs	
14								
15								
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW1-3

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Limited Access Rig
 Logged By: M. Horine

Date Started: 6/1/2015
 Date Completed: 6/1/2015
 Total Depth: 14 feet bgs
 Borehole Diameter: 2-3/8 inches
 Ground Surface Elevation: 400.345 feet
 Initial Water Level: 6.5 feet bgs
 Notes: Hand auger/air knife/vacuum cleared to 8 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Concrete slab.	
2				2.3			Concrete debris and gravel (angular, up to 6.5 inches), dry.	
3							Silty SAND (SM): dark brown, fine, trace fine subrounded gravel, loose, dry.	
4				2.5			AS ABOVE EXCEPT: light brown, medium dense.	
5								
6				3.1				
7							Wet at 6.5 feet bgs.	
8				2.8	SM			
9								
10		100		4.4				
11								
12				3.5				
13		100		3.5				
14							Total Depth - 14 feet bgs	
15								
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW2-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/16/2015
 Date Completed: 3/18/2015
 Total Depth: 8.5 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 399.752 feet
 Initial Water Level: 4 feet bgs
 Notes: Borehole ends at same depth as earlier excavation. Vacuum cleared and air knife to 8 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Rock/vegetation/top soil. Poorly Graded SAND (SP): light brown, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, moist.	Flush-mounted
2								Cement/Bentonite Grout
3				0.5			Silty SAND (SM): light gray, fine grained, no cobbles, moist.	Bentonite Chips
4							AS ABOVE EXCEPT: light brown.	Colorado 10/20 Sand
5					SM			
6				0.3				0.010-slot, 2-inch Schedule 40 PVC Screen
7								
8							Refusal at 8.5 feet bgs. Flat surface obstruction.	
9							Total Depth - 8.5 feet bgs	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW3-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Hollow Stem Auger
Logged By: S. Terranova & M. Horine

Date Started: 3/11/2015
Date Completed: 3/11/2015
Total Depth: 13 feet bgs
Borehole Diameter: 8 inches
Ground Surface Elevation: 403.102 feet
Initial Water Level: 4 feet bgs
Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Grass. Poorly Graded SAND (SP): light brown, medium to coarse grained, silt, 1- to 2-inch subangular cobbles, moist.	Flush-mounted
2								Cement/Bentonite Grout
3				0.0				Bentonite Chips
4					ML		SILT (ML): gray, trace sand, fine, dry.	Colorado 10/20 Sand
5								
6		100	10 18 24	7.8			Silty SAND (SM): light brown, fine grained, medium dense, moist.	
7								
8								
9					SM			
10		100	11 14 18	5.6			AS ABOVE EXCEPT: with trace subrounded gravel to 1 inch.	
11								
12								
13							Total Depth - 13 feet bgs	0.010-slot, 2-inch Schedule 40 PVC Screen
14								
15								
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW3-2

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/11/2015
 Date Completed: 3/11/2015
 Total Depth: 15 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 396.036 feet
 Initial Water Level: 7.5 feet bgs
 Notes: Vacuum cleared and air knife to 8 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Asphalt.	
2					SP		Poorly Graded SAND (SP): light brown, medium grained, trace silt, 1/2- to 1-inch subangular cobbles, moist. 3- to 6-inch subangular cobbles.	
3				1.5				
4					ML		SILT (ML): dark brownish gray, very fine, trace sand, moist.	
5								
6				0.8				
7					SP		Poorly Graded SAND (SP): light brown, fine grained, some silt, dry.	
8				0.1				
9		100	14 35 50					
10		100	20 25 25	0.0				
11					SM		Silty SAND (SM): light brown, medium grained, trace silt, 1/2- to 1-inch subangular gravel, trace subangular to subrounded cobbles to 1.5 inches, moist.	
12		100	11 25 30	0.1				
13		100	20 21 30		SP		Poorly Graded SAND (SP): dark brown, medium to coarse grained, loose, no gravel, moist.	
14		100	20 16	0.0	SM		Silty SAND (SM): light brown, medium grained, trace silt, 1/2- to 1-inch subangular cobbles, trace subangular to subrounded gravel to 1.5 inches, moist.	
15							Total Depth - 15 feet bgs	
16								
17								
18								
19								

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LOG OF MONITORING WELL: MW3-3

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe
 Logged By: S. Terranova & M. Horine

Date Started: 5/26/2015
 Date Completed: 5/27/2015
 Total Depth: 15 feet bgs
 Borehole Diameter: 10 inches
 Ground Surface Elevation: 397.612 feet
 Initial Water Level: 7 feet bgs
 Notes: At 8 to 11 feet bgs, core barrel in probe was jammed. No recovery.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Asphalt. Poorly Graded SAND (SP): light brownish, medium to coarse, trace silt, 1/2-3 inch subangular cobbles, moist.	
2				0.9				
3					SM		Silty SAND (SM): light brownish yellowish, very fine, no cobbles, dry.	
4				0.5				
5								
6				2.6				
7		100					AS ABOVE EXCEPT: with trace gravel (subangular to subrounded, less than 0.5 inch), moist.	
8				5.1			No recovery.	
9								
10		0						
11							No recovery.	
12								
13		0						
14								
15							Total Depth - 15 feet bgs	
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW3-4

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe
 Logged By: M. Horine

Date Started: 5/26/2015
 Date Completed: 5/27/2015
 Total Depth: 16 feet bgs
 Borehole Diameter: 6 inches
 Ground Surface Elevation: 400.388 feet
 Initial Water Level: 9 feet bgs
 Notes: Switched to 2-foot push intervals.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Asphalt. Poorly Graded Sand (SP): light brownish, fine to medium grained, trace silt, 1- to 3-inch subangular cobbles, moist.	
2				0.3			Silty SAND (SM): light brownish, fine, no cobbles, moist.	
3				1.1				
4				0.8				
5				0.8	SM			
6				0.8				
7				0.9			AS ABOVE EXCEPT: with trace subrounded gravel, less than 1.5 inches, wet.	
8				1.5			Sample MW3-4-12	
9							No recovery.	
10								
11								
12								
13								
14								
15								
16							Total Depth - 16 feet bgs	
17								
18								
19								

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LOG OF MONITORING WELL: MW3-5

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe/Hollow Stem Auger
 Logged By: M. Horine

Date Started: 5/26/2015
 Date Completed: 5/27/2015
 Total Depth: 16 feet bgs
 Borehole Diameter: 6 inches
 Ground Surface Elevation: 399.778 feet
 Initial Water Level: 9 feet bgs
 Notes: Hand cleared to 5 feet bgs. Probe sleeve jammed into push rod at 12 to 16 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1					SP		Asphalt. Poorly Graded SAND (SP): light brownish, medium to coarse grained, some silt, 1- to 3-inch subangular cobbles, moist.	Flush-mounted Cement/Bentonite Grout Bentonite Chips Colorado 10/20 Sand
2				1.0			Silty SAND (SM): light brownish, fine, no cobbles, moist.	
3								
4				0.9				
5								
6				0.11				
7		100			SM		AS ABOVE EXCEPT: with subrounded gravel, less than 1 inch.	
8				0.24				
9								
10		100		0.04			AS ABOVE EXCEPT: color change to dark brown, wet to moist.	
11							Sample MW3-5-11.5	0.010-slot, 1-inch Schedule 40 PVC Screen
12							No recovery.	
13								
14		0						
15								
16							Total Depth - 16 feet bgs	
17								
18								
19								

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LOG OF MONITORING WELL: MW4-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/11/2015
 Date Completed: 3/12/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 397.773 feet
 Initial Water Level: 5 feet bgs
 Notes: Vacuum cleared and air knife to 5.5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Topsoil / roots (tree).	Flush-mounted Cement/Bentonite Grout Bentonite Chips Colorado 10/20 Sand 0.010-slot, 2-inch Schedule 40 PVC Screen
2					SM		Silty SAND (SM): gray, very fine, moist.	
3				0.0			Poorly Graded SAND (SP): brown, fine to medium grained, some silt, moist.	
4								
5								
6		100	4 7 6	0.0			3-inch layer of grayish black sand, medium to coarse grained, some silt, moist.	
7		89	10 14 14				AS ABOVE EXCEPT: gray, fine grained, medium dense.	
8					SP			
9		78	7 8 14	0.0				
10		78	14 28 30					
11							AS ABOVE EXCEPT: some medium grained sand and interbedded lenses of silt. Silt is light brown, medium dense, wet. Some subrounded gravel to 1 inch.	
12		56	10 14 22	0.0				
13		100	10				Total Depth - 13 feet bgs	
14								
15								
16								
17								
18								
19								



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LOG OF MONITORING WELL: MW4-2

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe/Hollow Stem Auger
 Logged By: M. Horine

Date Started: 5/27/2015
 Date Completed: 5/28/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 6 inches
 Ground Surface Elevation: 400.005 feet
 Initial Water Level: 5.5 feet bgs
 Notes: Geoprobe refusal at 12 feet bgs. Hollow stem auger from 12 to 13 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Concrete.	
2				0.5	SP		Poorly Graded SAND (SP): light brownish, fine to medium grained, some silt, 1- to 3-inch subangular cobbles, moist.	Flush-mounted
3				0.5			Silty SAND (SM): dark brownish, fine, no cobbles, moist.	Cement/Bentonite Grout
4							AS ABOVE EXCEPT: light brownish.	Bentonite Chips
5				3.3			AS ABOVE EXCEPT: wet.	Colorado 10/20 Sand
6		81					AS ABOVE EXCEPT: loose.	
7				3.1	SM			
8							AS ABOVE EXCEPT: medium dense, moist.	
9				0				
10		100					Sample MW4-2-10	
11				0				
12		0					No recovery.	
13							Total Depth - 13 feet bgs	
14								
15								
16								
17								
18								
19								



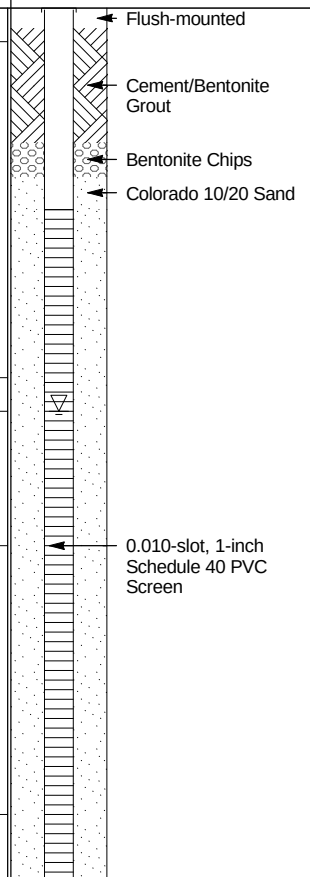
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LOG OF MONITORING WELL: MW4-3

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe/Hollow Stem Auger
 Logged By: M. Horine

Date Started: 5/28/2015
 Date Completed: 5/29/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 6 inches
 Ground Surface Elevation: 400.05 feet
 Initial Water Level: 6 feet bgs
 Notes: Hand cleared to 5 feet bgs. Cobbles from 0.5 to 5 feet bgs prevented sampling with probe.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Concrete.	
2				0.56			Poorly Graded SAND (SP): light brownish, some silt, fine to medium grained, subangular cobbles (1- to 4-inch), moist.	
3					SP		AS ABOVE EXCEPT: dry.	
4				0.8				
5								
6				5.8	SM		Silty SAND (SM): fine grained, medium dense, trace fine subrounded gravel, moist.	
7		36					No recovery due to cobbles from above interfering with the probe rods.	
8							No recovery due to cobbles from above.	
9								
10		0						
11								
12				4.7				
13		25			SM		Silty SAND (SM): light gray, fine grained, medium dense, trace fine subrounded gravel, moist.	
14							Total Depth - 13 feet bgs	
15								
16								
17								
18								
19								





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LOG OF MONITORING WELL: MW4-4

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe/Hollow Stem Auger
 Logged By: M. Horine

Date Started: 5/28/2015
 Date Completed: 5/29/2015
 Total Depth: 16 feet bgs
 Borehole Diameter: 6 inches
 Ground Surface Elevation: 399.965 feet
 Initial Water Level: 8 feet bgs
 Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Concrete.	
2				0.0			Poorly Graded SAND (SP): light brownish, fine to medium grained, some silt, 1- to 3-inch subangular cobbles, moist.	Flush-mounted
3				1.1				Cement/Bentonite Grout
4					SP			Bentonite Chips
5							AS ABOVE EXCEPT: with subrounded gravel.	Colorado 10/20 Sand
6		31		1.8				
7								
8								
9							Silty SAND (SM): dark brownish gray, fine grained, medium dense, moist.	
10		65		0.9			AS ABOVE EXCEPT: brownish gray, trace silt.	
11								
12				1.2	SM			0.010-slot, 3/4-inch Schedule 40 PVC Screen
13							AS ABOVE EXCEPT: light gray.	
14		100		0.7				
15								
16							Total Depth - 16 feet bgs	Hole cleaned out to 16 feet bgs
17								
18								
19								

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LOG OF MONITORING WELL: MW4-5

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Holocene Drilling
Drilling Method: Geoprobe/Hollow Stem Auger
Logged By: S. Terranova

Date Started: 5/28/2015
Date Completed: 5/29/2015
Total Depth: 15 feet bgs
Borehole Diameter: 6 inches
Ground Surface Elevation: 400.003 feet
Initial Water Level: 8 feet bgs
Notes: Hand cleared to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Concrete.	
2				0.81	SP		Poorly Graded SAND (SP): light brownish, trace silt, fine to medium grained, 1- to 4-inch subangular cobbles, moist.	
3							AS ABOVE EXCEPT: fine, 1- to 3-inch subangular cobbles, dry.	
4								
5							No recovery.	
6		0		0.51				
7								
8								
9				0.98	SM		Silty SAND (SM): brownish, fine, dry.	
10		100						
11					SP		Poorly Graded SAND (SP): brownish, some silt, fine, moist. Wet at 10.5 feet bgs.	
12				0.07	SM		Silty SAND (SM): brownish, fine, medium dense, moist.	
13							No recovery.	
14		0						
15							Total Depth - 15 feet bgs	
16								
17								
18								
19								

Flush-mounted
Cement/Bentonite Grout
Bentonite Chips
Colorado 10/20 Sand
0.010-slot, 1-inch Schedule 40 PVC Screen



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LOG OF MONITORING WELL: MW4-6

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Holocene Drilling
 Drilling Method: Geoprobe/Hollow Stem Auger
 Logged By: M. Horine

Date Started: 5/27/2015
 Date Completed: 5/28/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 6 inches
 Ground Surface Elevation: 399.955 feet
 Initial Water Level: 5.5 feet bgs
 Notes: Hand cleared to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Concrete.	
2				0.7	SP		Poorly Graded SAND (SP): light brownish, fine to medium grained, some silt, 1- to 3-inch subangular cobbles, moist.	
3				0.6				
4					SM		Silty SAND (SM): dark brownish, fine, damp.	
5				0.1				
6		94						
7								
8				0.3	SP		Poorly Graded SAND (SP): dark brown, fine to medium grained, silty, loose, wet.	
9								
10		97			ML		SILT (ML): brownish gray, with fine grained sand, medium dense, moist.	
11				0.7				
12		0					No recovery.	
13					ML		SILT (ML): brownish gray, with fine grained sand, medium dense, moist.	
14							Total Depth - 13 feet bgs	
15								
16								
17								
18								
19								

Flush-mounted
 Cement/Bentonite Grout
 Bentonite Chips
 Colorado 10/20 Sand
 0.010-slot, 1-inch Schedule 40 PVC Screen



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LOG OF MONITORING WELL: MW5-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/11/2015
 Date Completed: 3/12/2015
 Total Depth: 15 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 392.944 feet
 Initial Water Level: 8 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Vegetation / 1- to 3-inch rock.	
2					SP		Gravelly SAND (SP): Dark gray, medium to coarse grained, 1- to 3-inch subangular cobbles, moist.	
3					SM		Silty SAND (SM): gray, very fine grained, moist.	
4				0.0			Vegetation / Topsoil.	
5							Poorly Graded SAND (SP): light brown, fine to medium grained, some silt, moist.	
6		89	8 10 14	1.7			AS ABOVE EXCEPT: light brownish gray, trace subrounded to subangular gravel less than 1 inch, medium dense, wet.	
7		56	8 15 22	0.4				
8								
9		100	17 28 30	3.1	SP			
10		100	28 48 50					
11				2.6				
12		100	12 25 40					
13		100	12 21 28	1.8				
14		100	14 20	0.8			AS ABOVE EXCEPT: light gray.	
15							Total Depth - 15 feet bgs	
16								
17								
18								
19								

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LOG OF MONITORING WELL: MW6-1

Project Number: 0266125
 Project Name: K2 Facility Site Characterization
 Client Name: K2
 Location: Vashon, Washington
 Contractor: Cascade Drilling
 Drilling Method: Hollow Stem Auger
 Logged By: S. Terranova & M. Horine

Date Started: 3/12/2015
 Date Completed: 3/13/2015
 Total Depth: 13 feet bgs
 Borehole Diameter: 8 inches
 Ground Surface Elevation: 391.396 feet
 Initial Water Level: 3 feet bgs
 Notes: Vacuum cleared and air knife to 5 feet bgs.

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Grass / Topsoil.	
2					SM		Silty SAND (SM): light brown, fine grained, 1- to 3-inch subangular cobbles, moist.	
3				0.0				
4								
5				0.0				
6		100	2 1 1		GM		Sandy GRAVEL (GM): gray, subrounded to subangular, fine to medium grained sand, less silt, loose, wet.	
7		78	1					
8								
9		72	1 2 3					
10		100	1 1 2					
11					SM		Silty SAND (SM): gray, fine grained, less gravel, moist.	
12		89	1 2 4					
13		100	4					
Total Depth - 13 feet bgs								
14								
15								
16								
17								
18								
19								



ERM
1218 3rd Avenue, Suite 1412
Seattle, WA 98101
Phone: (425) 462-8591
Fax: (425) 455-3573

LOG OF MONITORING WELL: MW7-1

Project Number: 0266125
Project Name: K2 Facility Site Characterization
Client Name: K2
Location: Vashon, Washington
Contractor: Cascade Drilling
Drilling Method: Hollow Stem Auger
Logged By: S. Terranova & M. Horine

Date Started: 3/12/2015
Date Completed: 3/18/2015
Total Depth: 16 feet bgs
Borehole Diameter: 8 inches
Ground Surface Elevation: 391.186 feet
Initial Water Level: 9 feet bgs
Notes:

Depth (ft)	Sample Interval	RECOVERY %	Blow Counts	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations	WELL DIAGRAM
1							Vegetation / Roots / Topsoil.	Flush-mounted Cement/Bentonite Grout Bentonite Chips Colorado 10/20 Sand 0.010-slot, 2-inch Schedule 40 PVC Screen
2							Poorly Graded SAND (SP): light yellowish brown, fine to medium grained, trace silt, some pea gravel, moist.	
3				0.0	SP			
4								
5								
6	100	597		0.0			Silty SAND (SM): yellowish brown, fine to medium grained, to 2-inch subangular to subrounded gravel, loose, moist.	
7	33	135			SM			
8								
9	100	247		0.2	SP		Poorly Graded SAND (SP): light brown with orangeish brown mottling, fine to medium grained, trace silt, no gravel, loose, wet.	
10	78	113956					Silty SAND (SM): fine grained, loose to medium dense, wet.	
11								
12	61	203030		0.0			AS ABOVE EXCEPT: brownish gray, trace medium grained, less than 0.5-inch subrounded gravel.	
13	39	223540			SM			
14								
15	28	213030		0.0			AS ABOVE EXCEPT: light gray.	
16	100	10					Total Depth - 16 feet bgs	
17								
18								
19								

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Appendix C
Location and Elevation Survey Report

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K2 Site Investigation

Survey Date: March 18, 2015

Monitoring Wells

Pt.#	Northing	Easting	Top of metal case Elev.	Top of PVC casing Elev	Description
125	162065.580	1237669.309	399.753	399.304	MW 1-1
126	161965.433	1237637.182	398.363	398.021	MW 1-2
140	161977.696	1237364.070	399.752	399.542	MW 2-1
138	162011.392	1237079.044	403.102	402.582	MW 3-1
133	161760.635	1237244.999	396.036	395.773	MW 3-2
127	161779.968	1237654.529	397.773	397.384	MW 4-1
130	161436.123	1237313.353	392.944	392.511	MW 5-1
128	161569.388	1237589.408	391.396	390.965	MW 6-1
175	161340.143	1237609.524	391.186	390.510	MW 7-1

Survey Date: June 2, 2015, 2015

606	162105.802	1237604.708	400.345	399.724	MW 1-3
614	161761.499	1237159.798	397.612	396.988	MW 3-3
610	161838.720	1237203.824	400.388	399.987	MW 3-4
611	161898.437	1237211.712	399.778	399.388	MW 3-5
618	161875.103	1237401.472	400.005	399.482	MW 4-2
623	161767.647	1237496.922	400.050	399.750	MW 4-3
626	161659.284	1237494.693	399.965	399.485	MW 4-4
627	161661.142	1237370.608	400.003	399.310	MW 4-5
617	161769.061	1237389.963	399.955	399.288	MW 4-6

Survey Date: March 18, 2015

Soil Borings

Pt.#	Northing	Easting	Elev.	Description
152	162031.846	1237631.526	400.140	BH B1-1
142	162071.156	1237472.163	399.977	BH B2-1
141	162008.151	1237462.364	398.769	BH B2-2
139	162008.109	1237352.454	398.840	BH B2-3
136	161875.468	1237099.969	399.635	BH B3-1
135	161814.257	1237138.895	399.249	BH B3-2
134	161794.717	1237169.049	398.559	BH B3-3
137	161838.441	1237206.122	400.436	BH B3-4
163	161875.048	1237398.264	400.042	BH B4-1
129	161474.947	1237267.198	394.782	BH B5-1
131	161522.830	1237418.361	391.152	BH B5-2
145	162105.104	1237587.603	400.264	BH HA1-1
144	161964.489	1237339.467	400.056	BH HA2-1
162	161827.646	1237416.063	400.012	BH HA4-1
169	161700.607	1237320.864	400.024	BH HA4-2
172	161554.862	1237514.074	386.937	BH HA6-1
132	161385.790	1237569.601	384.960	BH HA7-1
176	161293.644	1237669.699	383.466	BH SS7-1

Survey Date: June 2, 2015

609	161862.427	1237189.879	400.517	BH 3-5
619	161897.219	1237401.849	400.049	BH 4-2
620	161890.420	1237339.599	400.063	BH 4-3
608	161900.244	1237279.988	399.836	BH 4-4
607	161942.523	1237282.423	399.716	BH 4-5

1. Horizontal Datum: NAD83/91.
2. Horizontal coordinates were based on Survey Control Points Designation 3246 and 5211. Data sheets are found in WGS Survey Data Warehouse.
3. Vertical Datum: NAVD88, Bench Mark 5211, Elevation 400.071 feet. Located at the intersection of SW 192nd Street and Vashon Highway SW. 3" brass cap in case.

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Appendix D
Analytical Laboratory Reports and Data Evaluation
Summary

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Memorandum

Environmental Resources Management

To: Mike Arnold

From: Sandra Mulhearn

Date: 24 June 2015

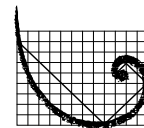
Subject: Data Review of K2-Vashon, Washington Samples
Collected March through June 2015

Project Number: 0266125.03

Data Package: TestAmerica Seattle Packages: 580-47880-1, 580-47880-2, 580-47968-1, 580-47968-2, 580-48087-1, 580-48106-1, 580-48106-2, 580-48155-1, 580-48155-2, 580-48243-1, 580-48257-1, 580-48257-2, 580-48349-1, 580-48349-2, 580-50545-1

Analytical Resources Inc. Packages: AGQ5, AGU0, AGY6, AHI5, AHJ0

2525 Natomas Park Drive,
Suite 350
Sacramento, CA 95833
(916) 924-9378
(916) 920-3978 (fax)



ERM®

Alpha Analytical Package: L1512057

The data quality was assessed and any necessary qualifiers were applied following the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, August 2014* and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, August 2014*.

INTRODUCTION

The samples submitted for semivolatile organic compounds (SVOCs) by U.S. Environmental Protection Agency (USEPA) Method 8270D and polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270D SIM from TestAmerica Report 580-48349-1 required resampling due to multiple analytical issues. The analytical issues are discussed in the attached memo dated 4 May 2015.

CHAIN-OF-CUSTODY REVIEW

One sample (B2-1-G) was submitted for organochlorine pesticide analysis (USEPA Method 8081B) with TestAmerica Report 580-47880-1; however,

no unpreserved jars were submitted. The sample was resubmitted as part of TestAmerica Report 580-47968-1 in a 250-ml unpreserved amber. This deviates from the laboratory SOP which requests a 1 liter amber bottle. The entire volume was used for analysis.

An unlabeled sample container arrived at the laboratory along with samples included in TestAmerica Report 580-48087-1. The sample was attributed to be from sample location HA6-1-3 due to the bottle count provided in the chain-of-custody form (COC).

A sample labeled B5-1-7 in a cooler as part of TestAmerica Report 580-48106-1 did not match a sample name on the COC. The sample was attributed to sample B5-1-6 based upon the COC.

Samples B5-1-6 and B5-2-3.5 in TestAmerica Report 580-48106-1 were not analyzed for PAHs by USEPA 8270D SIM as requested on the COC.

In TestAmerica Report 580-48155-1 sample identifiers were smudged to the point of illegibility on the containers of samples HA7-1-1.5 and SS7-1-0.5. The laboratory used the sample collection times to verify the sample identities.

In TestAmerica Report 580-48257-1 two containers for MW1-1-032015 froze and broke inside the coolers. Four vials were available for analysis.

In TestAmerica Report 580-48349-1 the container labels for DUP-032315-02 and MW6-1-032315 did not match the COC. Samples were logged in per the COC information. In addition, containers submitted for the USEPA 8081 analysis of samples DUP-032315-02 and MW4-1-032315 were 250 ml ambers instead of 125 ml ambers. One of the two 1 liter ambers submitted for sample MW2-1-032315 was only half full. A trip blank was submitted but not listed on the COC. Analysis of the trip blank was not performed.

No analytical results were qualified based on results of the COC review.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method prescribed time period from the date of collection with limited exceptions. Because of laboratory control sample (LCS) failures, several SVOC and PAH analyses were re-extracted outside of the holding time. Due to a potential

low bias, associated results are flagged as estimated. The related qualified results are summarized in Table D-1.

Preservation requirements were met with the exception of two samples that were submitted for analysis of volatile organic compounds (VOCs) by USEPA Method 8260C. The samples were received at a pH above the requirement of <2; however, both samples were analyzed within the 7-day holding time for unpreserved samples. The sample information is included in Table D-2.

SAMPLE CONDITIONS

Several samples submitted for USEPA Method 8260C (VOCs) and USEPA Method 8015B (petroleum hydrocarbons) were considered to be biphasic, in that there was a significant amount of sediment filling the bottom of each VOA vial. The mud can interfere with accurate laboratory readings. The related analytical data for the associated samples were qualified as estimated detect (J) and estimated non-detect (UJ), as shown in Table D-3. In addition, the laboratory diluted the samples in order to prevent instrument damage.

BLANK EVALUATION

Target analytes were not detected in the method, trip, field, and rinsate blank samples, with several exceptions. A few common laboratory contaminants were qualified as not detected (U) due to blank contamination as shown in Table D-4.

BLANK SPIKE EVALUATION

There were many exceedences of laboratory limits of acceptance in the LCS and laboratory control sample duplicate (LCSD) recoveries. The outliers are listed in Table D-5. If the out-of-control spike recovery was verified by another, in-control spike (LCS), then no qualifications are necessary. No qualifications are made based upon relative percent difference (RPD) exceedences if the recoveries are both within acceptance limits. Associated results were qualified as rejected (R) if spike recoveries were less than 10 percent. Results were qualified as estimated with a low bias if recoveries were less than the lower control limit. Detected results

were qualified as estimated with a high bias if recoveries exceeded the upper control limit.

MATRIX SPIKE EVALUATION

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries were within the laboratory's limits of acceptance with a several exceptions. Recoveries outside the laboratory limits are presented in Table D-5. If the out-of-control spike recovery was verified by another, in-control spike (MS), then no qualifications are necessary. No qualifications are made based upon RPD exceedences if the recoveries are both within acceptance limits. Results were qualified per National Functional Guidelines. For organics, qualifications were limited to the sample used for the MS/MSD. For inorganics, qualifications were applied to the associated batch of project samples. Results were qualified as estimated with a low bias (J-/UJ) if recoveries were less than the lower control limit. Detected results were qualified as estimated with a high bias (J+) if recoveries exceeded the upper control limit.

In addition, several issues occurred during the sample analyses. For TestAmerica Report 580-48155-1 the USEPA 8270D MSD was spilled, therefore recoveries were low and the MSD was not reported. For TestAmerica Report 580-48243-1 the USEPA 8260C MS/MSD was not spiked during sample preparation, therefore, no MS/MSD data are included.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within the laboratory limits of acceptance with limited exceptions. Recoveries outside the laboratory limits are presented in Table D-6. No qualifications were necessary for SVOC (USEPA 8270D) analysis unless two or more acid or base surrogates were out of control limits. Recoveries less than lower control limits resulted in estimated (J-/UJ) results. Recoveries greater than upper control limits resulted in estimated (J+) detected results.

FIELD DUPLICATE EVALUATION

Two samples were collected and submitted in duplicate. ERM calculated the RPDs between detected sample results. The USEPA has not

established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision. The duplicate results and calculated RPDs are listed in Table D-7.

LABORATORY DUPLICATE

The laboratory duplicate RPDs met quality control criteria, with exceptions noted in Table D-8. The RPD for several metals was greater than the quality control criteria in the laboratory duplicate. Associated results were qualified as estimated (J).

CONTINUING CALIBRATION VERIFICATION

The laboratory noted that the continuing calibration verification (CCV) results associated with several VOC and SVOC samples were outside of the acceptance criteria and biased both low and high. Results associated with low CCV or relative response factor (RRF) issues were qualified as estimated and biased low. Results associated with high CCV results were qualified as estimated and biased high. The affected sample data are listed in Table D-9.

TOTAL PETROLEUM HYDROCARBON RESULTS EVALUATION

The laboratory noted that the diesel and motor oil patterns for several samples did not match the representative standard. In particular, the diesel patterns indicated column elution times that were later than the typical diesel pattern. Associated results were qualified as tentatively identified and estimated (NJ). The affected samples are presented in Table D-10.

CALIBRATION RANGE EXCEEDENCES

Several results were reported as outside the calibration range of the instrument. Each of those results was qualified as estimated and is presented in Table D-11. Each of the associated samples underwent a dilution and the results for the compounds initially out of calibration range are reported from the diluted sample run.

OVERALL ASSESSMENT

Ten results were rejected due to LCS issues. With the exception of the rejected data, all of the data can be used for decision-making purposes. However, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table D-1
Samples with Exceeded Holding Times
K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Holding Time	# of Days Exceeded	ERM Qualifier
580-48087-1	HA2-1-3EB (re-extraction)	EPA 8270D SIM	7 days to extraction	6 days	UJ (all non-detect)
580-48106-1	B5-2-G (re-extraction)	EPA 8270D SIM	7 days to extraction	7 days	UJ (all non-detect)
		EPA 8270D	7 days to extraction	10 days	UJ (all non-detect)
		EPA 8270D SIM	7 days to extraction	7 days	UJ (all non-detect)
		EPA 8270D	7 days to extraction	10 days	UJ (all non-detect)
	B5-2-3.5 RB (re-extraction)	EPA 8270D SIM	7 days to extraction	7 days	UJ (all non-detect)
		EPA 8270D	7 days to extraction	10 days	UJ (all non-detect)
580-48155-1	MW1-2-031915 (re-extraction)	EPA 8270D SIM	7 days to extraction	3 days	J- (detects)/UJ (non-detects)
	B4-1-G (re-extraction)	EPA 8270D SIM	7 days to extraction	3 days	J- (detects)/UJ (non-detects)

Notes:

- = Result biased low

EPA = U.S. Environmental Protection Agency

J = Estimated detected result

UJ = Not detected, estimated report limit

Table D-2
Samples with Insufficient Preservation
K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Outlier	Criteria	ERM Qualifier
580-48106-1	B3-3-G	EPA 8260C	pH between 5-8	pH <2	-- ¹
	B3-4-G	EPA 8260C	pH between 5-8	pH <2	-- ¹

Notes:

¹No qualification is warranted as the samples were analyzed within the 7-day holding time for unpreserved samples

EPA = U.S. Environmental Protection Agency

Table D-3
Samples Not Meeting Other Preservation Requirements
K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Laboratory Note	ERM Qualifier
580-47968-1	B2-2-G	EPA 8260C	Sediment filling bottom of VOA vial	UJ (non-detects)
	B3-1-G	EPA 8260C	Sediment filling bottom of VOA vial	UJ (non-detects)
	B3-2-G	EPA 8260C	Sediment filling bottom of VOA vial	UJ (non-detects)
	B2-2-G	NWTPH-Gx	Sediment filling bottom of VOA vial	UJ (non-detects)
	B3-1-G	NWTPH-Gx	Sediment filling bottom of VOA vial	UJ (non-detects)
	B3-2-G	NWTPH-Gx	Sediment filling bottom of VOA vial	UJ (non-detects)
580-48106-1	B3-3-G	EPA 8260C	Sediment filling bottom of VOA vial	J (detects)/UJ (non-detects)
	B3-4-G	EPA 8260C	Sediment filling bottom of VOA vial	J (detects)/UJ (non-detects)
	B3-3-G	NWTPH-Gx	Sediment filling bottom of VOA vial	UJ (non-detects)
	B3-4-G	NWTPH-Gx	Sediment filling bottom of VOA vial	UJ (non-detects)

Notes:

EPA = U.S. Environmental Protection Agency

J = Estimated detected result

J/UJ = Detected results are estimated; nondetected results have an estimated reporting limit

UJ = Not detected, estimated report limit

Table D-4

Blank and Associated Suspect Sample Detections

K2 Facility, Vashon, Washington

Lab Report Number	Blank Identifier	Method	Associated Sample	Detected Compound	Reported Concentration	Reporting Limit	Units	ERM Qualifier
580-47880-1	TB-031115-02	EPA 8260C	--	Methylene Chloride	1	0.5	µg/L	--
580-47968-1	TB-031315-01	EPA 8260C	--	Methylene Chloride	1.3	0.5	µg/L	--
580-48087-1	HA2-1-3EB	8270D SIM	--	Naphthalene	0.097	0.02	µg/L	--
580-48106-1	B5-2-3.5 RB (re-extraction)	8270D SIM	--	Naphthalene	0.04	0.02	µg/L	--
	MB-580-184889/1-A (Batch 185025)	EPA 8270D	--	bis(2-Ethylhexyl)phthalate	4.75	3	µg/L	--
		EPA 8270D	see below	bis(2-Ethylhexyl)phthalate	3.52	3	µg/L	--
	--	EPA 8270D	B5-2-3.5 RB	bis(2-Ethylhexyl)phthalate	3.3	2.9	µg/L	<3.3 U
580-48155-1	TB-031915-02	EPA 8260C	--	Methylene chloride	1.3	0.5	µg/L	--
AGQ5	MB-052815A	EPA 8260C	see below	Methylene chloride	1.8	2	µg/kg	--
		EPA 8260C	see below	Acetone	3.5	5	µg/kg	--
	--	EPA 8260C	B4-4-3	Methylene chloride	3.8	1.9	µg/kg	<3.8 U
		EPA 8260C	B4-4-3	Acetone	19	4.9	µg/kg	--
		EPA 8260C	B4-5-3	Methylene chloride	2.7	1.8	µg/kg	<2.7 U
		EPA 8260C	B4-5-3	Acetone	12	4.4	µg/kg	--

Notes:

µg/kg = Micrograms per kilogram

µg/L = Micrograms per liter

EPA = U.S. Environmental Protection Agency

MB = Method blank

RB = Rinsate blank

TB = Trip blank

U = Not detected

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
LCS/LCSD									
580-47880-1	LCS 580-184908 (Batch 184943)	--	#2 Diesel	103/74	59-120	32	27	--	--
580-47968-1	LCS 580-184449 (Batch 184449)	--	cis-1,3-Dichloropropene	124/120	70-120	3	20	--	--
	LCS 580-184452 (Batch 184446)	--	n-Propylbenzene	123/116	80-120	6	20	--	--
580-47968-1	LCS 580-184544 (Batch 184539)	--	Bromomethane	64/93	57-148	37	29	--	--
			2,2-Dichloropropane	114/86	56-144	27	21	--	--
			Dichlorodifluoromethane	71/54	38-150	28	26	--	--
580-48087-1 /580-48106-1 /580-48155-1	LCS 580-184860 (Batch 184860)	--	Vinyl chloride	86/67	67-131	24	22	--	--
			cis-1,3-Dichloropropene	131/123	70-120	7	20	--	--
			Isopropylbenzene	117/121	75-120	3	20	--	--
			Methyl-tert-butyl ether	125/126	75-120	1	20	--	--
			n-Propylbenzene	122/117	80-120	4	20	--	--
	LCS 580-184883 (Batch 184870)	--	trans-1,3-Dichloropropene	141/131	60-140	8	20	--	--
			Chloromethane	67/88	55-136	27	26	--	--
			Dichlorodifluoromethane	39/76	38-150	63	26	--	--
	LCS 580-184868 (Batch 185041)	see below	trans-1,3-Dichloropropene	122/131	72-129	7	20	--	--
			1-Methylnaphthalene	56/69	54-125	21	20	--	--
			2-Methylnaphthalene	54/68	56-125	24	20	--	--
			Acenaphthene	57/74	63-125	26	20	--	--
			Acenaphthylene	27/45	62-125	48	20	--	--
			Anthracene	29/41	50-125	36	20	--	--
			Benzo(a)anthracene	46/57	65-125	21	20	--	--
			Benzo(a)pyrene	19/32	45-125	50	20	--	--
			Benzo(b)fluoranthene	50/65	70-129	26	20	--	--
			Benzo(g,h,i)perylene	47/63	65-153	28	20	--	--
			Benzo(k)fluoranthene	47/57	70-123	19	20	--	--
			Chrysene	57/72	70-125	24	20	--	--
			Dibenz(a,h)anthracene	53/67	69-154	23	20	--	--
			Fluoranthene	61/73	70-145	18	20	--	--

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
			Fluorene	51/86	69-125	50	20	--	--
			Indeno(1,2,3-cd)pyrene	49/64	70-136	27	20	--	--
			Naphthalene	55/69	56-125	23	20	--	--
			Phenanthrene	54/67	70-125	20	20	--	--
			Pyrene	58/72	70-133	21	20	--	--
580-48087-1	LCS 580-184868 (Batch 185041)	HA2-1-3EB	1-Methylnaphthalene	--	--	--	--	<0.020 ug/L	UJ
			2-Methylnaphthalene	--	--	--	--	<0.026 ug/L	UJ
			Acenaphthene	--	--	--	--	<0.020 ug/L	UJ
			Acenaphthylene	--	--	--	--	<0.020 ug/L	UJ
			Anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(b)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(g,h,i)perylene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(k)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Chrysene	--	--	--	--	<0.020 ug/L	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Fluorene	--	--	--	--	<0.020 ug/L	UJ
			Indeno(1,2,3-cd)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Naphthalene	--	--	--	--	0.097 ug/L	J-
			Phenanthrene	--	--	--	--	<0.020 ug/L	UJ
			Pyrene	--	--	--	--	<0.020 ug/L	UJ
			1-Methylnaphthalene	--	--	--	--	<0.020 ug/L	UJ
			2-Methylnaphthalene	--	--	--	--	<0.026 ug/L	UJ
			Acenaphthene	--	--	--	--	<0.020 ug/L	UJ
			Acenaphthylene	--	--	--	--	<0.020 ug/L	UJ
			Anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(b)fluoranthene	--	--	--	--	<0.020 ug/L	UJ

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
580-48106-1	LCS 580-184868 (Batch 185041)	B5-2-G	Benzo(g,h,i)perylene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(k)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Chrysene	--	--	--	--	<0.020 ug/L	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Fluorene	--	--	--	--	<0.020 ug/L	UJ
			Indeno(1,2,3-cd)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Naphthalene	--	--	--	--	<0.020 ug/L	UJ
			Phenanthrene	--	--	--	--	<0.020 ug/L	UJ
			Pyrene	--	--	--	--	<0.020 ug/L	UJ
		B1-1-G	1-Methylnaphthalene	--	--	--	--	<0.020 ug/L	UJ
			2-Methylnaphthalene	--	--	--	--	<0.026 ug/L	UJ
			Acenaphthene	--	--	--	--	<0.020 ug/L	UJ
			Acenaphthylene	--	--	--	--	<0.020 ug/L	UJ
			Anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(b)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(g,h,i)perylene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(k)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Chrysene	--	--	--	--	<0.020 ug/L	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Fluorene	--	--	--	--	<0.020 ug/L	UJ
			Indeno(1,2,3-cd)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Naphthalene	--	--	--	--	<0.020 ug/L	UJ
			Phenanthrene	--	--	--	--	<0.020 ug/L	UJ
			Pyrene	--	--	--	--	<0.020 ug/L	UJ
			1-Methylnaphthalene	--	--	--	--	<0.020 ug/L	UJ
			2-Methylnaphthalene	--	--	--	--	<0.026 ug/L	UJ
			Acenaphthene	--	--	--	--	<0.020 ug/L	UJ

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
		B5-2-3.5 RB	Acenaphthylene	--	--	--	--	<0.020 ug/L	UJ
			Anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(b)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(g,h,i)perylene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(k)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Chrysene	--	--	--	--	<0.020 ug/L	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Fluorene	--	--	--	--	<0.020 ug/L	UJ
			Indeno(1,2,3-cd)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Naphthalene	--	--	--	--	<0.020 ug/L	UJ
			Phenanthrene	--	--	--	--	<0.020 ug/L	UJ
			Pyrene	--	--	--	--	<0.020 ug/L	UJ
		MW1-2-031915	1-Methylnaphthalene	--	--	--	--	<0.021 ug/L	UJ
			2-Methylnaphthalene	--	--	--	--	<0.027 ug/L	UJ
			Acenaphthene	--	--	--	--	<0.021 ug/L	UJ
			Acenaphthylene	--	--	--	--	<0.021 ug/L	UJ
			Anthracene	--	--	--	--	<0.021 ug/L	UJ
			Benzo(a)anthracene	--	--	--	--	<0.021 ug/L	UJ
			Benzo(a)pyrene	--	--	--	--	<0.021 ug/L	UJ
			Benzo(b)fluoranthene	--	--	--	--	<0.021 ug/L	UJ
			Benzo(g,h,i)perylene	--	--	--	--	<0.021 ug/L	UJ
			Benzo(k)fluoranthene	--	--	--	--	<0.021 ug/L	UJ
			Chrysene	--	--	--	--	<0.021 ug/L	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.021 ug/L	UJ
			Fluoranthene	--	--	--	--	<0.021 ug/L	UJ
			Fluorene	--	--	--	--	<0.021 ug/L	UJ
			Indeno(1,2,3-cd)pyrene	--	--	--	--	<0.021 ug/L	UJ
			Naphthalene	--	--	--	--	<0.021 ug/L	UJ

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
580-48155-1	LCS 580-184868 (Batch 185041)		Phenanthrene	--	--	--	--	<0.021 ug/L	UJ
			Pyrene	--	--	--	--	<0.021 ug/L	UJ
		B4-1-G	1-Methylnaphthalene	--	--	--	--	<0.020 ug/L	UJ
			2-Methylnaphthalene	--	--	--	--	<0.026 ug/L	UJ
			Acenaphthene	--	--	--	--	<0.020 ug/L	UJ
			Acenaphthylene	--	--	--	--	<0.020 ug/L	UJ
			Anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(a)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(b)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(g,h,i)perylene	--	--	--	--	<0.020 ug/L	UJ
			Benzo(k)fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Chrysene	--	--	--	--	<0.020 ug/L	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.020 ug/L	UJ
			Fluoranthene	--	--	--	--	<0.020 ug/L	UJ
			Fluorene	--	--	--	--	<0.020 ug/L	UJ
			Indeno(1,2,3-cd)pyrene	--	--	--	--	<0.020 ug/L	UJ
			Naphthalene	--	--	--	--	<0.020 ug/L	UJ
			Phenanthrene	--	--	--	--	<0.020 ug/L	UJ
			Pyrene	--	--	--	--	<0.020 ug/L	UJ
		see below	2,4-Dimethylphenol	23/11	30-135	66	20	--	--
		--	2,4-Dinitrophenol	15/28	24-146	64	20	--	--
		see below	2,4-Dinitrotoluene	68/66	73-126	3	20	--	--
		--	2-Nitrophenol	49/55	55-140	11	20	--	--
		--	3&4-Methylphenol	65/59	60-130	8	20	--	--
		see below	3,3'-Dichlorobenzidine	6/11	20-175	60	20	--	--
		see below	4,6-Dinitro-2-methylphenol	23/36	50-136	46	20	--	--
		--	4-Chloroaniline	38/12	20-150	101	20	--	--
		see below	Acenaphthylene	51/50	62-125	2	20	--	--
		see below	Anthracene	47/45	50-125	3	20	--	--
		see below	Benzo(a)pyrene	40/39	45-125	1	20	--	--

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
580-48106-1	LCS 580-184889 (Batch 185025)	--	Bis(2-ethylhexyl)phthalate	83/171	70-185	69	20	--	--
		see below	Carbazole	67/68	75-142	2	20	--	--
		see below	Dibenz(a,h)anthracene	66/64	69-154	3	20	--	--
		--	Fluoranthene	71/69	70-145	2	20	--	--
		see below	Hexachlorocyclopentadiene	4/2	20-125	86	20	--	--
		--	Indeno(1,2,3-cd)pyrene	65/70	70-136	8	20	--	--
		see below	N-Nitrosodi-n-propylamine	58/58	60-120	0	20	--	--
		--	Pentachlorophenol	19/35	20-145	58	20	--	--
		see below	Phenanthrene	68/68	70-125	1	20	--	--
		see below	Pyrene	67/66	70-133	1	20	--	--
		B5-2-G	2,4-Dimethylphenol	--	--	--	--	<2.0	UJ
			2,4-Dinitrotoluene	--	--	--	--	<0.41	UJ
			3,3'-Dichlorobenzidine	--	--	--	--	<2.0	R
			4,6-Dinitro-2-methylphenol	--	--	--	--	<4.1	UJ
			Acenaphthylene	--	--	--	--	<0.082	UJ
			Anthracene	--	--	--	--	<0.041	UJ
			Benzo(a)pyrene	--	--	--	--	<0.041	UJ
			Carbazole	--	--	--	--	<0.41	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.061	UJ
			Hexachlorocyclopentadiene	--	--	--	--	<2.0	R
			N-Nitrosodi-n-propylamine	--	--	--	--	<0.41	UJ
			Phenanthrene	--	--	--	--	<0.082	UJ
			Pyrene	--	--	--	--	<0.061	UJ
		B1-1-G	2,4-Dimethylphenol	--	--	--	--	<2.2	UJ
			2,4-Dinitrotoluene	--	--	--	--	<0.43	UJ
			3,3'-Dichlorobenzidine	--	--	--	--	<2.2	R
			4,6-Dinitro-2-methylphenol	--	--	--	--	<4.3	UJ
			Acenaphthylene	--	--	--	--	<0.086	UJ
			Anthracene	--	--	--	--	<0.043	UJ
			Benzo(a)pyrene	--	--	--	--	<0.43	UJ
			Carbazole	--	--	--	--	<0.43	UJ

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
			Dibenz(a,h)anthracene	--	--	--	--	<0.065	UJ
			Hexachlorocyclopentadiene	--	--	--	--	<2.2	R
			N-Nitrosodi-n-propylamine	--	--	--	--	<0.43	UJ
			Phenanthrene	--	--	--	--	<0.086	UJ
			Pyrene	--	--	--	--	<0.065	UJ
		B5-2-3.5 RB	2,4-Dimethylphenol	--	--	--	--	<1.9	UJ
			2,4-Dinitrotoluene	--	--	--	--	<0.38	UJ
			3,3'-Dichlorobenzidine	--	--	--	--	<1.9	R
			4,6-Dinitro-2-methylphenol	--	--	--	--	<3.8	UJ
			Acenaphthylene	--	--	--	--	<0.077	UJ
			Anthracene	--	--	--	--	<0.038	UJ
			Benzo(a)pyrene	--	--	--	--	<0.038	UJ
			Carbazole	--	--	--	--	<0.38	UJ
			Dibenz(a,h)anthracene	--	--	--	--	<0.058	UJ
			Hexachlorocyclopentadiene	--	--	--	--	<1.9	R
			N-Nitrosodi-n-propylamine	--	--	--	--	<0.38	UJ
			Phenanthrene	--	--	--	--	<0.077	UJ
			Pyrene	--	--	--	--	<0.058	UJ
	LCS 580-185937 (Batch 186217)	--	2,4-Dinitrophenol	34/64	24-146	63	20	--	--
		--	Benzoic Acid	15/27	20-144	54	20	--	--
		see below	Bis(2-ethylhexyl)phthalate	224/192	70-185	15	20	--	--
		--	N-nitrosodiphenylamine	156/164	40-135	5	20	--	--
	--	B5-2-3.5 RB	Bis(2-ethylhexyl)phthalate	--	--	--	--	3.3	J+
580-48155-1 /580-48257-1	LCS 580-184969 (Batch 185375)	--	4-Chloroaniline	17/23	20-150	29	20	--	--
		see below	Benzoic Acid	10/8	20-144	17	20	--	--
		--	Bis(2-ethylhexyl)phthalate	214/126	70-185	52	20	--	--
		--	Hexachlorobutadiene	/65	25-125	21	20	--	--
		--	Hexachlorocyclopentadiene	/30	20-125	33	20	--	--
		--	N-Nitrosodiphenylamine	137/149	40-135	9	20	--	--
		MW1-2-031915	Benzoic Acid	--	--	--	--	<3.1	R
		B4-1-G	Benzoic Acid	--	--	--	--	10	UJ

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
580-48155-1	--	MW1-1-032015	Benzoic Acid	--	--	--	--	<3.1	R
		MW1-1-032015RB	Benzoic Acid	--	--	--	--	<3.1	R
		MW3-1-032015	Benzoic Acid	--	--	--	--	<2.8	R
580-48243-1	LCS 580-185198 (Batch 185172)	--	1,2,3-Trichlorobenzene	135/137	61-130	1	23	--	--
		--	1,2,4-Trichlorobenzene	133/132	61-130	0	22	--	--
		--	trans-1,3-Trichloropropene	125/133	72-129	6	20	--	--
	LCS 580-185251 (Batch 185333)	--	alpha-BHC	59/73	48-132	22	17	--	--
		--	gamma-BHC (Lindane)	67/81	47-127	19	17	--	--
		--	Heptachlor	66/81	43-141	20	18	--	--
580-50545-1	LCS 580-191462 (Batch 192433)	--	4-Chloroaniline	11/63	20-150	139	20	--	--
		--	Benzoic Acid	31/23	20-144	29	20	--	--
AGQ5	LCS-052815A	--	2-Butanone	115/127	64-120	10.2	30	--	--
		--	Acetone	118/134	48-132	13	30	--	--
AGUO	LCS-052915A	--	2-Butanone	114/136	64-120	17.3	30	--	--
		--	Acetone	105/138	48-132	27.3	30	--	--
		--	Dibromochloromethane	100/124	80-120	21.1	30	--	--
		--	Acrylonitrile	118/126	59-124	18.8	30	--	--
AGY6	LCS-060215A	--	2-Butanone	127/132	64-120	4.3	30	--	--
MS/MSD									
580-47968-1	B2-3-3	--	4-Chlorophenyl phenyl ether	75/69	75-108	6	60	--	--
		--	Chrysene	80/74	75-114	6	26	--	--
		--	Dimethyl phthalate	79/74	78-117	6	60	--	--
		--	Pentachlorophenol	54/42	45-117	22	68	--	--
		--	Phenanthrene	73/68	73-106	6	28	--	--
		see below	Chromium	141/142	80-120	2	20	--	--
		--	Copper	143/108	80-120	14	20	--	--
		--	Nickel	122/113	80-120	0	20	--	--
		B2-2-3	Chromium	--	--	--	--	33 mg/kg	J+
		--	1,2,4-Trichlorobenzene	64/72	66-115	20	28	--	--
		--	1,4-Dichlorobenzene	64/70	65-110	17	32	--	--

Table D-5

*Spike Recoveries Outside of Acceptable Limits**K2 Facility, Vashon, Washington*

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
580-48087-1	HA6-1-3	--	2,4-Dichlorophenol	65/75	68-125	22	60	--	--
		--	2,4-Dinitrotoluene	64/72	68-121	20	31	--	--
		--	2-Chlorophenol	65/73	68-117	19	27	--	--
		--	2-Methylnaphthalene	62/70	64-119	21	27	--	--
		--	2-Methylphenol	69/71	71-116	10	25	--	--
		--	2-Nitroaniline	60/73	64-112	27	60	--	--
		--	3&4-Methylphenol	70/65	70-116	1	27	--	--
		--	4-Chloro-3-Methylphenol	63/69	69-121	18	27	--	--
		HA6-1-3	4-Chlorophenyl phenyl ether	61/69	75-108	19	60	<120	UJ
		--	4-Nitroaniline	55/64	58-108	23	60	--	--
		--	Acenaphthylene	65/72	68-120	18	28	--	--
		HA6-1-3	Anthracene	67/70	73-116	13	27	<24	UJ
		HA6-1-3	Benzo(a)anthracene	64/69	76-119	16	27	<24	UJ
		HA6-1-3	Benzo(a)pyrene	62/64	72-117	11	30	<37	UJ
		HA6-1-3	Carbazole	65/72	76-135	18	60	<120	UJ
		--	Dibenzofuran	67/76	72-109	20	60	--	--
		--	Diethyl phthalate	66/75	73-116	21	26	--	--
		HA6-1-3	Dimethyl phthalate	67/72	78-117	16	60	<120	UJ
		--	Di-n-octyl phthalate	63/70	65-141	19	31	--	--
		HA6-1-3	Fluoranthene	63/71	73-125	21	36	<24	UJ
		--	Fluorene	67/76	70-121	20	31	--	--
		--	Hexachlorobenzene	65/77	66-117	24	60	--	--
		--	Hexachlorobutadiene	61/67	65-116	16	60	--	--
		--	N-nitrosodiphenylamine	68/73	73-115	15	60	--	--
		--	Phenanthrene	67/74	73-106	18	28	--	--
		HA6-1-3	Pyrene	61/69	70-120	21	31	<24	UJ
580-48106-1	B3-3-11	--	Chromium	152/120	80-120	7	20	--	--
		--	Nickel	125/100	80-120	7	20	--	--
		--	2,4-Dinitrophenol	0	20-141	--	--	<1,300	R
		--	2,6-Dinitrotoluene	182	66-123	--	--	--	--
		--	3,3'-Dichlorobenzidine	11	20-103	--	--	<270	UJ

Table D-5
Spike Recoveries Outside of Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Spike Sample Identifier	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	ERM Qualifier
580-48155-1	HA1-1-4.5	--	4,6-Dinitro-2-methylphenol	10	48-130	--	--	<1,300	UJ
		--	4-Bromophenyl phenyl ether	130	68-122	--	--	--	--
		--	Benzo(g,h,i)perylene	25	55-139	--	--	<34	UJ
		--	bis(2-Ethylhexyl)phthalate	-32	62-144	--	--	--	4X
		--	Dibenz(a,h)anthracene	27	56-134	--	--	<54	UJ
		--	Di-n-octyl phthalate	22	65-141	--	--	<670	UJ
		--	Hexachlorocyclopentadiene	41	46-131	--	--	<130	UJ
580-48243-1	B4-1-9	--	Indeno(1,2,3-cd)pyrene	34	56-127	--	--	<54	UJ
		B4-1-9	Chromium	147/163	80-120	3	20	29	J+
		--	Copper	126/117	80-120	7	20	--	--
580-48349-1	MW7-1-032315	--	Mercury	102/102	80-120	24	20	--	--
		--	Motor Oil	78/97	71-140	28	27	--	--

Notes:

- = Result biased low

+ = Result biased high

4X = Sample result is greater than 4 times the spike amount. No qualification is warranted.

J = Estimated detected result

J/UJ = Detected results are estimated; nondetected results are estimated at the report limit

R = Rejected result

RPD = Relative percent difference

UJ = Not detected, estimated report limit

Table D-6
Surrogate Recovery Results Outside Acceptable Limits
K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Surrogate	Recovery (%)	Limit (%)	ERM Qualifier
580-48087-1	HA2-1-3EB	EPA 8270D SIM	Terphenyl-d14	62	64-150	J-/UJ
580-48106-1	B5-2-G	EPA 8270D SIM	Terphenyl-d14	42	64-150	UJ
	B1-1-G	EPA 8270D SIM	Terphenyl-d14	11	64-150	--
	B5-2-3.5 RB	EPA 8270D	Nitrobenzene-d5	47	59-120	--
580-48155-1	B4-1-G	EPA 8270D SIM	Terphenyl-d14	63	64-150	UJ
580-48257-1	MW1-1-032015	EPA 8270D	Nitrobenzene-d5	57	59-120	--
	MW1-1-032015	EPA 8270D	Phenol-d5	48	52-120	--
580-50545-1	MW3-2-060415	EPA 8270D	Phenol-d5	42	52-120	--
AHJ0	MW4-5-060515	EPA 8260C	d8-Toluene	124	80-120	J+ (detects only)

Notes:

- = Result biased low

+ = Result biased high

J = Estimated detected result

J/UJ = Detected results are estimated; nondetected results have an estimated reporting limit

UJ = Not detected, estimated reporting limit

Table D-7

*Field Duplicate Results and Calculated Relative Percent Differences**K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Compound	Concentration		Reporting Limit	RPD (%)
			Sample	Duplicate		
580-48349-1	MW-5-1-032315/DUP-032315-01	Trichloroethene	0.50	0.51	0.2	2.0
	MW-4-1-032315/DUP-032315-02	Trichloroethene	0.50	0.46	0.2	8.3

Notes:

Results reported in micrograms per liter (µg/L).

RPD = Relative percent difference

Table D-8

Laboratory Duplicate Results and Calculated Relative Percent Differences*K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Associated Samples	Compound	RPD	RPD Limit	Sample Result	ERM Qualifier
580-48243-1	B4-1-9	B4-1-9	Arsenic	21	20	2.7	J
	B4-1-9	B4-1-9	Chromium	26	20	29	J
	B4-1-9	B4-1-9	Copper	25	20	13	J
	B4-1-9	B4-1-9	Lead	21	20	2.1	J
	B4-1-9	B4-1-9	Nickel	23	20	44	J
	B4-1-9	B4-1-9	Zinc	24	20	30	J

Notes:

Results reported in milligrams per kilogram (mg/kg)

J = Estimated result

RPD = Relative percent difference

Table D-9

Calibration Verification Recoveries Outside of Acceptable Limits

K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
580-47880-1	B2-1-5	EPA 8260C	Dichlorodifluoromethane	Low	--	<1.8	ug/kg	UJ
	TB-031115-01	EPA 8260C	Dichlorodifluoromethane	Low	--	<2.0	ug/kg	UJ
	B2-1-5	EPA 8260C	Chloromethane	Low	--	<0.92	ug/kg	UJ
	TB-031115-01	EPA 8260C	Chloromethane	Low	--	<1.0	ug/kg	UJ
	B2-1-5	EPA 8260C	Chloroethane	--	<RRF limit	<1.8	ug/kg	UJ
	TB-031115-01	EPA 8260C	Chloroethane	--	<RRF limit	<2.0	ug/kg	UJ
	B2-1-5	EPA 8260C	sec-Butylbenzene	High	--	--	--	--
	TB-031115-01	EPA 8260C	sec-Butylbenzene	High	--	--	--	--
	TB-031115-02	EPA 8260C	sec-Butylbenzene	High	--	--	--	--
	TB-031115-02	EPA 8260C	Styrene	High	--	--	--	--
	TB-031115-02	EPA 8260C	1,3,5-Trimethylbenzene	High	--	--	--	--
	TB-031115-02	EPA 8260C	tert-Butylbenzene	High	--	--	--	--
	TB-031115-02	EPA 8260C	Isopropylbenzene	High	--	--	--	--
	TB-031115-02	EPA 8260C	Chloroethane	--	<RRF limit	<0.5	ug/L	UJ
	B2-1-G	EPA 8260C	sec-Butylbenzene	High	--	--	--	--
	B2-1-G	EPA 8260C	Styrene	High	--	--	--	--
	B2-1-G	EPA 8260C	1,3,5-Trimethylbenzene	High	--	--	--	--
	B2-1-G	EPA 8260C	tert-Butylbenzene	High	--	--	--	--
	B2-1-G	EPA 8260C	Isopropylbenzene	High	--	--	--	--
	B2-1-G	EPA 8260C	Chloroethane	--	<RRF limit	<0.5	ug/L	UJ
	B2-2-3	EPA 8260C	Chloroethane	Low	--	<1.8	ug/kg	UJ
	B2-2-3	EPA 8260C	Vinyl chloride	Low	--	<1.8	ug/kg	UJ
	B2-2-3	EPA 8260C	Chloromethane	Low	--	<0.90	ug/kg	UJ
	B2-2-3	EPA 8260C	Dichlorodifluoromethane	Low	--	<1.8	ug/kg	UJ
	B3-1-9	EPA 8260C	Chloroethane	Low	--	<1.6	ug/kg	UJ
	B3-1-9	EPA 8260C	Vinyl chloride	Low	--	<1.6	ug/kg	UJ
	B3-1-9	EPA 8260C	Chloromethane	Low	--	<0.82	ug/kg	UJ
	B3-1-9	EPA 8260C	Dichlorodifluoromethane	Low	--	<1.6	ug/kg	UJ
	B3-2-10.5	EPA 8260C	Chloroethane	Low	--	<1.6	ug/kg	UJ
	B3-2-10.5	EPA 8260C	Vinyl chloride	Low	--	<1.6	ug/kg	UJ

Table D-9

*Calibration Verification Recoveries Outside of Acceptable Limits**K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
580-47968-1	B3-2-10.5	EPA 8260C	Chloromethane	Low	--	<0.78	ug/kg	UJ
	B3-2-10.5	EPA 8260C	Dichlorodifluoromethane	Low	--	<1.6	ug/kg	UJ
	TB-031315-02	EPA 8260C	Chloroethane	Low	--	<2.0	ug/kg	UJ
	TB-031315-02	EPA 8260C	Vinyl chloride	Low	--	<2.0	ug/kg	UJ
	TB-031315-02	EPA 8260C	Chloromethane	Low	--	<1.0	ug/kg	UJ
	TB-031315-02	EPA 8260C	Dichlorodifluoromethane	Low	--	<2.0	ug/kg	UJ
	B2-3-3	EPA 8260C	Carbon tetrachloride	High	--	--	--	--
	B2-3-3	EPA 8260C	2,2-dichloropropane	High	--	--	--	--
	B2-3-3	EPA 8260C	Dichlorodifluoromethane	Low	--	<1.7	ug/kg	UJ
	B2-2-G	EPA 8260C	Chloroethane	--	<RRF limit	<1.0	ug/L	UJ
	B3-1-G	EPA 8260C	Chloroethane	--	<RRF limit	<1.0	ug/L	UJ
	B3-2-G	EPA 8260C	Chloroethane	--	<RRF limit	<1.0	ug/L	UJ
	TB-031315-01	EPA 8260C	Chloroethane	--	<RRF limit	<1.0	ug/L	UJ
	B2-3-3	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<120	ug/kg	UJ
	B2-3-3	EPA 8270D	Isophorone	--	<RRF limit	<120	ug/kg	UJ
	B2-3-3	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<120	ug/kg	UJ
580-48087-1	HA2-1-3EB	EPA 8260C	Vinyl chloride	High	--	--	--	--
	HA2-1-3EB	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	HA2-1-3EB	EPA 8260C	Bromomethane	High	--	--	--	--
	HA2-1-3EB	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	HA2-1-3EB	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
580-48087-1	HA6-1-3	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<120	ug/kg	UJ
	HA6-1-3	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<120	ug/kg	UJ
	HA6-1-3	EPA 8270D	Isophorone	--	<RRF limit	<120	ug/kg	UJ
	HA6-1-3	EPA 8270D	Nitrobenzene	--	<RRF limit	<120	ug/kg	UJ
	HA6-1-3	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<120	ug/kg	UJ
	HA2-1-3	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<110	ug/kg	UJ
	HA2-1-3	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<110	ug/kg	UJ
	HA2-1-3	EPA 8270D	Isophorone	--	<RRF limit	<110	ug/kg	UJ
	HA2-1-3	EPA 8270D	Nitrobenzene	--	<RRF limit	<110	ug/kg	UJ

Table D-9

*Calibration Verification Recoveries Outside of Acceptable Limits**K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
	HA2-1-3	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<110	ug/kg	UJ
580-48106-1	B3-3-G	EPA 8260C	Vinyl chloride	High	--	--	--	--
	B3-3-G	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	B3-3-G	EPA 8260C	Bromomethane	High	--	--	--	--
	B3-3-G	EPA 8260C	Chloroethane	--	<RRF limit	<1.0	ug/L	UJ
	B3-3-G	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<1.0	ug/L	UJ
	B3-4-G	EPA 8260C	Vinyl chloride	High	--	--	--	--
	B3-4-G	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	B3-4-G	EPA 8260C	Bromomethane	High	--	--	--	--
	B3-4-G	EPA 8260C	Chloroethane	--	<RRF limit	<1.3	ug/L	UJ
	B3-4-G	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<1.3	ug/L	UJ
	B5-2-G	EPA 8260C	Vinyl chloride	High	--	--	--	--
	B5-2-G	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	B5-2-G	EPA 8260C	Bromomethane	High	--	--	--	--
	B5-2-G	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	B5-2-G	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	TB-031615-02	EPA 8260C	Vinyl chloride	High	--	--	--	--
	TB-031615-02	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	TB-031615-02	EPA 8260C	Bromomethane	High	--	--	--	--
	TB-031615-02	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	TB-031615-02	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	B1-1-G	EPA 8260C	Vinyl chloride	High	--	--	--	--
	B1-1-G	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	B1-1-G	EPA 8260C	Bromomethane	High	--	--	--	--
	B1-1-G	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	B1-1-G	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	B5-2-3.5 RB	EPA 8260C	Vinyl chloride	High	--	--	--	--
	B5-2-3.5 RB	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	B5-2-3.5 RB	EPA 8260C	Bromomethane	High	--	--	--	--
	B5-2-3.5 RB	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ

Table D-9

Calibration Verification Recoveries Outside of Acceptable Limits

K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
	B5-2-3.5 RB	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
580-48106-1	FB-03162015-01	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<100	ug/kg	UJ
	FB-03162015-01	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<100	ug/kg	UJ
	FB-03162015-01	EPA 8270D	Isophorone	--	<RRF limit	<100	ug/kg	UJ
	FB-03162015-01	EPA 8270D	Nitrobenzene	--	<RRF limit	<100	ug/kg	UJ
	FB-03162015-01	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<100	ug/kg	UJ
	B5-1-6	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<110	ug/kg	UJ
	B5-1-6	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<110	ug/kg	UJ
	B5-1-6	EPA 8270D	Isophorone	--	<RRF limit	<110	ug/kg	UJ
	B5-1-6	EPA 8270D	Nitrobenzene	--	<RRF limit	<110	ug/kg	UJ
	B5-1-6	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<110	ug/kg	UJ
	B5-2-3.5	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<130	ug/kg	UJ
	B5-2-3.5	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<130	ug/kg	UJ
	B5-2-3.5	EPA 8270D	Isophorone	--	<RRF limit	<130	ug/kg	UJ
	B5-2-3.5	EPA 8270D	Nitrobenzene	--	<RRF limit	<130	ug/kg	UJ
	B5-2-3.5	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<130	ug/kg	UJ
	B1-1-4	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<120	ug/kg	UJ
	B1-1-4	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<120	ug/kg	UJ
	B1-1-4	EPA 8270D	Isophorone	--	<RRF limit	<120	ug/kg	UJ
	B1-1-4	EPA 8270D	Nitrobenzene	--	<RRF limit	<120	ug/kg	UJ
	B1-1-4	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<120	ug/kg	UJ
580-48106-1	B5-2-G	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<0.41	ug/L	UJ
	B5-2-G	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.41	ug/L	UJ
	B5-2-G	EPA 8270D	Isophorone	--	<RRF limit	<0.41	ug/L	UJ
	B5-2-G	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.41	ug/L	UJ
	B5-2-G	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.41	ug/L	UJ
	B1-1-G	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G	EPA 8270D	Isophorone	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.43	ug/L	UJ

Table D-9

Calibration Verification Recoveries Outside of Acceptable Limits

K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
	B1-1-G	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.43	ug/L	UJ
	B5-2-3.5 RB	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<0.38	ug/L	UJ
	B5-2-3.5 RB	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.38	ug/L	UJ
	B5-2-3.5 RB	EPA 8270D	Isophorone	--	<RRF limit	<0.38	ug/L	UJ
	B5-2-3.5 RB	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.38	ug/L	UJ
	B5-2-3.5 RB	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.38	ug/L	UJ
580-48106-1	B5-2-G (re-extraction)	EPA 8270D	Indeno(1,2,3-cd)pyrene	High	--	--	--	--
	B5-2-G (re-extraction)	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-G (re-extraction)	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-G (re-extraction)	EPA 8270D	Isophorone	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-G (re-extraction)	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-G (re-extraction)	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.39	ug/L	UJ
	B1-1-G (re-extraction)	EPA 8270D	Indeno(1,2,3-cd)pyrene	High	--	--	--	--
	B1-1-G (re-extraction)	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G (re-extraction)	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G (re-extraction)	EPA 8270D	Isophorone	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G (re-extraction)	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.43	ug/L	UJ
	B1-1-G (re-extraction)	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.43	ug/L	UJ

Table D-9

Calibration Verification Recoveries Outside of Acceptable Limits*K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
	B5-2-3.5 RB (re-extraction)	EPA 8270D	Indeno(1,2,3-cd)pyrene	High	--	--	--	--
	B5-2-3.5 RB (re-extraction)	EPA 8270D	4-Chloro-3-methylphenol	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-3.5 RB (re-extraction)	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-3.5 RB (re-extraction)	EPA 8270D	Isophorone	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-3.5 RB (re-extraction)	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.39	ug/L	UJ
	B5-2-3.5 RB (re-extraction)	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.39	ug/L	UJ
580-48155-1	MW1-2-031915	EPA 8260C	Vinyl chloride	High	--	--	--	--
	MW1-2-031915	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	MW1-2-031915	EPA 8260C	Bromomethane	High	--	--	--	--
	MW1-2-031915	EPA 8260C	Chloroethane	--	<RRF limit	<0.5	ug/L	UJ
	MW1-2-031915	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.5	ug/L	UJ
	TB-031915-02	EPA 8260C	Vinyl chloride	High	--	--	--	--
	TB-031915-02	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	TB-031915-02	EPA 8260C	Bromomethane	High	--	--	--	--
	TB-031915-02	EPA 8260C	Chloroethane	--	<RRF limit	<0.5	ug/L	UJ
	TB-031915-02	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.5	ug/L	UJ
580-48155-1	MW1-2-031915	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.41	ug/L	UJ
	MW1-2-031915	EPA 8270D	Isophorone	--	<RRF limit	<0.41	ug/L	UJ
	MW1-2-031915	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.41	ug/L	UJ
	HA1-1-4.5	EPA 8270D	Indeno(1,2,3-cd)pyrene	High	--	--	--	--
	HA7-1-1.5	EPA 8270D	Indeno(1,2,3-cd)pyrene	High	--	--	--	--
	SS7-1-0.5	EPA 8270D	Indeno(1,2,3-cd)pyrene	High	--	--	--	--
	HA1-1-4.5	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<130	ug/kg	UJ
	HA1-1-4.5	EPA 8270D	Isophorone	--	<RRF limit	<130	ug/kg	UJ

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Calibration Verification Recoveries Outside of Acceptable Limits

K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
580-48155-1	HA1-1-4.5	EPA 8270D	Nitrobenzene	--	<RRF limit	<130	ug/kg	UJ
	HA1-1-4.5	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<130	ug/kg	UJ
	HA7-1-1.5	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<120	ug/kg	UJ
	HA7-1-1.5	EPA 8270D	Isophorone	--	<RRF limit	<120	ug/kg	UJ
	HA7-1-1.5	EPA 8270D	Nitrobenzene	--	<RRF limit	<120	ug/kg	UJ
	HA7-1-1.5	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<120	ug/kg	UJ
	SS7-1-0.5	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<110	ug/kg	UJ
	SS7-1-0.5	EPA 8270D	Isophorone	--	<RRF limit	<110	ug/kg	UJ
	SS7-1-0.5	EPA 8270D	Nitrobenzene	--	<RRF limit	<110	ug/kg	UJ
580-48243-1	SS7-1-0.5	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<110	ug/kg	UJ
	B4-1-9	EPA 8260C	Chloromethane	Low	--	<0.78	ug/kg	UJ
	B4-1-9	EPA 8260C	Chloroethane	--	<RRF limit	<1.6	ug/kg	UJ
	TB-031815-01	EPA 8260C	Chloromethane	Low	--	<1.0	ug/kg	UJ
580-48243-1	TB-031815-01	EPA 8260C	Chloroethane	--	<RRF limit	<2.0	ug/kg	UJ
	B4-1-9	EPA 8270D	4,6-Dinitro-2-methylphenol	High	--	--	--	--
580-48257-1	B4-1-9	EPA 8270D	2,4-Dinitrophenol	High	--	--	--	--
	MW1-1-032015	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW1-1-032015	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	MW1-1-032015	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	MW1-1-032015RB	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW1-1-032015RB	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	MW1-1-032015RB	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	MW3-1-032015	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW3-1-032015	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	MW3-1-032015	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	TB-032015-01	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	TB-032015-01	EPA 8260C	trans-1,3-Dichloropropene	High	--	--	--	--
	TB-032015-01	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	MW1-1-032015	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.41	ug/L	UJ
	MW1-1-032015	EPA 8270D	Isophorone	--	<RRF limit	<0.41	ug/L	UJ

Table D-9

Calibration Verification Recoveries Outside of Acceptable Limits*K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
580-48257-1	MW1-1-032015	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.41	ug/L	UJ
	MW1-1-032015RB	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.42	ug/L	UJ
	MW1-1-032015RB	EPA 8270D	Isophorone	--	<RRF limit	<0.42	ug/L	UJ
	MW1-1-032015RB	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.42	ug/L	UJ
	MW3-1-032015	EPA 8270D	Bis(2-chloroethoxy)methane	--	<RRF limit	<0.38	ug/L	UJ
	MW3-1-032015	EPA 8270D	Isophorone	--	<RRF limit	<0.38	ug/L	UJ
	MW3-1-032015	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.38	ug/L	UJ
	MW3-2-032315	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW3-2-032315	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	MW3-2-032315	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	MW3-2-032315	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	MW3-2-032315	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	MW3-2-032315	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	MW3-2-032315	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	MW3-2-032315	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	MW3-2-032315	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	MW3-2-032315	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	MW5-1-032315	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW5-1-032315	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	MW5-1-032315	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	MW5-1-032315	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	MW5-1-032315	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	MW5-1-032315	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	MW5-1-032315	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	MW5-1-032315	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	MW5-1-032315	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	MW5-1-032315	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	MW2-1-032315	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW2-1-032315	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	MW2-1-032315	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ

Table D-9

*Calibration Verification Recoveries Outside of Acceptable Limits**K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
580-48349-1	MW2-1-032315	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	MW2-1-032315	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	MW2-1-032315	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	MW2-1-032315	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	MW2-1-032315	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	MW2-1-032315	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	MW2-1-032315	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	DUP-032315-01	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	DUP-032315-01	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	DUP-032315-01	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	DUP-032315-01	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	DUP-032315-01	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	DUP-032315-01	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	DUP-032315-01	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	DUP-032315-01	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	DUP-032315-01	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	DUP-032315-01	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	DUP-032315-02	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	DUP-032315-02	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	DUP-032315-02	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	DUP-032315-02	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	DUP-032315-02	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	DUP-032315-02	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	DUP-032315-02	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	DUP-032315-02	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	DUP-032315-02	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	DUP-032315-02	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	MW6-1-032315	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW6-1-032315	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	MW6-1-032315	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ

Table D-9

*Calibration Verification Recoveries Outside of Acceptable Limits**K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
	MW6-1-032315	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	MW6-1-032315	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	MW6-1-032315	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	MW6-1-032315	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	MW6-1-032315	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	MW6-1-032315	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	MW6-1-032315	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	FB-032315-01	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	FB-032315-01	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	FB-032315-01	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	FB-032315-01	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	FB-032315-01	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	FB-032315-01	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	FB-032315-01	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	FB-032315-01	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	FB-032315-01	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	FB-032315-01	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	MW4-1-032315	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW4-1-032315	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	MW4-1-032315	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ
	MW4-1-032315	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	MW4-1-032315	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	MW4-1-032315	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	MW4-1-032315	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	MW4-1-032315	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	MW4-1-032315	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	MW4-1-032315	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
	MW7-1-032315	EPA 8260C	Chloroethane	--	<RRF limit	<0.50	ug/L	UJ
	MW7-1-032315	EPA 8260C	1,2,4-Trichlorobenzene	Low	--	<0.20	ug/L	UJ
	MW7-1-032315	EPA 8260C	1,2,3-Trichlorobenzene	Low	--	<0.50	ug/L	UJ

Table D-9

*Calibration Verification Recoveries Outside of Acceptable Limits**K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier
	MW7-1-032315	EPA 8260C	4-Isopropyltoluene	Low	--	<0.30	ug/L	UJ
	MW7-1-032315	EPA 8260C	Naphthalene	Low	--	<0.50	ug/L	UJ
	MW7-1-032315	EPA 8260C	Dichlorodifluoromethane	Low	--	<0.40	ug/L	UJ
	MW7-1-032315	EPA 8260C	Tetrachloroethene	Low	--	<0.50	ug/L	UJ
	MW7-1-032315	EPA 8260C	Trichlorofluoromethane	Low	--	<0.50	ug/L	UJ
	MW7-1-032315	EPA 8260C	1,4-Dichlorobenzene	Low	--	<0.30	ug/L	UJ
	MW7-1-032315	EPA 8260C	Hexachlorobutadiene	Low	--	<0.50	ug/L	UJ
580-50545-1	MW6-1-060415	EPA 8270D	bis(2-chloroethoxy)ether	--	<RRF limit	<0.38	ug/L	UJ
	MW6-1-060415	EPA 8270D	Isophorone	--	<RRF limit	<0.38	ug/L	UJ
	MW6-1-060415	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.38	ug/L	UJ
	MW6-1-060415	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.38	ug/L	UJ
	MW5-1-060415	EPA 8270D	bis(2-chloroethoxy)ether	--	<RRF limit	<0.38	ug/L	UJ
	MW5-1-060415	EPA 8270D	Isophorone	--	<RRF limit	<0.38	ug/L	UJ
	MW5-1-060415	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.38	ug/L	UJ
	MW5-1-060415	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.38	ug/L	UJ
	MW2-1-060415	EPA 8270D	bis(2-chloroethoxy)ether	--	<RRF limit	<0.41	ug/L	UJ
	MW2-1-060415	EPA 8270D	Isophorone	--	<RRF limit	<0.41	ug/L	UJ
	MW2-1-060415	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.41	ug/L	UJ
	MW2-1-060415	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.41	ug/L	UJ
	MW3-2-060415	EPA 8270D	bis(2-chloroethoxy)ether	--	<RRF limit	<0.41	ug/L	UJ
	MW3-2-060415	EPA 8270D	Isophorone	--	<RRF limit	<0.41	ug/L	UJ
	MW3-2-060415	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.41	ug/L	UJ
	MW3-2-060415	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.41	ug/L	UJ
	MW7-1-060415	EPA 8270D	bis(2-chloroethoxy)ether	--	<RRF limit	<0.41	ug/L	UJ
	MW7-1-060415	EPA 8270D	Isophorone	--	<RRF limit	<0.41	ug/L	UJ
	MW7-1-060415	EPA 8270D	Nitrobenzene	--	<RRF limit	<0.41	ug/L	UJ
	MW7-1-060415	EPA 8270D	N-Nitrosodi-n-propylamine	--	<RRF limit	<0.41	ug/L	UJ
AGQ5	B4-4-3	EPA 8260C	Acetone	High	--	19	ug/kg	J+
	B4-5-3	EPA 8260C	Acetone	High	--	12	ug/kg	J+

Table D-9

Calibration Verification Recoveries Outside of Acceptable Limits*K2 Facility, Vashon, Washington*

Lab Report Number	Sample Identifier	Method	Compound	CCV Recovery	CCV RRF	Reported Concentration	Units	ERM Qualifier

Notes:

µg/L = Micrograms per liter

ug/kg = Micrograms per kilogram

CCV = Continuing calibration verification

High = CCV above maximum acceptable limit

Low = CCV below minimum acceptable limit

EPA = U.S. Environmental Protection Agency

J+ = Estimated detected result, biased high

RRF = Relative response factor

<RRF limit = Relative response factor less than lower limit

UJ = Not detected, estimated reporting limit

Table D-10
Suspect TPH Results
K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Compound	Reported Concentration	ERM Qualifier	Notes
580-47880-1	B2-1-G	#2 Diesel	0.21 mg/L	NJ	Elution pattern later than the typical diesel pattern
580-48106-1	B3-3-G	#2 Diesel	0.18 mg/L	NJ	Elution pattern later than the typical diesel pattern
	B5-2-G	#2 Diesel	0.13 mg/L	NJ	Elution pattern later than the typical diesel pattern
	B1-1-G	#2 Diesel	0.18 mg/L	NJ	Elution pattern later than the typical diesel pattern
580-48155-1	HA1-1-4.5	#2 Diesel	3,800 mg/kg	NJ	Elution pattern later than the typical diesel pattern
	HA1-1-4.5	Motor Oil	8,300 mg/kg	NJ	Does not match the typical motor oil pattern
	HA7-1-1.5	#2 Diesel	29 mg/kg	NJ	Elution pattern later than the typical diesel pattern
	HA7-1-1.5	Motor Oil	120 mg/kg	NJ	Does not match the typical motor oil pattern
	B4-1-G	#2 Diesel	0.34 mg/L	NJ	Elution pattern later than the typical diesel pattern
	MW1-2-031915	#2 Diesel	0.19 mg/L	NJ	Elution pattern later than the typical diesel pattern
580-48349-1	MW6-1-032315	#2 Diesel	0.23 mg/L	NJ	Elution pattern later than the typical diesel pattern
	MW7-1-032315	#2 Diesel	0.13 mg/L	NJ	Elution pattern later than the typical diesel pattern
	MW2-1-032315	#2 Diesel	0.36 mg/L	NJ	Elution pattern later than the typical diesel pattern

Notes:

µg/L = Micrograms per liter

D = Duplicate sample

mg/kg = Milligrams per kilogram

mg/L = Milligrams per liter

NJ = Estimated value - tentatively identified product, chromatogram did not resemble the standard hydrocarbon pattern

TPH = Total petroleum hydrocarbons

Table D-11
Calibration Range Exceedences
K2 Facility, Vashon, Washington

Lab Report Number	Sample Identifier	Compound	Reported Concentration	Laboratory Qualifier	ERM Qualifier	Notes
AHI5	MW4-6-060415	Trichloroethene	130 ug/L	ES	J	Sample underwent dilution. Use results from dilution.
AHJ0	MW4-3-060515	Trichloroethene	60 ug/L	E	J	Sample underwent dilution. Use results from dilution.
	MW4-5-060515	cis-1,2-Dichloroethene	110 ug/L	E	J	Sample underwent dilution. Use results from dilution.
	MW4-5-060515	Trichloroethene	310 ug/L	ES	J	Sample underwent dilution. Use results from dilution.

Notes:

µg/L = Micrograms per liter

E = Exceeded calibration range

ES = Exceeded calibration range and saturated the column

J = Estimated value

Memorandum

**Environmental
Resources
Management**

To: Mike Arnold

From: Sandra Mulhearn

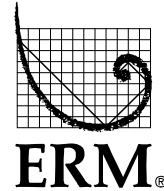
Date: 4 May 2015

Subject: Rejection of 8270D Detections of K2-Vashon,
Washington– March 2015

Project Number: 0266125.03

Data Package: TestAmerica Seattle Report 580-48349-1

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INTRODUCTION

Pentachlorophenol was detected in the original analysis of four samples from the sample batch reported in TestAmerica Seattle Report 580-48349-1: MW3-2-032315, MW5-1-032315, MW2-1-032315, and MW7-1-032315. While these samples were collected from new wells, they are scattered across different areas the site and pentachlorophenol has not been detected in the dozens of soil and groundwater samples recently collected from the areas around those wells. Further review of the data was conducted and is described below.

HOLDING TIMES

Following the initial analysis of the sample batch, each of the samples was re-extracted nine days outside of the 7-day recommended holding time from collection to extraction. The re-extraction was performed for this sample batch because of multiple outliers above the marginal exceedance limits in the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses. The analytical results for the re-extracted samples did not confirm the original detections. Due to the exceedance of the holding time by greater than twice the 7-day limit, the re-extracted data is not acceptable for use as quantitative data (for example, to confirm site characterization conditions) and should only be used to qualitatively to confirm the original results from the sample batch.

BLANK EVALUATION

Target analytes were not detected in the field blank sample. Diethyl phthalate was detected above the reporting limit in the laboratory blank sample. A similar concentration was detected in sample MW7-1-032315.

BLANK SPIKE EVALUATION

The LCS/LCSD recoveries were outside the laboratory's limits of acceptance for 4-chloroaniline, hexachlorocyclopentadiene, 2-chlorophenol, 2-methylphenol, 3&4-methylphenol, 4-chloro-3-methylphenol, acenaphthene, acenaphthylene, carbazole, dimethylphthalate, fluorene, isophorone, naphthalene, n-nitrosodi-n-propylamine, phenanthrene, phenol, and pyrene. The relative percent difference (RPD) between the LCS and LCSD was greater than the limit of 20% for 43 analytes. The LCS recoveries indicate unacceptable laboratory accuracy and precision. The laboratory re-extracted each sample in the batch and achieved acceptable recoveries for most compounds. However, bis(2-ethylhexyl)phthalate had a 1,085% recovery in the LCS. Given that it is a common laboratory contaminant, this result indicates contamination of the LCS.

MATRIX SPIKE EVALUATION

The matrix spike (MS)/matrix spike duplicate (MSD) analyses were performed on sample MW7-1-032315. There were numerous recovery outliers and, similar to the LCS and LCSD, there was a large number of RPD results out of acceptable range showing a significant difference between the MS and MSD results. While these results may indicate matrix effects, the significant disparity between the MS and MSD is unusual for aqueous samples and given the disparity in the LCS/LCSD results the differences are likely analytical in nature. No MS/MSD was included in the re-extracted sample batch.

SURROGATE SPIKE EVALUATION

For the original analysis, the surrogate recoveries were outside acceptable limits for four samples, the method blank, and the MSD. In the re-extraction, no surrogate recoveries were outside acceptable limits.

FIELD DUPLICATE EVALUATION

A duplicate sample is a second aliquot of a sample that is prepared and analyzed in the same manner as the original sample. A duplicate sample analysis is performed to measure the precision of the method and to assess possible matrix heterogeneity. Two field duplicates were submitted for analysis. Pentachlorophenol was detected in sample MW-5-1-032315 but not in the duplicate, DUP-032315-01. However, the detection was near the reporting limit and the RPD between the positive result and the reporting limit was less than 50%.

CONTINUING CALIBRATIONS

In the original analysis, the laboratory identified that the continuing calibration verification (CCV) was recovered at a concentration greater than the upper control limit for three compounds: 2,4-dinitrophenol, diethyl phthalate, and 4,6-dinitro-2-methylphenol.

CHROMATOGRAM REVIEW

Due to the significant analytical issues identified, the chromatograms were requested for both the original and re-extracted run. In the original run, several analytes were tentatively identified in each sample. While the majority of the analytes were not confirmed present, the same analytes were repeatedly tentatively identified in almost all of the samples in the batch, including the field blank. No mass spectra for tentatively identified analytes were provided for the re-extracted run.

OVERALL ASSESSMENT

Due to the additive nature of the analytical problems identified above it is believed that the detected compounds may have been introduced into the samples at the laboratory. None of the detections were confirmed in the re-extraction, while the polycyclic aromatic hydrocarbons detected in the original 8270SIM analysis were confirmed in the 8270SIM re-extractions. Additionally, the original 8270D analysis of sample MW-7-1-032315 showed detections of chrysene, fluoranthene, and pyrene. These analytes were also included on the 8270SIM analyte list, but found to be not detected. The following detections are considered rejected and the data unreliable.

Sample	Analyte	Concentration (ug/L) and Flag
MW-3-2-032315	Pentachlorophenol	2.4 R
MW-5-1-032315	Pentachlorophenol	0.83 R
MW-2-1-032315	Pentachlorophenol	1.5 R
MW6-1-032315	Benzoic Acid	6.7 R
MW-7-1-032315	4-Chloro-3-methylphenol	1.2 R
MW-7-1-032315	Butyl benzyl phthalate	0.61 R
MW-7-1-032315	Chrysene	0.074 R
MW-7-1-032315	Diethyl phthalate	0.48 R
MW-7-1-032315	Dimethyl phthalate	1.5 R
MW-7-1-032315	Fluoranthene	0.082 R
MW-7-1-032315	Pentachlorophenol	4.0 R

Sample	Analyte	Concentration (ug/L) and Flag
MW-7-1-032315	Phenol	0.89 R
MW-7-1-032315	Pyrene	0.10 R

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-47880-1

Client Project/Site: K2 Facility Site Characterization

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine

David Burk

Authorized for release by:
3/25/2015 4:41:10 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Job ID: 580-47880-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/11/2015 5:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

Except:

The chain of custody requests 8081 analysis on sample B2-1-G (580-47880-4) but no appropriate (unpreserved, amber) containers were received .

GC/MS VOA

Method(s) 5035: Not enough sample for MS/MSD

B2-1-5 (580-47880-2), TB-031115-01 (580-47880-1)

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184373 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane, Chloromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 184373 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184350 recovered above the upper control limit for sec-Butylbenzene, Styrene, 1,3,5-Trimethylbenzene, tert-Butylbenzene, Isopropylbenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-184350/2).

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 184350 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated. A low level standard below the reporting limit was analyzed and the target analyte was observed.

Method(s) 8260C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 184350 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260C: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for batch 184350 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: In analysis batch 184943, the %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184908 recovered outside control limits for the following analytes: DRO (C10-C24). The %recoveries of the affected analyte in the LCS and LCSD were within acceptance limits; therefore, the data have been qualified and reported.

Method(s) NWTPH-Dx: In analysis batch 184943, the following sample from preparation batch 184908 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: B2-1-G (580-47880-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Job ID: 580-47880-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) Moisture: The sample duplicate (DUP) precision for 184293 was outside control limits: (580-47779-1 DU), 27-FA1129-Y1-1-4 (580-47779-1). Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West

TestAmerica Job ID: 580-47880-1

Project/Site: K2 Facility Site Characterization

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
Y	The chromatographic response resembles a typical fuel pattern.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: TB-031115-01

Lab Sample ID: 580-47880-1

Date Collected: 03/11/15 09:00

Matrix: Solid

Date Received: 03/11/15 17:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Benzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Bromobenzene	ND		10		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Bromochloromethane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Bromodichloromethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Bromoform	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Bromomethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Chlorobenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Chloroethane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Chloroform	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Chloromethane	ND	^	1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Dibromochloromethane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Dibromomethane	ND		1.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Dichlorodifluoromethane	ND	^	2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Ethylbenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Isopropylbenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Methylene Chloride	ND		15		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Naphthalene	ND		10		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
n-Butylbenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
N-Propylbenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: TB-031115-01

Lab Sample ID: 580-47880-1

Date Collected: 03/11/15 09:00

Matrix: Solid

Date Received: 03/11/15 17:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
sec-Butylbenzene	ND	^	2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Styrene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
t-Butylbenzene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Tetrachloroethene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Toluene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Trichloroethene	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1
Vinyl chloride	ND		2.0		ug/Kg		03/11/15 17:25	03/13/15 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		71 - 136	03/11/15 17:25	03/13/15 16:30	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/11/15 17:25	03/13/15 16:30	1
Dibromofluoromethane (Surr)	93		75 - 132	03/11/15 17:25	03/13/15 16:30	1
Toluene-d8 (Surr)	106		80 - 120	03/11/15 17:25	03/13/15 16:30	1
Trifluorotoluene (Surr)	103		65 - 140	03/11/15 17:25	03/13/15 16:30	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/16/15 11:58	03/16/15 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150	03/16/15 11:58	03/16/15 17:42	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: B2-1-5

Lab Sample ID: 580-47880-2

Date Collected: 03/11/15 09:07

Matrix: Solid

Date Received: 03/11/15 17:05

Percent Solids: 81.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,1,1-Trichloroethane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,1,2,2-Tetrachloroethane	ND		3.7		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,1,2-Trichloroethane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,1-Dichloroethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,1-Dichloroethene	ND		4.6		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,1-Dichloropropene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2,3-Trichlorobenzene	ND		2.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2,3-Trichloropropane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2,4-Trichlorobenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2,4-Trimethylbenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2-Dibromo-3-Chloropropane	ND		9.2		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2-Dibromoethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2-Dichloroethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,2-Dichloropropane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,3,5-Trimethylbenzene	ND		4.6		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,3-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,3-Dichloropropane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
1,4-Dichlorobenzene	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
2,2-Dichloropropane	ND		4.6		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
2-Chlorotoluene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
4-Chlorotoluene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
4-Isopropyltoluene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Benzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Bromobenzene	ND		9.2		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Bromochloromethane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Bromodichloromethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Bromoform	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Bromomethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Carbon tetrachloride	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Chlorobenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Chloroethane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Chloroform	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Chloromethane	ND	^	0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
cis-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
cis-1,3-Dichloropropene	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Dibromochloromethane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Dibromomethane	ND		0.92		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Dichlorodifluoromethane	ND	^	1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Ethylbenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Hexachlorobutadiene	ND		2.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Isopropylbenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Methyl tert-butyl ether	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Methylene Chloride	ND		14		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
m-Xylene & p-Xylene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Naphthalene	ND		9.2		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
n-Butylbenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
N-Propylbenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: B2-1-5

Lab Sample ID: 580-47880-2

Date Collected: 03/11/15 09:07

Matrix: Solid

Date Received: 03/11/15 17:05

Percent Solids: 81.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
sec-Butylbenzene	ND	^	1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Styrene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
t-Butylbenzene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Tetrachloroethene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Toluene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
trans-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
trans-1,3-Dichloropropene	ND		9.2		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Trichloroethene	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Trichlorofluoromethane	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1
Vinyl chloride	ND		1.8		ug/Kg	☼	03/11/15 17:25	03/13/15 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 136	03/11/15 17:25	03/13/15 16:57	1
4-Bromofluorobenzene (Surr)	97		70 - 120	03/11/15 17:25	03/13/15 16:57	1
Dibromofluoromethane (Surr)	97		75 - 132	03/11/15 17:25	03/13/15 16:57	1
Toluene-d8 (Surr)	105		80 - 120	03/11/15 17:25	03/13/15 16:57	1
Trifluorotoluene (Surr)	102		65 - 140	03/11/15 17:25	03/13/15 16:57	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.6		mg/Kg	☼	03/16/15 11:58	03/16/15 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150	03/16/15 11:58	03/16/15 18:15	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
4,4'-DDE	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
4,4'-DDT	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Aldrin	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
alpha-BHC	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
beta-BHC	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
delta-BHC	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Dieldrin	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Endosulfan I	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Endosulfan II	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Endrin	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Endrin ketone	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Heptachlor	ND		2.3		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Heptachlor epoxide	ND		1.2		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Methoxychlor	ND		12		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1
Toxaphene	ND		120		ug/Kg	☼	03/20/15 10:53	03/23/15 15:16	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: B2-1-5

Lab Sample ID: 580-47880-2

Date Collected: 03/11/15 09:07

Matrix: Solid

Date Received: 03/11/15 17:05

Percent Solids: 81.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	72		60 - 128	03/20/15 10:53	03/23/15 15:16	1
Tetrachloro-m-xylene	47		35 - 129	03/20/15 10:53	03/23/15 15:16	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		29		mg/Kg	☼	03/12/15 14:12	03/12/15 19:44	1
Motor Oil (>C24-C36)	ND		59		mg/Kg	☼	03/12/15 14:12	03/12/15 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	70		50 - 150	03/12/15 14:12	03/12/15 19:44	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Arsenic	3.6		0.49		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Beryllium	0.23		0.20		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Cadmium	ND		0.20		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Chromium	30		0.49		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Copper	12		0.39		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Lead	2.7		0.49		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Nickel	50		0.49		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Selenium	ND		0.98		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Silver	ND		0.20		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Thallium	ND		0.39		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10
Zinc	34		4.9		mg/Kg	☼	03/13/15 15:39	03/16/15 09:27	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.034		0.018		mg/Kg	☼	03/12/15 13:06	03/12/15 15:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			03/12/15 16:58	1
Percent Moisture	18		0.10		%			03/12/15 16:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: TB-031115-02

Lab Sample ID: 580-47880-3

Date Collected: 03/11/15 09:15

Matrix: Water

Date Received: 03/11/15 17:05

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/13/15 13:59	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/13/15 13:59	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/13/15 13:59	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/13/15 13:59	1
1,1-Dichloroethane	ND		0.20		ug/L			03/13/15 13:59	1
1,1-Dichloroethene	ND		0.10		ug/L			03/13/15 13:59	1
1,1-Dichloropropene	ND		0.10		ug/L			03/13/15 13:59	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/13/15 13:59	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/13/15 13:59	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/13/15 13:59	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/13/15 13:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/13/15 13:59	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/13/15 13:59	1
1,2-Dichloroethane	ND		0.20		ug/L			03/13/15 13:59	1
1,2-Dichloropropane	ND		0.20		ug/L			03/13/15 13:59	1
1,3,5-Trimethylbenzene	ND	^	0.50		ug/L			03/13/15 13:59	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/13/15 13:59	1
1,3-Dichloropropane	ND		0.20		ug/L			03/13/15 13:59	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/13/15 13:59	1
2,2-Dichloropropane	ND		0.50		ug/L			03/13/15 13:59	1
2-Chlorotoluene	ND		0.50		ug/L			03/13/15 13:59	1
4-Chlorotoluene	ND		0.30		ug/L			03/13/15 13:59	1
4-Isopropyltoluene	ND		0.30		ug/L			03/13/15 13:59	1
Benzene	ND		0.20		ug/L			03/13/15 13:59	1
Bromobenzene	ND		0.20		ug/L			03/13/15 13:59	1
Bromoform	ND		0.50		ug/L			03/13/15 13:59	1
Bromomethane	ND		1.0		ug/L			03/13/15 13:59	1
Carbon tetrachloride	ND		0.20		ug/L			03/13/15 13:59	1
Chlorobenzene	ND		0.20		ug/L			03/13/15 13:59	1
Chlorobromomethane	ND		0.20		ug/L			03/13/15 13:59	1
Chlorodibromomethane	ND		0.20		ug/L			03/13/15 13:59	1
Chloroethane	ND		0.50		ug/L			03/13/15 13:59	1
Chloroform	ND		0.20		ug/L			03/13/15 13:59	1
Chloromethane	ND		0.30		ug/L			03/13/15 13:59	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/13/15 13:59	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/13/15 13:59	1
Dibromomethane	ND		0.20		ug/L			03/13/15 13:59	1
Dichlorobromomethane	ND		0.20		ug/L			03/13/15 13:59	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/13/15 13:59	1
Ethylbenzene	ND		0.20		ug/L			03/13/15 13:59	1
Ethylene Dibromide	ND		0.10		ug/L			03/13/15 13:59	1
Hexachlorobutadiene	ND		0.50		ug/L			03/13/15 13:59	1
Isopropylbenzene	ND	^	0.50		ug/L			03/13/15 13:59	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/13/15 13:59	1
Methylene Chloride	1.0		0.50		ug/L			03/13/15 13:59	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/13/15 13:59	1
Naphthalene	ND		0.50		ug/L			03/13/15 13:59	1
n-Butylbenzene	ND		0.50		ug/L			03/13/15 13:59	1
N-Propylbenzene	ND		0.20		ug/L			03/13/15 13:59	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: TB-031115-02

Lab Sample ID: 580-47880-3

Date Collected: 03/11/15 09:15

Matrix: Water

Date Received: 03/11/15 17:05

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/13/15 13:59	1
sec-Butylbenzene	ND	^	0.50		ug/L			03/13/15 13:59	1
Styrene	ND	^	0.50		ug/L			03/13/15 13:59	1
tert-Butylbenzene	ND	^	0.50		ug/L			03/13/15 13:59	1
Tetrachloroethene	ND		0.50		ug/L			03/13/15 13:59	1
Toluene	ND		0.20		ug/L			03/13/15 13:59	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/13/15 13:59	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/13/15 13:59	1
Trichloroethene	ND		0.20		ug/L			03/13/15 13:59	1
Trichlorofluoromethane	ND		0.50		ug/L			03/13/15 13:59	1
Vinyl chloride	ND		0.020		ug/L			03/13/15 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 128		03/13/15 13:59	1
4-Bromofluorobenzene (Surr)	98		75 - 120		03/13/15 13:59	1
Dibromofluoromethane (Surr)	96		85 - 115		03/13/15 13:59	1
Toluene-d8 (Surr)	102		75 - 125		03/13/15 13:59	1
Trifluorotoluene (Surr)	110		80 - 127		03/13/15 13:59	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/13/15 15:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		03/13/15 15:23	1
Trifluorotoluene (Surr)	107		50 - 150		03/13/15 15:23	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: B2-1-G

Lab Sample ID: 580-47880-4

Date Collected: 03/11/15 09:45

Matrix: Water

Date Received: 03/11/15 17:05

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/13/15 14:52	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/13/15 14:52	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/13/15 14:52	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/13/15 14:52	1
1,1-Dichloroethane	ND		0.20		ug/L			03/13/15 14:52	1
1,1-Dichloroethene	ND		0.10		ug/L			03/13/15 14:52	1
1,1-Dichloropropene	ND		0.10		ug/L			03/13/15 14:52	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/13/15 14:52	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/13/15 14:52	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/13/15 14:52	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/13/15 14:52	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/13/15 14:52	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/13/15 14:52	1
1,2-Dichloroethane	ND		0.20		ug/L			03/13/15 14:52	1
1,2-Dichloropropane	ND		0.20		ug/L			03/13/15 14:52	1
1,3,5-Trimethylbenzene	ND	^	0.50		ug/L			03/13/15 14:52	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/13/15 14:52	1
1,3-Dichloropropane	ND		0.20		ug/L			03/13/15 14:52	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/13/15 14:52	1
2,2-Dichloropropane	ND		0.50		ug/L			03/13/15 14:52	1
2-Chlorotoluene	ND		0.50		ug/L			03/13/15 14:52	1
4-Chlorotoluene	ND		0.30		ug/L			03/13/15 14:52	1
4-Isopropyltoluene	ND		0.30		ug/L			03/13/15 14:52	1
Benzene	ND		0.20		ug/L			03/13/15 14:52	1
Bromobenzene	ND		0.20		ug/L			03/13/15 14:52	1
Bromoform	ND		0.50		ug/L			03/13/15 14:52	1
Bromomethane	ND		1.0		ug/L			03/13/15 14:52	1
Carbon tetrachloride	ND		0.20		ug/L			03/13/15 14:52	1
Chlorobenzene	ND		0.20		ug/L			03/13/15 14:52	1
Chlorobromomethane	ND		0.20		ug/L			03/13/15 14:52	1
Chlorodibromomethane	ND		0.20		ug/L			03/13/15 14:52	1
Chloroethane	ND		0.50		ug/L			03/13/15 14:52	1
Chloroform	ND		0.20		ug/L			03/13/15 14:52	1
Chloromethane	ND		0.30		ug/L			03/13/15 14:52	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/13/15 14:52	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/13/15 14:52	1
Dibromomethane	ND		0.20		ug/L			03/13/15 14:52	1
Dichlorobromomethane	ND		0.20		ug/L			03/13/15 14:52	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/13/15 14:52	1
Ethylbenzene	ND		0.20		ug/L			03/13/15 14:52	1
Ethylene Dibromide	ND		0.10		ug/L			03/13/15 14:52	1
Hexachlorobutadiene	ND		0.50		ug/L			03/13/15 14:52	1
Isopropylbenzene	ND	^	0.50		ug/L			03/13/15 14:52	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/13/15 14:52	1
Methylene Chloride	ND		0.50		ug/L			03/13/15 14:52	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/13/15 14:52	1
Naphthalene	ND		0.50		ug/L			03/13/15 14:52	1
n-Butylbenzene	ND		0.50		ug/L			03/13/15 14:52	1
N-Propylbenzene	ND		0.20		ug/L			03/13/15 14:52	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: B2-1-G

Lab Sample ID: 580-47880-4

Date Collected: 03/11/15 09:45

Matrix: Water

Date Received: 03/11/15 17:05

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/13/15 14:52	1
sec-Butylbenzene	ND	^	0.50		ug/L			03/13/15 14:52	1
Styrene	ND	^	0.50		ug/L			03/13/15 14:52	1
tert-Butylbenzene	ND	^	0.50		ug/L			03/13/15 14:52	1
Tetrachloroethene	ND		0.50		ug/L			03/13/15 14:52	1
Toluene	ND		0.20		ug/L			03/13/15 14:52	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/13/15 14:52	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/13/15 14:52	1
Trichloroethene	ND		0.20		ug/L			03/13/15 14:52	1
Trichlorofluoromethane	ND		0.50		ug/L			03/13/15 14:52	1
Vinyl chloride	ND		0.020		ug/L			03/13/15 14:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 128		03/13/15 14:52	1
4-Bromofluorobenzene (Surr)	102		75 - 120		03/13/15 14:52	1
Dibromofluoromethane (Surr)	104		85 - 115		03/13/15 14:52	1
Toluene-d8 (Surr)	103		75 - 125		03/13/15 14:52	1
Trifluorotoluene (Surr)	105		80 - 127		03/13/15 14:52	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.21	* Y	0.13		mg/L		03/20/15 17:46	03/23/15 11:10	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/20/15 17:46	03/23/15 11:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	65		50 - 150	03/20/15 17:46	03/23/15 11:10	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 12:51	5
Arsenic	0.089		0.0050		mg/L		03/23/15 17:08	03/24/15 12:51	5
Beryllium	0.0042		0.0020		mg/L		03/23/15 17:08	03/24/15 12:51	5
Cadmium	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 12:51	5
Chromium	0.65		0.0020		mg/L		03/23/15 17:08	03/24/15 12:51	5
Copper	0.31		0.010		mg/L		03/23/15 17:08	03/24/15 12:51	5
Lead	0.062		0.0020		mg/L		03/23/15 17:08	03/24/15 12:51	5
Nickel	0.93		0.015		mg/L		03/23/15 17:08	03/24/15 12:51	5
Selenium	0.019		0.0050		mg/L		03/23/15 17:08	03/24/15 12:51	5
Silver	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 12:51	5
Thallium	ND		0.0050		mg/L		03/23/15 17:08	03/24/15 12:51	5
Zinc	0.62		0.035		mg/L		03/23/15 17:08	03/24/15 12:51	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0014		0.00020		mg/L		03/19/15 18:23	03/20/15 08:42	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184350/5

Matrix: Water

Analysis Batch: 184350

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/13/15 11:48	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/13/15 11:48	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/13/15 11:48	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/13/15 11:48	1
1,1-Dichloroethane	ND		0.20		ug/L			03/13/15 11:48	1
1,1-Dichloroethene	ND		0.10		ug/L			03/13/15 11:48	1
1,1-Dichloropropene	ND		0.10		ug/L			03/13/15 11:48	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/13/15 11:48	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/13/15 11:48	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/13/15 11:48	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/13/15 11:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/13/15 11:48	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/13/15 11:48	1
1,2-Dichloroethane	ND		0.20		ug/L			03/13/15 11:48	1
1,2-Dichloropropane	ND		0.20		ug/L			03/13/15 11:48	1
1,3,5-Trimethylbenzene	ND	^	0.50		ug/L			03/13/15 11:48	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/13/15 11:48	1
1,3-Dichloropropane	ND		0.20		ug/L			03/13/15 11:48	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/13/15 11:48	1
2,2-Dichloropropane	ND		0.50		ug/L			03/13/15 11:48	1
2-Chlorotoluene	ND		0.50		ug/L			03/13/15 11:48	1
4-Chlorotoluene	ND		0.30		ug/L			03/13/15 11:48	1
4-Isopropyltoluene	ND		0.30		ug/L			03/13/15 11:48	1
Benzene	ND		0.20		ug/L			03/13/15 11:48	1
Bromobenzene	ND		0.20		ug/L			03/13/15 11:48	1
Bromoform	ND		0.50		ug/L			03/13/15 11:48	1
Bromomethane	ND		1.0		ug/L			03/13/15 11:48	1
Carbon tetrachloride	ND		0.20		ug/L			03/13/15 11:48	1
Chlorobenzene	ND		0.20		ug/L			03/13/15 11:48	1
Chlorobromomethane	ND		0.20		ug/L			03/13/15 11:48	1
Chlorodibromomethane	ND		0.20		ug/L			03/13/15 11:48	1
Chloroethane	ND		0.50		ug/L			03/13/15 11:48	1
Chloroform	ND		0.20		ug/L			03/13/15 11:48	1
Chloromethane	ND		0.30		ug/L			03/13/15 11:48	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/13/15 11:48	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/13/15 11:48	1
Dibromomethane	ND		0.20		ug/L			03/13/15 11:48	1
Dichlorobromomethane	ND		0.20		ug/L			03/13/15 11:48	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/13/15 11:48	1
Ethylbenzene	ND		0.20		ug/L			03/13/15 11:48	1
Ethylene Dibromide	ND		0.10		ug/L			03/13/15 11:48	1
Hexachlorobutadiene	ND		0.50		ug/L			03/13/15 11:48	1
Isopropylbenzene	ND	^	0.50		ug/L			03/13/15 11:48	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/13/15 11:48	1
Methylene Chloride	ND		0.50		ug/L			03/13/15 11:48	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/13/15 11:48	1
Naphthalene	ND		0.50		ug/L			03/13/15 11:48	1
n-Butylbenzene	ND		0.50		ug/L			03/13/15 11:48	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184350/5

Matrix: Water

Analysis Batch: 184350

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/13/15 11:48	1
o-Xylene	ND		0.50		ug/L			03/13/15 11:48	1
sec-Butylbenzene	ND	^	0.50		ug/L			03/13/15 11:48	1
Styrene	ND	^	0.50		ug/L			03/13/15 11:48	1
tert-Butylbenzene	ND	^	0.50		ug/L			03/13/15 11:48	1
Tetrachloroethene	ND		0.50		ug/L			03/13/15 11:48	1
Toluene	ND		0.20		ug/L			03/13/15 11:48	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/13/15 11:48	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/13/15 11:48	1
Trichloroethene	ND		0.20		ug/L			03/13/15 11:48	1
Trichlorofluoromethane	ND		0.50		ug/L			03/13/15 11:48	1
Vinyl chloride	ND		0.020		ug/L			03/13/15 11:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 128		03/13/15 11:48	1
4-Bromofluorobenzene (Surr)	99		75 - 120		03/13/15 11:48	1
Dibromofluoromethane (Surr)	97		85 - 115		03/13/15 11:48	1
Toluene-d8 (Surr)	103		75 - 125		03/13/15 11:48	1
Trifluorotoluene (Surr)	110		80 - 127		03/13/15 11:48	1

Lab Sample ID: LCS 580-184350/6

Matrix: Water

Analysis Batch: 184350

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.30		ug/L		106	75 - 125
1,1,1-Trichloroethane	5.00	5.28		ug/L		106	80 - 140
1,1,2,2-Tetrachloroethane	5.00	4.95		ug/L		99	75 - 125
1,1,2-Trichloroethane	5.00	5.04		ug/L		101	80 - 130
1,1-Dichloroethane	5.00	5.10		ug/L		102	75 - 135
1,1-Dichloroethene	5.00	4.43		ug/L		89	70 - 150
1,1-Dichloropropene	5.00	5.72		ug/L		114	80 - 130
1,2,3-Trichlorobenzene	5.00	4.17		ug/L		83	60 - 125
1,2,3-Trichloropropane	5.00	5.51		ug/L		110	75 - 120
1,2,4-Trichlorobenzene	5.00	4.70		ug/L		94	60 - 125
1,2,4-Trimethylbenzene	5.00	5.68		ug/L		114	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	4.91		ug/L		98	55 - 120
1,2-Dichlorobenzene	5.00	5.15		ug/L		103	80 - 130
1,2-Dichloroethane	5.00	5.04		ug/L		101	80 - 140
1,2-Dichloropropane	5.00	5.23		ug/L		105	80 - 120
1,3,5-Trimethylbenzene	5.00	5.93	^	ug/L		119	80 - 125
1,3-Dichlorobenzene	5.00	5.19		ug/L		104	80 - 120
1,3-Dichloropropane	5.00	5.05		ug/L		101	80 - 130
1,4-Dichlorobenzene	5.00	5.06		ug/L		101	80 - 120
2,2-Dichloropropane	5.00	5.42		ug/L		108	60 - 150
2-Chlorotoluene	5.00	5.60		ug/L		112	75 - 130
4-Chlorotoluene	5.00	5.64		ug/L		113	75 - 130
4-Isopropyltoluene	5.00	5.28		ug/L		106	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184350/6

Matrix: Water

Analysis Batch: 184350

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.07		ug/L		101	80 - 120
Bromobenzene	5.00	5.32		ug/L		106	80 - 130
Bromoform	5.00	4.69		ug/L		94	65 - 130
Bromomethane	5.00	5.27		ug/L		105	70 - 135
Carbon tetrachloride	5.00	5.42		ug/L		108	75 - 140
Chlorobenzene	5.00	5.00		ug/L		100	80 - 120
Chlorobromomethane	5.00	5.14		ug/L		103	80 - 125
Chlorodibromomethane	5.00	5.44		ug/L		109	70 - 120
Chloroethane	5.00	4.80		ug/L		96	75 - 140
Chloroform	5.00	4.91		ug/L		98	80 - 130
Chloromethane	5.00	4.25		ug/L		85	50 - 140
cis-1,2-Dichloroethene	5.00	4.93		ug/L		99	80 - 130
cis-1,3-Dichloropropene	5.00	5.88		ug/L		118	70 - 120
Dibromomethane	5.00	5.18		ug/L		104	80 - 130
Dichlorobromomethane	5.00	5.33		ug/L		107	80 - 125
Dichlorodifluoromethane	5.00	3.59		ug/L		72	30 - 180
Ethylbenzene	5.00	5.30		ug/L		106	80 - 125
Ethylene Dibromide	5.00	5.21		ug/L		104	70 - 130
Hexachlorobutadiene	5.00	4.88		ug/L		98	75 - 135
Isopropylbenzene	5.00	5.91	^	ug/L		118	75 - 120
Methyl tert-butyl ether	5.00	5.31		ug/L		106	75 - 120
Methylene Chloride	5.00	4.74		ug/L		95	60 - 145
m-Xylene & p-Xylene	5.00	5.44		ug/L		109	80 - 130
Naphthalene	5.00	4.71		ug/L		94	45 - 130
n-Butylbenzene	5.00	5.44		ug/L		109	75 - 125
N-Propylbenzene	5.00	5.74		ug/L		115	80 - 120
o-Xylene	5.00	5.64		ug/L		113	80 - 120
sec-Butylbenzene	5.00	6.04	^	ug/L		121	80 - 125
Styrene	5.00	5.65	^	ug/L		113	75 - 130
tert-Butylbenzene	5.00	6.08	^	ug/L		122	80 - 130
Tetrachloroethene	5.00	7.53		ug/L		151	40 - 180
Toluene	5.00	5.18		ug/L		104	80 - 120
trans-1,2-Dichloroethene	5.00	5.02		ug/L		100	80 - 140
trans-1,3-Dichloropropene	5.00	6.32		ug/L		126	60 - 140
Trichloroethene	5.00	5.28		ug/L		106	80 - 130
Trichlorofluoromethane	5.00	4.83		ug/L		97	30 - 180
Vinyl chloride	5.00	5.05		ug/L		101	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 128
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	99		85 - 115
Toluene-d8 (Surr)	101		75 - 125
Trifluorotoluene (Surr)	104		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184350/7

Matrix: Water

Analysis Batch: 184350

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.12		ug/L		102	75 - 125	3	20
1,1,1-Trichloroethane	5.00	4.83		ug/L		97	80 - 140	9	20
1,1,2,2-Tetrachloroethane	5.00	5.14		ug/L		103	75 - 125	4	20
1,1,2-Trichloroethane	5.00	5.42		ug/L		108	80 - 130	7	20
1,1-Dichloroethane	5.00	4.88		ug/L		98	75 - 135	4	20
1,1-Dichloroethene	5.00	4.35		ug/L		87	70 - 150	2	20
1,1-Dichloropropene	5.00	5.49		ug/L		110	80 - 130	4	20
1,2,3-Trichlorobenzene	5.00	4.63		ug/L		93	60 - 125	11	20
1,2,3-Trichloropropane	5.00	5.75		ug/L		115	75 - 120	4	20
1,2,4-Trichlorobenzene	5.00	5.07		ug/L		101	60 - 125	8	20
1,2,4-Trimethylbenzene	5.00	5.60		ug/L		112	80 - 125	1	20
1,2-Dibromo-3-Chloropropane	5.00	5.57		ug/L		111	55 - 120	13	20
1,2-Dichlorobenzene	5.00	5.19		ug/L		104	80 - 130	1	20
1,2-Dichloroethane	5.00	4.96		ug/L		99	80 - 140	2	20
1,2-Dichloropropane	5.00	5.21		ug/L		104	80 - 120	0	20
1,3,5-Trimethylbenzene	5.00	5.70	^	ug/L		114	80 - 125	4	20
1,3-Dichlorobenzene	5.00	5.04		ug/L		101	80 - 120	3	20
1,3-Dichloropropane	5.00	5.24		ug/L		105	80 - 130	4	20
1,4-Dichlorobenzene	5.00	5.05		ug/L		101	80 - 120	0	20
2,2-Dichloropropane	5.00	4.79		ug/L		96	60 - 150	12	20
2-Chlorotoluene	5.00	5.47		ug/L		109	75 - 130	2	20
4-Chlorotoluene	5.00	5.43		ug/L		109	75 - 130	4	20
4-Isopropyltoluene	5.00	5.11		ug/L		102	80 - 120	3	20
Benzene	5.00	4.93		ug/L		99	80 - 120	3	20
Bromobenzene	5.00	5.26		ug/L		105	80 - 130	1	20
Bromoform	5.00	4.76		ug/L		95	65 - 130	1	20
Bromomethane	5.00	4.90		ug/L		98	70 - 135	7	20
Carbon tetrachloride	5.00	4.99		ug/L		100	75 - 140	8	20
Chlorobenzene	5.00	4.95		ug/L		99	80 - 120	1	20
Chlorobromomethane	5.00	5.00		ug/L		100	80 - 125	3	20
Chlorodibromomethane	5.00	5.60		ug/L		112	70 - 120	3	20
Chloroethane	5.00	4.65		ug/L		93	75 - 140	3	20
Chloroform	5.00	4.67		ug/L		93	80 - 130	5	20
Chloromethane	5.00	4.02		ug/L		80	50 - 140	5	20
cis-1,2-Dichloroethene	5.00	4.75		ug/L		95	80 - 130	4	20
cis-1,3-Dichloropropene	5.00	5.96		ug/L		119	70 - 120	1	20
Dibromomethane	5.00	5.22		ug/L		104	80 - 130	1	20
Dichlorobromomethane	5.00	5.26		ug/L		105	80 - 125	1	20
Dichlorodifluoromethane	5.00	3.40		ug/L		68	30 - 180	5	20
Ethylbenzene	5.00	5.12		ug/L		102	80 - 125	3	20
Ethylene Dibromide	5.00	5.46		ug/L		109	70 - 130	5	20
Hexachlorobutadiene	5.00	5.02		ug/L		100	75 - 135	3	20
Isopropylbenzene	5.00	5.57	^	ug/L		111	75 - 120	6	20
Methyl tert-butyl ether	5.00	5.28		ug/L		106	75 - 120	1	20
Methylene Chloride	5.00	4.66		ug/L		93	60 - 145	2	20
m-Xylene & p-Xylene	5.00	5.28		ug/L		106	80 - 130	3	20
Naphthalene	5.00	5.48		ug/L		110	45 - 130	15	20
n-Butylbenzene	5.00	5.29		ug/L		106	75 - 125	3	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184350/7

Matrix: Water

Analysis Batch: 184350

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.51		ug/L		110	80 - 120	4	20
o-Xylene	5.00	5.38		ug/L		108	80 - 120	5	20
sec-Butylbenzene	5.00	5.74	^	ug/L		115	80 - 125	5	20
Styrene	5.00	5.52	^	ug/L		110	75 - 130	2	20
tert-Butylbenzene	5.00	5.85	^	ug/L		117	80 - 130	4	20
Tetrachloroethene	5.00	7.86		ug/L		157	40 - 180	4	20
Toluene	5.00	5.15		ug/L		103	80 - 120	1	20
trans-1,2-Dichloroethene	5.00	4.76		ug/L		95	80 - 140	5	20
trans-1,3-Dichloropropene	5.00	6.58		ug/L		132	60 - 140	4	20
Trichloroethene	5.00	5.14		ug/L		103	80 - 130	3	20
Trichlorofluoromethane	5.00	3.93		ug/L		79	30 - 180	20	20
Vinyl chloride	5.00	4.52		ug/L		90	65 - 140	11	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 128
4-Bromofluorobenzene (Surr)	98		75 - 120
Dibromofluoromethane (Surr)	96		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	108		80 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-184379/1-A

Matrix: Solid

Analysis Batch: 184373

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184379/1-A

Matrix: Solid

Analysis Batch: 184373

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Benzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Bromobenzene	ND		10		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Bromochloromethane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Bromodichloromethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Bromoform	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Bromomethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Chlorobenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Chloroethane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Chloroform	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Chloromethane	ND	^	1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Dibromochloromethane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Dibromomethane	ND		1.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Dichlorodifluoromethane	ND	^	2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Ethylbenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Isopropylbenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Methylene Chloride	ND		15		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Naphthalene	ND		10		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
n-Butylbenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
N-Propylbenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
o-Xylene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
sec-Butylbenzene	ND	^	2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Styrene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
t-Butylbenzene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Tetrachloroethene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Toluene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Trichloroethene	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1
Vinyl chloride	ND		2.0		ug/Kg		03/13/15 12:00	03/13/15 13:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 136	03/13/15 12:00	03/13/15 13:23	1
4-Bromofluorobenzene (Surr)	98		70 - 120	03/13/15 12:00	03/13/15 13:23	1
Dibromofluoromethane (Surr)	101		75 - 132	03/13/15 12:00	03/13/15 13:23	1
Toluene-d8 (Surr)	103		80 - 120	03/13/15 12:00	03/13/15 13:23	1
Trifluorotoluene (Surr)	95		65 - 140	03/13/15 12:00	03/13/15 13:23	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184379/4-A

Matrix: Solid

Analysis Batch: 184373

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	40.0	38.2		ug/Kg		96	72 - 123
1,1,1-Trichloroethane	40.0	37.6		ug/Kg		94	63 - 135
1,1,2,2-Tetrachloroethane	40.0	37.6		ug/Kg		94	73 - 125
1,1,2-Trichloroethane	40.0	38.5		ug/Kg		96	77 - 124
1,1-Dichloroethane	40.0	39.6		ug/Kg		99	70 - 128
1,1-Dichloroethene	40.0	33.4		ug/Kg		83	70 - 133
1,1-Dichloropropene	40.0	39.2		ug/Kg		98	77 - 125
1,2,3-Trichlorobenzene	40.0	43.6		ug/Kg		109	61 - 130
1,2,3-Trichloropropane	40.0	36.4		ug/Kg		91	77 - 123
1,2,4-Trichlorobenzene	40.0	43.0		ug/Kg		107	61 - 130
1,2,4-Trimethylbenzene	40.0	38.5		ug/Kg		96	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	38.6		ug/Kg		97	53 - 132
1,2-Dibromoethane	40.0	40.1		ug/Kg		100	69 - 126
1,2-Dichlorobenzene	40.0	39.7		ug/Kg		99	79 - 117
1,2-Dichloroethane	40.0	38.3		ug/Kg		96	71 - 128
1,2-Dichloropropane	40.0	39.3		ug/Kg		98	76 - 161
1,3,5-Trimethylbenzene	40.0	38.9		ug/Kg		97	80 - 125
1,3-Dichlorobenzene	40.0	39.1		ug/Kg		98	79 - 119
1,3-Dichloropropane	40.0	38.9		ug/Kg		97	77 - 123
1,4-Dichlorobenzene	40.0	40.0		ug/Kg		100	79 - 117
2,2-Dichloropropane	40.0	38.8		ug/Kg		97	56 - 144
2-Chlorotoluene	40.0	37.9		ug/Kg		95	79 - 122
4-Chlorotoluene	40.0	38.6		ug/Kg		96	80 - 122
4-Isopropyltoluene	40.0	38.1		ug/Kg		95	78 - 126
Benzene	40.0	39.2		ug/Kg		98	70 - 128
Bromobenzene	40.0	39.4		ug/Kg		98	80 - 120
Bromochloromethane	40.0	39.2		ug/Kg		98	78 - 123
Bromodichloromethane	40.0	39.3		ug/Kg		98	58 - 133
Bromoform	40.0	36.9		ug/Kg		92	50 - 124
Bromomethane	40.0	35.2		ug/Kg		88	57 - 148
Carbon tetrachloride	40.0	37.9		ug/Kg		95	59 - 145
Chlorobenzene	40.0	39.6		ug/Kg		99	75 - 120
Chloroethane	40.0	33.8		ug/Kg		84	48 - 167
Chloroform	40.0	39.2		ug/Kg		98	78 - 125
Chloromethane	40.0	32.9	^	ug/Kg		82	55 - 136
cis-1,2-Dichloroethene	40.0	38.0		ug/Kg		95	70 - 130
cis-1,3-Dichloropropene	40.0	41.8		ug/Kg		104	69 - 129
Dibromochloromethane	40.0	40.7		ug/Kg		102	42 - 129
Dibromomethane	40.0	39.1		ug/Kg		98	78 - 126
Dichlorodifluoromethane	40.0	24.7	^	ug/Kg		62	38 - 150
Ethylbenzene	40.0	39.0		ug/Kg		97	78 - 126
Hexachlorobutadiene	40.0	40.7		ug/Kg		102	68 - 134
Isopropylbenzene	40.0	38.9		ug/Kg		97	79 - 127
Methyl tert-butyl ether	40.0	38.4		ug/Kg		96	65 - 125
Methylene Chloride	40.0	36.9		ug/Kg		92	57 - 146
m-Xylene & p-Xylene	40.0	38.9		ug/Kg		97	78 - 126
Naphthalene	40.0	45.6		ug/Kg		114	14 - 170
n-Butylbenzene	40.0	38.1		ug/Kg		95	78 - 128

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184379/4-A

Matrix: Solid

Analysis Batch: 184373

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	40.0	37.4		ug/Kg		93	81 - 127
o-Xylene	40.0	38.7		ug/Kg		97	77 - 127
sec-Butylbenzene	40.0	39.0	^	ug/Kg		97	78 - 128
Styrene	40.0	38.8		ug/Kg		97	79 - 127
t-Butylbenzene	40.0	37.5		ug/Kg		94	71 - 136
Tetrachloroethene	40.0	40.6		ug/Kg		102	56 - 155
Toluene	40.0	39.5		ug/Kg		99	75 - 126
trans-1,2-Dichloroethene	40.0	36.5		ug/Kg		91	76 - 131
trans-1,3-Dichloropropene	40.0	44.4		ug/Kg		111	72 - 129
Trichloroethene	40.0	37.4		ug/Kg		94	83 - 124
Trichlorofluoromethane	40.0	33.5		ug/Kg		84	47 - 165
Vinyl chloride	40.0	32.6		ug/Kg		81	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		71 - 136
4-Bromofluorobenzene (Surr)	99		70 - 120
Dibromofluoromethane (Surr)	103		75 - 132
Toluene-d8 (Surr)	99		80 - 120
Trifluorotoluene (Surr)	93		65 - 140

Lab Sample ID: LCSD 580-184379/5-A

Matrix: Solid

Analysis Batch: 184373

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184379

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	40.4		ug/Kg		101	72 - 123	6	20
1,1,1-Trichloroethane	40.0	38.1		ug/Kg		95	63 - 135	1	20
1,1,2,2-Tetrachloroethane	40.0	43.1		ug/Kg		108	73 - 125	14	22
1,1,2-Trichloroethane	40.0	40.6		ug/Kg		101	77 - 124	5	18
1,1-Dichloroethane	40.0	39.9		ug/Kg		100	70 - 128	1	21
1,1-Dichloroethene	40.0	34.0		ug/Kg		85	70 - 133	2	23
1,1-Dichloropropene	40.0	40.5		ug/Kg		101	77 - 125	3	16
1,2,3-Trichlorobenzene	40.0	46.2		ug/Kg		116	61 - 130	6	23
1,2,3-Trichloropropane	40.0	43.3		ug/Kg		108	77 - 123	17	23
1,2,4-Trichlorobenzene	40.0	45.2		ug/Kg		113	61 - 130	5	22
1,2,4-Trimethylbenzene	40.0	39.1		ug/Kg		98	79 - 124	2	18
1,2-Dibromo-3-Chloropropane	40.0	45.8		ug/Kg		114	53 - 132	17	27
1,2-Dibromoethane	40.0	43.7		ug/Kg		109	69 - 126	9	21
1,2-Dichlorobenzene	40.0	40.7		ug/Kg		102	79 - 117	3	17
1,2-Dichloroethane	40.0	41.8		ug/Kg		104	71 - 128	9	18
1,2-Dichloropropane	40.0	40.2		ug/Kg		101	76 - 161	2	15
1,3,5-Trimethylbenzene	40.0	39.4		ug/Kg		99	80 - 125	1	18
1,3-Dichlorobenzene	40.0	40.1		ug/Kg		100	79 - 119	3	17
1,3-Dichloropropane	40.0	41.0		ug/Kg		102	77 - 123	5	19
1,4-Dichlorobenzene	40.0	40.9		ug/Kg		102	79 - 117	2	18
2,2-Dichloropropane	40.0	38.7		ug/Kg		97	56 - 144	0	21
2-Chlorotoluene	40.0	39.7		ug/Kg		99	79 - 122	5	18
4-Chlorotoluene	40.0	40.2		ug/Kg		101	80 - 122	4	18

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184379/5-A

Matrix: Solid

Analysis Batch: 184373

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184379

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							Limits		RPD	Limit
4-Isopropyltoluene	40.0	37.8		ug/Kg		95	78 - 126		1	18
Benzene	40.0	40.9		ug/Kg		102	70 - 128		4	19
Bromobenzene	40.0	42.4		ug/Kg		106	80 - 120		7	19
Bromochloromethane	40.0	41.8		ug/Kg		105	78 - 123		7	19
Bromodichloromethane	40.0	40.7		ug/Kg		102	58 - 133		3	19
Bromoform	40.0	42.1		ug/Kg		105	50 - 124		13	25
Bromomethane	40.0	35.0		ug/Kg		88	57 - 148		0	29
Carbon tetrachloride	40.0	39.0		ug/Kg		97	59 - 145		3	19
Chlorobenzene	40.0	41.0		ug/Kg		102	75 - 120		3	21
Chloroethane	40.0	34.1		ug/Kg		85	48 - 167		1	53
Chloroform	40.0	40.9		ug/Kg		102	78 - 125		4	17
Chloromethane	40.0	33.4	^	ug/Kg		84	55 - 136		2	26
cis-1,2-Dichloroethene	40.0	38.9		ug/Kg		97	70 - 130		2	19
cis-1,3-Dichloropropene	40.0	42.5		ug/Kg		106	69 - 129		2	19
Dibromochloromethane	40.0	43.4		ug/Kg		109	42 - 129		6	23
Dibromomethane	40.0	41.8		ug/Kg		104	78 - 126		7	18
Dichlorodifluoromethane	40.0	24.8	^	ug/Kg		62	38 - 150		0	26
Ethylbenzene	40.0	39.7		ug/Kg		99	78 - 126		2	23
Hexachlorobutadiene	40.0	38.5		ug/Kg		96	68 - 134		6	21
Isopropylbenzene	40.0	38.5		ug/Kg		96	79 - 127		1	20
Methyl tert-butyl ether	40.0	43.0		ug/Kg		107	65 - 125		11	30
Methylene Chloride	40.0	38.6		ug/Kg		97	57 - 146		4	21
m-Xylene & p-Xylene	40.0	39.4		ug/Kg		99	78 - 126		1	23
Naphthalene	40.0	51.8		ug/Kg		130	14 - 170		13	50
n-Butylbenzene	40.0	37.2		ug/Kg		93	78 - 128		2	17
N-Propylbenzene	40.0	39.0		ug/Kg		98	81 - 127		4	20
o-Xylene	40.0	39.0		ug/Kg		98	77 - 127		1	22
sec-Butylbenzene	40.0	38.7	^	ug/Kg		97	78 - 128		1	17
Styrene	40.0	39.8		ug/Kg		99	79 - 127		2	21
t-Butylbenzene	40.0	37.6		ug/Kg		94	71 - 136		0	27
Tetrachloroethene	40.0	40.0		ug/Kg		100	56 - 155		2	27
Toluene	40.0	39.4		ug/Kg		98	75 - 126		0	19
trans-1,2-Dichloroethene	40.0	38.0		ug/Kg		95	76 - 131		4	18
trans-1,3-Dichloropropene	40.0	47.1		ug/Kg		118	72 - 129		6	20
Trichloroethene	40.0	38.8		ug/Kg		97	83 - 124		4	17
Trichlorofluoromethane	40.0	33.2		ug/Kg		83	47 - 165		1	54
Vinyl chloride	40.0	32.9		ug/Kg		82	67 - 131		1	22

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	107		71 - 136
4-Bromofluorobenzene (Surr)	100		70 - 120
Dibromofluoromethane (Surr)	106		75 - 132
Toluene-d8 (Surr)	96		80 - 120
Trifluorotoluene (Surr)	90		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184358/4

Matrix: Water

Analysis Batch: 184358

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/13/15 13:44	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/13/15 13:44	1
Trifluorotoluene (Surr)	108		50 - 150					03/13/15 13:44	1

Lab Sample ID: LCS 580-184358/5

Matrix: Water

Analysis Batch: 184358

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	1.00	0.843		mg/L		84	79 - 110		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		50 - 150						
Trifluorotoluene (Surr)	100		50 - 150						

Lab Sample ID: LCSD 580-184358/6

Matrix: Water

Analysis Batch: 184358

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.824		mg/L		82	79 - 110	2	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	99		50 - 150						
Trifluorotoluene (Surr)	98		50 - 150						

Lab Sample ID: MB 580-184454/1-A

Matrix: Solid

Analysis Batch: 184457

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184454

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/16/15 11:58	03/16/15 14:57	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150				03/16/15 11:58	03/16/15 14:57	1

Lab Sample ID: LCS 580-184454/2-A

Matrix: Solid

Analysis Batch: 184457

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184454

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	40.0	34.9		mg/Kg		87	68 - 120		

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-184454/2-A

Matrix: Solid

Analysis Batch: 184457

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184454

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		50 - 150

Lab Sample ID: LCSD 580-184454/3-A

Matrix: Solid

Analysis Batch: 184457

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184454

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	34.9		mg/Kg		87	68 - 120	0	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		50 - 150

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-184847/1-A

Matrix: Solid

Analysis Batch: 184977

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
4,4'-DDE	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
4,4'-DDT	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Aldrin	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
alpha-BHC	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
alpha-Chlordane	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
beta-BHC	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
delta-BHC	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Dieldrin	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Endosulfan I	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Endosulfan II	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Endosulfan sulfate	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Endrin	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Endrin aldehyde	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Endrin ketone	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
gamma-Chlordane	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Heptachlor	ND		2.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Heptachlor epoxide	ND		1.0		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Methoxychlor	ND		10		ug/Kg		03/20/15 10:53	03/23/15 13:32	1
Toxaphene	ND		100		ug/Kg		03/20/15 10:53	03/23/15 13:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	97		60 - 128	03/20/15 10:53	03/23/15 13:32	1
Tetrachloro-m-xylene	61		35 - 129	03/20/15 10:53	03/23/15 13:32	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-184847/2-A

Matrix: Solid

Analysis Batch: 184977

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	20.0	19.0		ug/Kg		95	48 - 136
4,4'-DDE	20.0	19.0		ug/Kg		95	50 - 138
4,4'-DDT	20.0	18.5		ug/Kg		93	53 - 132
Aldrin	20.0	19.2		ug/Kg		96	59 - 127
alpha-BHC	20.0	16.7		ug/Kg		84	48 - 132
alpha-Chlordane	20.0	18.5		ug/Kg		93	52 - 137
beta-BHC	20.0	18.4		ug/Kg		92	45 - 122
delta-BHC	20.0	14.9		ug/Kg		75	27 - 124
Dieldrin	20.0	19.2		ug/Kg		96	53 - 145
Endosulfan I	20.0	19.5		ug/Kg		97	57 - 140
Endosulfan II	20.0	18.5		ug/Kg		93	58 - 144
Endosulfan sulfate	20.0	18.8		ug/Kg		94	55 - 125
Endrin	20.0	18.0		ug/Kg		90	51 - 143
Endrin aldehyde	20.0	19.3		ug/Kg		96	45 - 130
Endrin ketone	20.0	19.4		ug/Kg		97	53 - 139
gamma-BHC (Lindane)	20.0	18.2		ug/Kg		91	47 - 127
gamma-Chlordane	20.0	19.3		ug/Kg		96	52 - 137
Heptachlor	20.0	18.3		ug/Kg		91	43 - 141
Heptachlor epoxide	20.0	19.4		ug/Kg		97	47 - 143
Methoxychlor	20.0	19.9		ug/Kg		100	56 - 137

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	97		60 - 128
Tetrachloro-m-xylene	77		35 - 129

Lab Sample ID: LCSD 580-184847/3-A

Matrix: Solid

Analysis Batch: 184977

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
4,4'-DDD	20.0	18.0		ug/Kg		90	48 - 136	5	18
4,4'-DDE	20.0	17.9		ug/Kg		89	50 - 138	6	17
4,4'-DDT	20.0	17.5		ug/Kg		88	53 - 132	6	20
Aldrin	20.0	18.0		ug/Kg		90	59 - 127	7	19
alpha-BHC	20.0	15.5		ug/Kg		78	48 - 132	7	17
alpha-Chlordane	20.0	17.2		ug/Kg		86	52 - 137	7	17
beta-BHC	20.0	17.0		ug/Kg		85	45 - 122	8	18
delta-BHC	20.0	14.0		ug/Kg		70	27 - 124	7	19
Dieldrin	20.0	18.1		ug/Kg		90	53 - 145	6	18
Endosulfan I	20.0	18.3		ug/Kg		91	57 - 140	6	19
Endosulfan II	20.0	17.8		ug/Kg		89	58 - 144	4	19
Endosulfan sulfate	20.0	17.9		ug/Kg		89	55 - 125	5	18
Endrin	20.0	17.0		ug/Kg		85	51 - 143	6	18
Endrin aldehyde	20.0	17.9		ug/Kg		89	45 - 130	7	21
Endrin ketone	20.0	18.4		ug/Kg		92	53 - 139	5	17
gamma-BHC (Lindane)	20.0	17.2		ug/Kg		86	47 - 127	6	17
gamma-Chlordane	20.0	18.0		ug/Kg		90	52 - 137	7	17
Heptachlor	20.0	17.0		ug/Kg		85	43 - 141	7	18

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-184847/3-A

Matrix: Solid

Analysis Batch: 184977

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	20.0	18.1		ug/Kg		91	47 - 143	7	17
Methoxychlor	20.0	19.0		ug/Kg		95	56 - 137	5	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	94		60 - 128
Tetrachloro-m-xylene	77		35 - 129

Lab Sample ID: 580-47880-2 MS

Matrix: Solid

Analysis Batch: 184977

Client Sample ID: B2-1-5

Prep Type: Total/NA

Prep Batch: 184847

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	73		60 - 128
Tetrachloro-m-xylene	64		35 - 129

Lab Sample ID: 580-47880-2 MSD

Matrix: Solid

Analysis Batch: 184977

Client Sample ID: B2-1-5

Prep Type: Total/NA

Prep Batch: 184847

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	74		60 - 128
Tetrachloro-m-xylene	68		35 - 129

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184272/1-A

Matrix: Solid

Analysis Batch: 184245

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		03/12/15 14:12	03/12/15 17:19	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		03/12/15 14:12	03/12/15 17:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150	03/12/15 14:12	03/12/15 17:19	1

Lab Sample ID: LCS 580-184272/2-A

Matrix: Solid

Analysis Batch: 184245

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	395		mg/Kg		79	70 - 125
Motor Oil (>C24-C36)	502	450		mg/Kg		90	64 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	82		50 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-184272/3-A

Matrix: Solid

Analysis Batch: 184322

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184272

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	413		mg/Kg		83	70 - 125	4	16
Motor Oil (>C24-C36)	502	478		mg/Kg		95	64 - 127	6	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	86		50 - 150

Lab Sample ID: MB 580-184908/1-B

Matrix: Water

Analysis Batch: 184943

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/20/15 17:46	03/23/15 10:06	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/20/15 17:46	03/23/15 10:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150	03/20/15 17:46	03/23/15 10:06	1

Lab Sample ID: LCS 580-184908/2-A

Matrix: Water

Analysis Batch: 184943

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	4.00	4.11		mg/L		103	59 - 120
Motor Oil (>C24-C36)	4.02	4.26		mg/L		106	71 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	76		50 - 150

Lab Sample ID: LCSD 580-184908/3-A

Matrix: Water

Analysis Batch: 184943

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184908

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4.00	2.97	*	mg/L		74	59 - 120	32	27
Motor Oil (>C24-C36)	4.02	3.66		mg/L		91	71 - 140	15	27

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	77		50 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-184383/13-A

Matrix: Solid

Analysis Batch: 184451

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20		mg/Kg		03/13/15 15:39	03/16/15 08:14	10

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-184383/13-A

Matrix: Solid

Analysis Batch: 184451

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Beryllium	ND		0.20		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Cadmium	ND		0.20		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Chromium	ND		0.50		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Copper	ND		0.40		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Lead	ND		0.50		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Nickel	ND		0.50		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Selenium	ND		1.0		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Silver	ND		0.20		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Thallium	ND		0.40		mg/Kg		03/13/15 15:39	03/16/15 08:14	10
Zinc	ND		5.0		mg/Kg		03/13/15 15:39	03/16/15 08:14	10

Lab Sample ID: LCS 580-184383/14-A

Matrix: Solid

Analysis Batch: 184451

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	150	147		mg/Kg		98	80 - 120
Arsenic	200	200		mg/Kg		100	80 - 120
Beryllium	5.00	4.91		mg/Kg		98	80 - 120
Cadmium	5.00	4.89		mg/Kg		98	80 - 120
Chromium	20.0	19.0		mg/Kg		95	80 - 120
Copper	25.0	23.8		mg/Kg		95	80 - 120
Lead	50.0	49.4		mg/Kg		99	80 - 120
Nickel	50.0	50.3		mg/Kg		101	80 - 120
Selenium	200	200		mg/Kg		100	80 - 120
Silver	30.0	31.3		mg/Kg		104	80 - 120
Thallium	200	206		mg/Kg		103	80 - 120
Zinc	200	198		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 580-184383/15-A

Matrix: Solid

Analysis Batch: 184451

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	150	146		mg/Kg		98	80 - 120	1	20
Arsenic	200	199		mg/Kg		100	80 - 120	0	20
Beryllium	5.00	4.88		mg/Kg		98	80 - 120	1	20
Cadmium	5.00	4.97		mg/Kg		99	80 - 120	2	20
Chromium	20.0	18.8		mg/Kg		94	80 - 120	1	20
Copper	25.0	23.7		mg/Kg		95	80 - 120	1	20
Lead	50.0	49.3		mg/Kg		99	80 - 120	0	20
Nickel	50.0	50.4		mg/Kg		101	80 - 120	0	20
Selenium	200	199		mg/Kg		99	80 - 120	1	20
Silver	30.0	31.3		mg/Kg		104	80 - 120	0	20
Thallium	200	202		mg/Kg		101	80 - 120	2	20
Zinc	200	198		mg/Kg		99	80 - 120	0	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-185018/20-A

Matrix: Water

Analysis Batch: 185117

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 185018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 11:06	5
Arsenic	ND		0.0050		mg/L		03/23/15 17:08	03/24/15 11:06	5
Beryllium	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 11:06	5
Cadmium	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 11:06	5
Chromium	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 11:06	5
Copper	ND		0.010		mg/L		03/23/15 17:08	03/24/15 11:06	5
Lead	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 11:06	5
Nickel	ND		0.015		mg/L		03/23/15 17:08	03/24/15 11:06	5
Selenium	ND		0.0050		mg/L		03/23/15 17:08	03/24/15 11:06	5
Silver	ND		0.0020		mg/L		03/23/15 17:08	03/24/15 11:06	5
Thallium	ND		0.0050		mg/L		03/23/15 17:08	03/24/15 11:06	5
Zinc	ND		0.035		mg/L		03/23/15 17:08	03/24/15 11:06	5

Lab Sample ID: LCS 580-185018/21-A

Matrix: Water

Analysis Batch: 185117

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	2.94		mg/L		98	80 - 120
Arsenic	4.00	3.82		mg/L		95	80 - 120
Beryllium	0.100	0.0917		mg/L		92	80 - 120
Cadmium	0.100	0.0961		mg/L		96	80 - 120
Chromium	0.400	0.386		mg/L		97	80 - 120
Copper	0.500	0.465		mg/L		93	80 - 120
Lead	1.00	0.941		mg/L		94	80 - 120
Nickel	1.00	0.903		mg/L		90	80 - 120
Selenium	4.00	3.86		mg/L		97	80 - 120
Silver	0.600	0.645		mg/L		107	80 - 120
Thallium	4.00	3.78		mg/L		94	80 - 120
Zinc	4.00	3.71		mg/L		93	80 - 120

Lab Sample ID: LCSD 580-185018/22-A

Matrix: Water

Analysis Batch: 185117

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185018

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.00	2.95		mg/L		98	80 - 120	0	20
Arsenic	4.00	3.87		mg/L		97	80 - 120	1	20
Beryllium	0.100	0.0970		mg/L		97	80 - 120	6	20
Cadmium	0.100	0.101		mg/L		101	80 - 120	5	20
Chromium	0.400	0.393		mg/L		98	80 - 120	2	20
Copper	0.500	0.468		mg/L		94	80 - 120	1	20
Lead	1.00	0.958		mg/L		96	80 - 120	2	20
Nickel	1.00	0.948		mg/L		95	80 - 120	5	20
Selenium	4.00	4.01		mg/L		100	80 - 120	4	20
Silver	0.600	0.640		mg/L		107	80 - 120	1	20
Thallium	4.00	3.79		mg/L		95	80 - 120	0	20
Zinc	4.00	3.77		mg/L		94	80 - 120	2	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 580-185018/23-A

Matrix: Water

Analysis Batch: 185117

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185018

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	2.90		mg/L		97	80 - 120
Arsenic	4.00	3.85		mg/L		96	80 - 120
Beryllium	0.100	0.0931		mg/L		93	80 - 120
Cadmium	0.100	0.0954		mg/L		95	80 - 120
Chromium	0.400	0.382		mg/L		95	80 - 120
Copper	0.500	0.464		mg/L		93	80 - 120
Lead	1.00	0.938		mg/L		94	80 - 120
Nickel	1.00	0.931		mg/L		93	80 - 120
Selenium	4.00	3.95		mg/L		99	80 - 120
Silver	0.600	0.637		mg/L		106	80 - 120
Thallium	4.00	3.75		mg/L		94	80 - 120
Zinc	4.00	3.76		mg/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-184807/20-A

Matrix: Water

Analysis Batch: 184832

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/19/15 18:23	03/20/15 08:11	1

Lab Sample ID: LCS 580-184807/21-A

Matrix: Water

Analysis Batch: 184832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00198		mg/L		99	80 - 120

Lab Sample ID: LCSD 580-184807/22-A

Matrix: Water

Analysis Batch: 184832

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00194		mg/L		97	80 - 120	2	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-184270/19-A

Matrix: Solid

Analysis Batch: 184284

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184270

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		03/12/15 13:06	03/12/15 14:21	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-184270/20-A

Matrix: Solid

Analysis Batch: 184284

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.145		mg/Kg		87	80 - 120

Lab Sample ID: LCSD 580-184270/21-A

Matrix: Solid

Analysis Batch: 184284

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184270

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.148		mg/Kg		89	80 - 120	2	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-47880-2 DU

Matrix: Solid

Analysis Batch: 184293

Client Sample ID: B2-1-5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	82		84		%		3	20
Percent Moisture	18		16		%		17	20

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: TB-031115-01

Date Collected: 03/11/15 09:00

Date Received: 03/11/15 17:05

Lab Sample ID: 580-47880-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184379	03/11/15 17:25	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184373	03/13/15 16:30	CJ	TAL SEA
Total/NA	Prep	5035			184454	03/16/15 11:58	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184457	03/16/15 17:42	CJ	TAL SEA

Client Sample ID: B2-1-5

Date Collected: 03/11/15 09:07

Date Received: 03/11/15 17:05

Lab Sample ID: 580-47880-2

Matrix: Solid

Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184379	03/11/15 17:25	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184373	03/13/15 16:57	CJ	TAL SEA
Total/NA	Prep	5035			184454	03/16/15 11:58	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184457	03/16/15 18:15	CJ	TAL SEA
Total/NA	Prep	3550B			184847	03/20/15 10:53	EKK	TAL SEA
Total/NA	Analysis	8081B		1	184977	03/23/15 15:16	EKK	TAL SEA
Total/NA	Prep	3546			184272	03/12/15 14:12	EKK	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184245	03/12/15 19:44	EKK	TAL SEA
Total/NA	Prep	3050B			184383	03/13/15 15:39	PAB	TAL SEA
Total/NA	Analysis	6020A		10	184451	03/16/15 09:27	FCW	TAL SEA
Total/NA	Prep	7471A			184270	03/12/15 13:06	PAB	TAL SEA
Total/NA	Analysis	7471A		1	184284	03/12/15 15:19	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184293	03/12/15 16:58	ERZ	TAL SEA

Client Sample ID: TB-031115-02

Date Collected: 03/11/15 09:15

Date Received: 03/11/15 17:05

Lab Sample ID: 580-47880-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184350	03/13/15 13:59	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184358	03/13/15 15:23	TL1	TAL SEA

Client Sample ID: B2-1-G

Date Collected: 03/11/15 09:45

Date Received: 03/11/15 17:05

Lab Sample ID: 580-47880-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184350	03/13/15 14:52	TL1	TAL SEA
Total/NA	Prep	3510C			184908	03/20/15 17:46	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184943	03/23/15 11:10	EKK	TAL SEA
Total Recoverable	Prep	3005A			185018	03/23/15 17:08	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185117	03/24/15 12:51	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-1

Client Sample ID: B2-1-G
Date Collected: 03/11/15 09:45
Date Received: 03/11/15 17:05

Lab Sample ID: 580-47880-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			184807	03/19/15 18:23	PAB	TAL SEA
Total/NA	Analysis	7470A		1	184832	03/20/15 08:42	FCW	TAL SEA

Laboratory References:
TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West

TestAmerica Job ID: 580-47880-1

Project/Site: K2 Facility Site Characterization

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Sample Summary

Client: ERM-West

TestAmerica Job ID: 580-47880-1

Project/Site: K2 Facility Site Characterization

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-47880-1	TB-031115-01	Solid	03/11/15 09:00	03/11/15 17:05
580-47880-2	B2-1-5	Solid	03/11/15 09:07	03/11/15 17:05
580-47880-3	TB-031115-02	Water	03/11/15 09:15	03/11/15 17:05
580-47880-4	B2-1-G	Water	03/11/15 09:45	03/11/15 17:05

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush

Short Hold

Chain of Custody Record

Client 1218 3rd Ave Seattle, WA 98101		Client Contact Mike Arnold		Chain of Custody Number 26316	
Address Seattle, WA 98101		Telephone Number (Area Code)/Fax Number 206-462-8591		Date 3/11/2015	
City Seattle		Sample/Scanner Matt Horne		Lab Number 47880	
State WA		Lab Contact David Burk		Page 1 of 1	
Zip Code 98101		Billing Contact Matt Horne		Special Instructions/ Conditions of Receipt	
Project Name and Location (State) K2 Facility Site Characterization, Vashon, WA					
Contract/Purchase Order/Quote No. 266125					
Sample I.D. and Location/Description (Containers for each sample may be combined on one line)		Date		Time	
TB-031115-01		3/11/15		0900	
B2-1-5		3/11/15		0907	
TB-031115-02		3/11/15		0915	
B2-1-G		3/11/15		0945	
Matrix		Air		Aqueous	
Containers & Preservatives		Soil		Sed.	
Unpres.		H2SO4		HNO3	
HCl		NaOH		ZnAc/NaOH	
MeOH		1		1	
PH-G		X		X	
VOCs (B&C)		X		X	
Pesticides (B&C)		X		X	
PP Metals (B&C)		X		X	
Analysis (Attach list if sample space is needed)		5 day Turnaround for PH-G (water)			
Cooler		Yes ☒ No ☐		Cooler Temp: 4.2 unc 4.7	
Turn Around Time Required (business days)		24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other ☐		Cooler TB Dig/IR cor 4.2 unc 4.7	
Relinquished By		Sign/Print		Cooler Dsc L4 B/w/w/4@Lab	
Relinquished By		Sign/Print		WetPacks Packing Bubb	
Relinquished By		Sign/Print		cli dro	
Possible Hazard Identification		Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Return To Client ☐ Archive For ☐ Months ☐ Disposal By Lab ☒		(A fee may be assessed if samples are retained longer than 1 month)	
QC Requirements (Specify)		1. Received By Sign/Print		Date	
2. Received By Sign/Print		Date		Time	
3. Received By Sign/Print		Date		Time	

Comments

DISTRIBUTION: WHITE – Stays with the Samples: CANARY – Returned to Client with Report: PINK – Field Copy

TAL-8274-580 (0210)

10

8

3

2

1

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-47880-1

Login Number: 47880

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	The COC requests 8081 on sample -4 but no unpres. vol. rcvd.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-47880-2

Client Project/Site: K2 Facility Site Characterization

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine

David Y Burk

Authorized for release by:
3/17/2015 3:12:29 PM

David Burk, Project Manager I
(253)248-4972
david.burk@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-2

Job ID: 580-47880-2

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/11/2015 5:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

Except:

The chain of custody requests 8081 analysis on sample B2-1-G (580-47880-4) but no appropriate (unpreserved, amber) containers were received . The 8081 Pesticides analysis was not logged in for this sample.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West

TestAmerica Job ID: 580-47880-2

Project/Site: K2 Facility Site Characterization

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-2

Client Sample ID: B2-1-G

Lab Sample ID: 580-47880-4

Date Collected: 03/11/15 09:45

Matrix: Water

Date Received: 03/11/15 17:05

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/13/15 20:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150					03/13/15 20:19	1
Trifluorotoluene (Surr)	109		50 - 150					03/13/15 20:19	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184358/4

Matrix: Water

Analysis Batch: 184358

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/13/15 13:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/13/15 13:44	1
Trifluorotoluene (Surr)	108		50 - 150					03/13/15 13:44	1

Lab Sample ID: LCS 580-184358/5

Matrix: Water

Analysis Batch: 184358

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.843		mg/L		84	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	100		50 - 150				
Trifluorotoluene (Surr)	100		50 - 150				

Lab Sample ID: LCSD 580-184358/6

Matrix: Water

Analysis Batch: 184358

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.824		mg/L		82	79 - 110	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	99		50 - 150						
Trifluorotoluene (Surr)	98		50 - 150						

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-47880-2

Client Sample ID: B2-1-G
Date Collected: 03/11/15 09:45
Date Received: 03/11/15 17:05

Lab Sample ID: 580-47880-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184358	03/13/15 20:19	TL1	TAL SEA

Laboratory References:
TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West

TestAmerica Job ID: 580-47880-2

Project/Site: K2 Facility Site Characterization

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

Analysis Method	Prep Method	Matrix	Analyte

Sample Summary

Client: ERM-West

TestAmerica Job ID: 580-47880-2

Project/Site: K2 Facility Site Characterization

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-47880-4	B2-1-G	Water	03/11/15 09:45	03/11/15 17:05

☐ Rush

☐ Short Hold

**Chain of
Custody Record**

Client 1218 3rd Ave Ste. 1412 Seattle, WA 98101		Client Contact Mike Arnold		Date 3/11/2015	Chain of Custody Number 26316
Address Seattle, WA 98101		Telephone Number (Area Code)/Fax Number 253-462-8591		Lab Number 47880	Page 1 of 1
City Seattle		Sample Lab Contact Matt Horne			
State WA		Billing Contact David Burk			
Zip Code					
Project Name and Location (State) K2 Facility Site Characterization, Vancouver, WA					
Contract/Purchase Order/Quote No. 266125					
Sample I.D. and Location/Description (Containers for each sample may be combined on one line)		Matrix		Containers & Preservatives	
Air		Aqueous		Soil	
Date		Time		Unpres.	
3/11/15		0900		H2SO4	
3/11/15		0907		HNO3	
3/11/15		0915		HCl	
3/11/15		0945		NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
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				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
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				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	
				Time	
				Unpres.	
				H2SO4	
				HNO3	
				HCl	
				NaOH	
				ZnAc	
				NaOH	
				HCl	
				HNO3	
				H2SO4	
				Unpres.	
				Soil	
				Aqueous	
				Air	
				Date	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-47880-2

Login Number: 47880

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	The COC requests 8081 on sample -4 but no unpres. vol. rcvd.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-47968-1

Client Project/Site: K2 Facility Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine

David Burk

Authorized for release by:
3/30/2015 4:51:33 PM

David Burk, Project Manager I
(253)248-4972
david.burk@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Job ID: 580-47968-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/13/2015 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

Except:

The following samples are biphasic: B2-2-G (580-47968-3), B3-1-G (580-47968-4), B3-2-G (580-47968-5).

GC/MS VOA

The following sample(s) were recieved with a significant amount of mud filling the bottom of each VOA vial, thus the samples were unable to be run at full strength. In order to prevent instrument damage, the samples were consequently diluted due to the nature of the sample matrix: B2-2-G (580-47968-3), B3-1-G (580-47968-4), B3-2-G (580-47968-5) at half strength. Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184446 recovered outside acceptance criteria, low biased, for Chloroethane, Vinyl chloride, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184446 recovered outside control limits for the following analytes: Bromomethane.

Method(s) 8260C: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184544 recovered outside control limits for the following analytes: vinyl chloride, dichlorodibluoromethane, and 2,2-dichloropropane.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184539 recovered above the upper control limit for carbon tetrachloride and 2,2-dichloropropane, The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-184539/2), B2-3-3 (580-47968-1).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184539 recovered outside acceptance criteria, low biased, for dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184449 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane, Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch 184449 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, N-Propylbenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 184449 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185375 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Case Narrative

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Job ID: 580-47968-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Method(s) 8082A: In batch 184871, surrogate Tetrachloro-m-xylene (TCMX) recovery is outside the lower limit for sample (580-47968-2 MS). However, the TCMX surrogate recoveries in the parent and MSD are within control limits. The data will be reported.

Method(s) NWTPH-Dx: In analysis batch 184943, the %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184908 recovered outside control limits for the following analytes: DRO (C10-C24). The %recoveries of the affected analyte in the LCS and LCSD were within acceptance limits; therefore, the data have been qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: In preparation batch 184555, a deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: Sample B2-1-G (580-47968-8) was received in a 250 mL unpreserved amber, the entire volume was used in order to be able to DCM rinse the empty amber bottle.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
*	LCS or LCSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-3-3

Lab Sample ID: 580-47968-1

Date Collected: 03/13/15 12:16

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 77.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,1,1-Trichloroethane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,1,2,2-Tetrachloroethane	ND		3.5		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,1,2-Trichloroethane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,1-Dichloroethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,1-Dichloroethene	ND		4.3		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,1-Dichloropropene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2,3-Trichlorobenzene	ND		2.6		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2,3-Trichloropropane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2,4-Trichlorobenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2,4-Trimethylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2-Dibromo-3-Chloropropane	ND		8.6		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2-Dibromoethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2-Dichlorobenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2-Dichloroethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,2-Dichloropropane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,3,5-Trimethylbenzene	ND		4.3		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,3-Dichlorobenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,3-Dichloropropane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
1,4-Dichlorobenzene	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
2,2-Dichloropropane	ND	* ^	4.3		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
2-Chlorotoluene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
4-Chlorotoluene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
4-Isopropyltoluene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Benzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Bromobenzene	ND		8.6		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Bromochloromethane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Bromodichloromethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Bromoform	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Bromomethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Carbon tetrachloride	ND	^	1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Chlorobenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Chloroethane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Chloroform	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Chloromethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
cis-1,2-Dichloroethene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
cis-1,3-Dichloropropene	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Dibromochloromethane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Dibromomethane	ND		0.86		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Dichlorodifluoromethane	ND	* ^	1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Ethylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Hexachlorobutadiene	ND		2.6		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Isopropylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Methyl tert-butyl ether	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Methylene Chloride	ND		13		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
m-Xylene & p-Xylene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Naphthalene	ND		8.6		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
n-Butylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
N-Propylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-3-3

Lab Sample ID: 580-47968-1

Date Collected: 03/13/15 12:16

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 77.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
sec-Butylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Styrene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
t-Butylbenzene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Tetrachloroethene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Toluene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
trans-1,2-Dichloroethene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
trans-1,3-Dichloropropene	ND		8.6		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Trichloroethene	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Trichlorofluoromethane	ND		1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1
Vinyl chloride	ND	*	1.7		ug/Kg	☼	03/13/15 17:15	03/17/15 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		71 - 136	03/13/15 17:15	03/17/15 13:28	1
4-Bromofluorobenzene (Surr)	94		70 - 120	03/13/15 17:15	03/17/15 13:28	1
Dibromofluoromethane (Surr)	95		75 - 132	03/13/15 17:15	03/17/15 13:28	1
Toluene-d8 (Surr)	106		80 - 120	03/13/15 17:15	03/17/15 13:28	1
Trifluorotoluene (Surr)	101		65 - 140	03/13/15 17:15	03/17/15 13:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		62		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
1,2-Dichlorobenzene	ND		68		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
1,3-Dichlorobenzene	ND		62		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
1,4-Dichlorobenzene	ND		62		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
1-Methylnaphthalene	ND		37		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,4,5-Trichlorophenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,4,6-Trichlorophenol	ND		190		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,4-Dichlorophenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,4-Dimethylphenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,4-Dinitrophenol	ND		1200		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,4-Dinitrotoluene	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2,6-Dinitrotoluene	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2-Chloronaphthalene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2-Chlorophenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2-Methylnaphthalene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2-Methylphenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2-Nitroaniline	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
2-Nitrophenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
3 & 4 Methylphenol	ND		250		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
3,3'-Dichlorobenzidine	ND		250		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
3-Nitroaniline	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4,6-Dinitro-2-methylphenol	ND		1200		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4-Bromophenyl phenyl ether	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4-Chloro-3-methylphenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4-Chloroaniline	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4-Chlorophenyl phenyl ether	ND	F1	120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4-Nitroaniline	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
4-Nitrophenol	ND		1200		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Acenaphthene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-3-3

Lab Sample ID: 580-47968-1

Date Collected: 03/13/15 12:16

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 77.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Anthracene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzo[a]anthracene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzo[a]pyrene	ND		37		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzo[b]fluoranthene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzo[g,h,i]perylene	ND		31		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzo[k]fluoranthene	ND		31		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzoic acid	ND		3100		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Benzyl alcohol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Bis(2-chloroethoxy)methane	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Bis(2-chloroethyl)ether	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Bis(2-ethylhexyl) phthalate	ND		750		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
bis(chloroisopropyl) ether	ND		310		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Butyl benzyl phthalate	ND		250		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Carbazole	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Chrysene	ND	F1	31		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Dibenz(a,h)anthracene	ND		50		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Dibenzofuran	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Diethyl phthalate	ND		250		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Dimethyl phthalate	ND	F1	120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Di-n-butyl phthalate	ND		620		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Di-n-octyl phthalate	ND		620		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Fluoranthene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Fluorene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Hexachlorobenzene	ND		62		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Hexachlorobutadiene	ND		62		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Hexachlorocyclopentadiene	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Hexachloroethane	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Indeno[1,2,3-cd]pyrene	ND		50		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Isophorone	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Naphthalene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Nitrobenzene	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
N-Nitrosodi-n-propylamine	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
N-Nitrosodiphenylamine	ND		62		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Pentachlorophenol	ND	F1	250		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Phenanthrene	ND	F1	25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Phenol	ND		120		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1
Pyrene	ND		25		ug/Kg	☼	03/18/15 11:26	03/27/15 13:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	64		28 - 143	03/18/15 11:26	03/27/15 13:30	1
2-Fluorobiphenyl	70		42 - 140	03/18/15 11:26	03/27/15 13:30	1
2-Fluorophenol (Surr)	75		36 - 145	03/18/15 11:26	03/27/15 13:30	1
Nitrobenzene-d5 (Surr)	72		38 - 141	03/18/15 11:26	03/27/15 13:30	1
Phenol-d5 (Surr)	73		38 - 149	03/18/15 11:26	03/27/15 13:30	1
Terphenyl-d14 (Surr)	78		42 - 151	03/18/15 11:26	03/27/15 13:30	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		31		mg/Kg	☼	03/16/15 17:31	03/17/15 13:23	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-3-3

Date Collected: 03/13/15 12:16

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-1

Matrix: Solid

Percent Solids: 77.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	ND		62		mg/Kg	☼	03/16/15 17:31	03/17/15 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	70		50 - 150	03/16/15 17:31	03/17/15 13:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77		0.10		%	—		03/17/15 14:33	1
Percent Moisture	23		0.10		%			03/17/15 14:33	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-2-3

Lab Sample ID: 580-47968-2

Date Collected: 03/13/15 12:51

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 83.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,1,1-Trichloroethane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,1,2,2-Tetrachloroethane	ND		3.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,1,2-Trichloroethane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,1-Dichloroethane	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,1-Dichloroethene	ND		4.5		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,1-Dichloropropene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2,3-Trichlorobenzene	ND		2.7		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2,3-Trichloropropane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2,4-Trichlorobenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2,4-Trimethylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2-Dibromo-3-Chloropropane	ND		9.0		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2-Dibromoethane	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2-Dichloroethane	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,2-Dichloropropane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,3,5-Trimethylbenzene	ND		4.5		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,3-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,3-Dichloropropane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
1,4-Dichlorobenzene	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
2,2-Dichloropropane	ND		4.5		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
2-Chlorotoluene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
4-Chlorotoluene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
4-Isopropyltoluene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Benzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Bromobenzene	ND		9.0		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Bromochloromethane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Bromodichloromethane	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Bromoform	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Bromomethane	ND *		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Carbon tetrachloride	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Chlorobenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Chloroethane	ND ^		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Chloroform	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Chloromethane	ND ^		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
cis-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
cis-1,3-Dichloropropene	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Dibromochloromethane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Dibromomethane	ND		0.90		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Dichlorodifluoromethane	ND ^		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Ethylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Hexachlorobutadiene	ND		2.7		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Isopropylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Methyl tert-butyl ether	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Methylene Chloride	ND		13		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
m-Xylene & p-Xylene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Naphthalene	ND		9.0		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
n-Butylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
N-Propylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-2-3

Lab Sample ID: 580-47968-2

Date Collected: 03/13/15 12:51

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 83.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
sec-Butylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Styrene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
t-Butylbenzene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Tetrachloroethene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Toluene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
trans-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
trans-1,3-Dichloropropene	ND		9.0		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Trichloroethene	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Trichlorofluoromethane	ND		1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1
Vinyl chloride	ND	^	1.8		ug/Kg	☼	03/13/15 17:15	03/16/15 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		71 - 136	03/13/15 17:15	03/16/15 13:16	1
4-Bromofluorobenzene (Surr)	94		70 - 120	03/13/15 17:15	03/16/15 13:16	1
Dibromofluoromethane (Surr)	96		75 - 132	03/13/15 17:15	03/16/15 13:16	1
Toluene-d8 (Surr)	107		80 - 120	03/13/15 17:15	03/16/15 13:16	1
Trifluorotoluene (Surr)	102		65 - 140	03/13/15 17:15	03/16/15 13:16	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		8.8		mg/Kg	☼	03/17/15 15:17	03/18/15 08:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150	03/17/15 15:17	03/18/15 08:40	1
Trifluorotoluene (Surr)				03/17/15 15:17	03/18/15 08:40	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.011		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1
PCB-1221	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1
PCB-1232	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1
PCB-1242	ND		0.011		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1
PCB-1248	ND		0.011		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1
PCB-1254	ND		0.011		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1
PCB-1260	ND		0.011		mg/Kg	☼	03/20/15 10:53	03/21/15 04:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	93		50 - 140	03/20/15 10:53	03/21/15 04:54	1
Tetrachloro-m-xylene	67		45 - 135	03/20/15 10:53	03/21/15 04:54	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		28		mg/Kg	☼	03/16/15 17:31	03/17/15 13:41	1
Motor Oil (>C24-C36)	ND		56		mg/Kg	☼	03/16/15 17:31	03/17/15 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150	03/16/15 17:31	03/17/15 13:41	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-2-3

Lab Sample ID: 580-47968-2

Date Collected: 03/13/15 12:51

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 83.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.16		0.16		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Arsenic	3.4		0.41		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Beryllium	0.24		0.16		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Cadmium	ND		0.16		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Chromium	33	F1	0.41		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Copper	13	F1	0.33		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Lead	2.7		0.41		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Nickel	45	F1	0.41		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Selenium	1.0		0.81		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Silver	ND		0.16		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Thallium	ND		0.33		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10
Zinc	24		4.1		mg/Kg	☼	03/17/15 11:25	03/17/15 13:58	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021		mg/Kg	☼	03/17/15 07:05	03/17/15 09:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			03/17/15 14:33	1
Percent Moisture	17		0.10		%			03/17/15 14:33	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-2-G

Lab Sample ID: 580-47968-3

Date Collected: 03/13/15 13:15

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.40		ug/L			03/16/15 16:53	2
1,1,1-Trichloroethane	ND		0.40		ug/L			03/16/15 16:53	2
1,1,2,2-Tetrachloroethane	ND		0.40		ug/L			03/16/15 16:53	2
1,1,2-Trichloroethane	ND		0.40		ug/L			03/16/15 16:53	2
1,1-Dichloroethane	ND		0.40		ug/L			03/16/15 16:53	2
1,1-Dichloroethene	ND		0.20		ug/L			03/16/15 16:53	2
1,1-Dichloropropene	ND		0.20		ug/L			03/16/15 16:53	2
1,2,3-Trichlorobenzene	ND		1.0		ug/L			03/16/15 16:53	2
1,2,3-Trichloropropane	ND		0.40		ug/L			03/16/15 16:53	2
1,2,4-Trichlorobenzene	ND		0.40		ug/L			03/16/15 16:53	2
1,2,4-Trimethylbenzene	ND		0.40		ug/L			03/16/15 16:53	2
1,2-Dibromo-3-Chloropropane	ND		4.0		ug/L			03/16/15 16:53	2
1,2-Dichlorobenzene	ND		0.60		ug/L			03/16/15 16:53	2
1,2-Dichloroethane	ND		0.40		ug/L			03/16/15 16:53	2
1,2-Dichloropropane	ND		0.40		ug/L			03/16/15 16:53	2
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/16/15 16:53	2
1,3-Dichlorobenzene	ND		0.60		ug/L			03/16/15 16:53	2
1,3-Dichloropropane	ND		0.40		ug/L			03/16/15 16:53	2
1,4-Dichlorobenzene	ND		0.60		ug/L			03/16/15 16:53	2
2,2-Dichloropropane	ND		1.0		ug/L			03/16/15 16:53	2
2-Chlorotoluene	ND		1.0		ug/L			03/16/15 16:53	2
4-Chlorotoluene	ND		0.60		ug/L			03/16/15 16:53	2
4-Isopropyltoluene	ND		0.60		ug/L			03/16/15 16:53	2
Benzene	ND		0.40		ug/L			03/16/15 16:53	2
Bromobenzene	ND		0.40		ug/L			03/16/15 16:53	2
Bromoform	ND		1.0		ug/L			03/16/15 16:53	2
Bromomethane	ND		2.0		ug/L			03/16/15 16:53	2
Carbon tetrachloride	ND		0.40		ug/L			03/16/15 16:53	2
Chlorobenzene	ND		0.40		ug/L			03/16/15 16:53	2
Chlorobromomethane	ND		0.40		ug/L			03/16/15 16:53	2
Chlorodibromomethane	ND		0.40		ug/L			03/16/15 16:53	2
Chloroethane	ND		1.0		ug/L			03/16/15 16:53	2
Chloroform	ND		0.40		ug/L			03/16/15 16:53	2
Chloromethane	ND		0.60		ug/L			03/16/15 16:53	2
cis-1,2-Dichloroethene	ND		0.40		ug/L			03/16/15 16:53	2
cis-1,3-Dichloropropene	ND *		1.0		ug/L			03/16/15 16:53	2
Dibromomethane	ND		0.40		ug/L			03/16/15 16:53	2
Dichlorobromomethane	ND		0.40		ug/L			03/16/15 16:53	2
Dichlorodifluoromethane	ND ^		0.80		ug/L			03/16/15 16:53	2
Ethylbenzene	ND		0.40		ug/L			03/16/15 16:53	2
Ethylene Dibromide	ND		0.20		ug/L			03/16/15 16:53	2
Hexachlorobutadiene	ND		1.0		ug/L			03/16/15 16:53	2
Isopropylbenzene	ND		1.0		ug/L			03/16/15 16:53	2
Methyl tert-butyl ether	ND		0.40		ug/L			03/16/15 16:53	2
Methylene Chloride	ND		1.0		ug/L			03/16/15 16:53	2
m-Xylene & p-Xylene	ND		1.0		ug/L			03/16/15 16:53	2
Naphthalene	ND		1.0		ug/L			03/16/15 16:53	2
n-Butylbenzene	ND		1.0		ug/L			03/16/15 16:53	2
N-Propylbenzene	ND *		0.40		ug/L			03/16/15 16:53	2

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-2-G

Lab Sample ID: 580-47968-3

Date Collected: 03/13/15 13:15

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0		ug/L			03/16/15 16:53	2
sec-Butylbenzene	ND		1.0		ug/L			03/16/15 16:53	2
Styrene	ND		1.0		ug/L			03/16/15 16:53	2
tert-Butylbenzene	ND		1.0		ug/L			03/16/15 16:53	2
Tetrachloroethene	ND		1.0		ug/L			03/16/15 16:53	2
Toluene	ND		0.40		ug/L			03/16/15 16:53	2
trans-1,2-Dichloroethene	ND		0.40		ug/L			03/16/15 16:53	2
trans-1,3-Dichloropropene	ND		0.40		ug/L			03/16/15 16:53	2
Trichloroethene	ND		0.40		ug/L			03/16/15 16:53	2
Trichlorofluoromethane	ND	^	1.0		ug/L			03/16/15 16:53	2
Vinyl chloride	ND		0.040		ug/L			03/16/15 16:53	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 128		03/16/15 16:53	2
4-Bromofluorobenzene (Surr)	96		75 - 120		03/16/15 16:53	2
Dibromofluoromethane (Surr)	92		85 - 115		03/16/15 16:53	2
Toluene-d8 (Surr)	104		75 - 125		03/16/15 16:53	2
Trifluorotoluene (Surr)	114		80 - 127		03/16/15 16:53	2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.14		mg/L		03/20/15 17:46	03/23/15 11:26	1
Motor Oil (>C24-C36)	ND		0.28		mg/L		03/20/15 17:46	03/23/15 11:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150	03/20/15 17:46	03/23/15 11:26	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-1-G

Lab Sample ID: 580-47968-4

Date Collected: 03/13/15 13:55

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.40		ug/L			03/16/15 17:19	2
1,1,1-Trichloroethane	ND		0.40		ug/L			03/16/15 17:19	2
1,1,2,2-Tetrachloroethane	ND		0.40		ug/L			03/16/15 17:19	2
1,1,2-Trichloroethane	ND		0.40		ug/L			03/16/15 17:19	2
1,1-Dichloroethane	ND		0.40		ug/L			03/16/15 17:19	2
1,1-Dichloroethene	ND		0.20		ug/L			03/16/15 17:19	2
1,1-Dichloropropene	ND		0.20		ug/L			03/16/15 17:19	2
1,2,3-Trichlorobenzene	ND		1.0		ug/L			03/16/15 17:19	2
1,2,3-Trichloropropane	ND		0.40		ug/L			03/16/15 17:19	2
1,2,4-Trichlorobenzene	ND		0.40		ug/L			03/16/15 17:19	2
1,2,4-Trimethylbenzene	ND		0.40		ug/L			03/16/15 17:19	2
1,2-Dibromo-3-Chloropropane	ND		4.0		ug/L			03/16/15 17:19	2
1,2-Dichlorobenzene	ND		0.60		ug/L			03/16/15 17:19	2
1,2-Dichloroethane	ND		0.40		ug/L			03/16/15 17:19	2
1,2-Dichloropropane	ND		0.40		ug/L			03/16/15 17:19	2
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/16/15 17:19	2
1,3-Dichlorobenzene	ND		0.60		ug/L			03/16/15 17:19	2
1,3-Dichloropropane	ND		0.40		ug/L			03/16/15 17:19	2
1,4-Dichlorobenzene	ND		0.60		ug/L			03/16/15 17:19	2
2,2-Dichloropropane	ND		1.0		ug/L			03/16/15 17:19	2
2-Chlorotoluene	ND		1.0		ug/L			03/16/15 17:19	2
4-Chlorotoluene	ND		0.60		ug/L			03/16/15 17:19	2
4-Isopropyltoluene	ND		0.60		ug/L			03/16/15 17:19	2
Benzene	ND		0.40		ug/L			03/16/15 17:19	2
Bromobenzene	ND		0.40		ug/L			03/16/15 17:19	2
Bromoform	ND		1.0		ug/L			03/16/15 17:19	2
Bromomethane	ND		2.0		ug/L			03/16/15 17:19	2
Carbon tetrachloride	ND		0.40		ug/L			03/16/15 17:19	2
Chlorobenzene	ND		0.40		ug/L			03/16/15 17:19	2
Chlorobromomethane	ND		0.40		ug/L			03/16/15 17:19	2
Chlorodibromomethane	ND		0.40		ug/L			03/16/15 17:19	2
Chloroethane	ND		1.0		ug/L			03/16/15 17:19	2
Chloroform	ND		0.40		ug/L			03/16/15 17:19	2
Chloromethane	ND		0.60		ug/L			03/16/15 17:19	2
cis-1,2-Dichloroethene	ND		0.40		ug/L			03/16/15 17:19	2
cis-1,3-Dichloropropene	ND *		1.0		ug/L			03/16/15 17:19	2
Dibromomethane	ND		0.40		ug/L			03/16/15 17:19	2
Dichlorobromomethane	ND		0.40		ug/L			03/16/15 17:19	2
Dichlorodifluoromethane	ND ^		0.80		ug/L			03/16/15 17:19	2
Ethylbenzene	ND		0.40		ug/L			03/16/15 17:19	2
Ethylene Dibromide	ND		0.20		ug/L			03/16/15 17:19	2
Hexachlorobutadiene	ND		1.0		ug/L			03/16/15 17:19	2
Isopropylbenzene	ND		1.0		ug/L			03/16/15 17:19	2
Methyl tert-butyl ether	ND		0.40		ug/L			03/16/15 17:19	2
Methylene Chloride	ND		1.0		ug/L			03/16/15 17:19	2
m-Xylene & p-Xylene	ND		1.0		ug/L			03/16/15 17:19	2
Naphthalene	ND		1.0		ug/L			03/16/15 17:19	2
n-Butylbenzene	ND		1.0		ug/L			03/16/15 17:19	2
N-Propylbenzene	ND *		0.40		ug/L			03/16/15 17:19	2

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-1-G

Lab Sample ID: 580-47968-4

Date Collected: 03/13/15 13:55

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0		ug/L			03/16/15 17:19	2
sec-Butylbenzene	ND		1.0		ug/L			03/16/15 17:19	2
Styrene	ND		1.0		ug/L			03/16/15 17:19	2
tert-Butylbenzene	ND		1.0		ug/L			03/16/15 17:19	2
Tetrachloroethene	ND		1.0		ug/L			03/16/15 17:19	2
Toluene	ND		0.40		ug/L			03/16/15 17:19	2
trans-1,2-Dichloroethene	ND		0.40		ug/L			03/16/15 17:19	2
trans-1,3-Dichloropropene	ND		0.40		ug/L			03/16/15 17:19	2
Trichloroethene	ND		0.40		ug/L			03/16/15 17:19	2
Trichlorofluoromethane	ND	^	1.0		ug/L			03/16/15 17:19	2
Vinyl chloride	ND		0.040		ug/L			03/16/15 17:19	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 128		03/16/15 17:19	2
4-Bromofluorobenzene (Surr)	97		75 - 120		03/16/15 17:19	2
Dibromofluoromethane (Surr)	94		85 - 115		03/16/15 17:19	2
Toluene-d8 (Surr)	104		75 - 125		03/16/15 17:19	2
Trifluorotoluene (Surr)	115		80 - 127		03/16/15 17:19	2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.15		mg/L		03/20/15 17:46	03/23/15 11:42	1
Motor Oil (>C24-C36)	ND		0.29		mg/L		03/20/15 17:46	03/23/15 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	72		50 - 150	03/20/15 17:46	03/23/15 11:42	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 16:51	5
Arsenic	0.37		0.0050		mg/L		03/25/15 16:16	03/26/15 16:51	5
Beryllium	0.022		0.0020		mg/L		03/25/15 16:16	03/26/15 16:51	5
Cadmium	0.012		0.0020		mg/L		03/25/15 16:16	03/26/15 16:51	5
Chromium	2.9		0.0020		mg/L		03/25/15 16:16	03/26/15 16:51	5
Copper	1.9		0.010		mg/L		03/25/15 16:16	03/26/15 16:51	5
Lead	0.28		0.0020		mg/L		03/25/15 16:16	03/26/15 19:32	5
Nickel	5.7		0.015		mg/L		03/25/15 16:16	03/26/15 16:51	5
Selenium	0.056		0.0050		mg/L		03/25/15 16:16	03/26/15 16:51	5
Silver	0.0025		0.0020		mg/L		03/25/15 16:16	03/26/15 16:51	5
Thallium	0.0074		0.0050		mg/L		03/25/15 16:16	03/26/15 16:51	5
Zinc	4.3		0.035		mg/L		03/25/15 16:16	03/26/15 16:51	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0052		0.00020		mg/L		03/25/15 10:09	03/25/15 13:53	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-2-G

Lab Sample ID: 580-47968-5

Date Collected: 03/13/15 14:35

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.40		ug/L			03/16/15 17:45	2
1,1,1-Trichloroethane	ND		0.40		ug/L			03/16/15 17:45	2
1,1,2,2-Tetrachloroethane	ND		0.40		ug/L			03/16/15 17:45	2
1,1,2-Trichloroethane	ND		0.40		ug/L			03/16/15 17:45	2
1,1-Dichloroethane	ND		0.40		ug/L			03/16/15 17:45	2
1,1-Dichloroethene	ND		0.20		ug/L			03/16/15 17:45	2
1,1-Dichloropropene	ND		0.20		ug/L			03/16/15 17:45	2
1,2,3-Trichlorobenzene	ND		1.0		ug/L			03/16/15 17:45	2
1,2,3-Trichloropropane	ND		0.40		ug/L			03/16/15 17:45	2
1,2,4-Trichlorobenzene	ND		0.40		ug/L			03/16/15 17:45	2
1,2,4-Trimethylbenzene	ND		0.40		ug/L			03/16/15 17:45	2
1,2-Dibromo-3-Chloropropane	ND		4.0		ug/L			03/16/15 17:45	2
1,2-Dichlorobenzene	ND		0.60		ug/L			03/16/15 17:45	2
1,2-Dichloroethane	ND		0.40		ug/L			03/16/15 17:45	2
1,2-Dichloropropane	ND		0.40		ug/L			03/16/15 17:45	2
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/16/15 17:45	2
1,3-Dichlorobenzene	ND		0.60		ug/L			03/16/15 17:45	2
1,3-Dichloropropane	ND		0.40		ug/L			03/16/15 17:45	2
1,4-Dichlorobenzene	ND		0.60		ug/L			03/16/15 17:45	2
2,2-Dichloropropane	ND		1.0		ug/L			03/16/15 17:45	2
2-Chlorotoluene	ND		1.0		ug/L			03/16/15 17:45	2
4-Chlorotoluene	ND		0.60		ug/L			03/16/15 17:45	2
4-Isopropyltoluene	ND		0.60		ug/L			03/16/15 17:45	2
Benzene	ND		0.40		ug/L			03/16/15 17:45	2
Bromobenzene	ND		0.40		ug/L			03/16/15 17:45	2
Bromoform	ND		1.0		ug/L			03/16/15 17:45	2
Bromomethane	ND		2.0		ug/L			03/16/15 17:45	2
Carbon tetrachloride	ND		0.40		ug/L			03/16/15 17:45	2
Chlorobenzene	ND		0.40		ug/L			03/16/15 17:45	2
Chlorobromomethane	ND		0.40		ug/L			03/16/15 17:45	2
Chlorodibromomethane	ND		0.40		ug/L			03/16/15 17:45	2
Chloroethane	ND		1.0		ug/L			03/16/15 17:45	2
Chloroform	ND		0.40		ug/L			03/16/15 17:45	2
Chloromethane	ND		0.60		ug/L			03/16/15 17:45	2
cis-1,2-Dichloroethene	ND		0.40		ug/L			03/16/15 17:45	2
cis-1,3-Dichloropropene	ND *		1.0		ug/L			03/16/15 17:45	2
Dibromomethane	ND		0.40		ug/L			03/16/15 17:45	2
Dichlorobromomethane	ND		0.40		ug/L			03/16/15 17:45	2
Dichlorodifluoromethane	ND ^		0.80		ug/L			03/16/15 17:45	2
Ethylbenzene	ND		0.40		ug/L			03/16/15 17:45	2
Ethylene Dibromide	ND		0.20		ug/L			03/16/15 17:45	2
Hexachlorobutadiene	ND		1.0		ug/L			03/16/15 17:45	2
Isopropylbenzene	ND		1.0		ug/L			03/16/15 17:45	2
Methyl tert-butyl ether	ND		0.40		ug/L			03/16/15 17:45	2
Methylene Chloride	ND		1.0		ug/L			03/16/15 17:45	2
m-Xylene & p-Xylene	ND		1.0		ug/L			03/16/15 17:45	2
Naphthalene	ND		1.0		ug/L			03/16/15 17:45	2
n-Butylbenzene	ND		1.0		ug/L			03/16/15 17:45	2
N-Propylbenzene	ND *		0.40		ug/L			03/16/15 17:45	2

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-2-G

Lab Sample ID: 580-47968-5

Date Collected: 03/13/15 14:35

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0		ug/L			03/16/15 17:45	2
sec-Butylbenzene	ND		1.0		ug/L			03/16/15 17:45	2
Styrene	ND		1.0		ug/L			03/16/15 17:45	2
tert-Butylbenzene	ND		1.0		ug/L			03/16/15 17:45	2
Tetrachloroethene	ND		1.0		ug/L			03/16/15 17:45	2
Toluene	ND		0.40		ug/L			03/16/15 17:45	2
trans-1,2-Dichloroethene	ND		0.40		ug/L			03/16/15 17:45	2
trans-1,3-Dichloropropene	ND		0.40		ug/L			03/16/15 17:45	2
Trichloroethene	ND		0.40		ug/L			03/16/15 17:45	2
Trichlorofluoromethane	ND	^	1.0		ug/L			03/16/15 17:45	2
Vinyl chloride	ND		0.040		ug/L			03/16/15 17:45	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 128		03/16/15 17:45	2
4-Bromofluorobenzene (Surr)	100		75 - 120		03/16/15 17:45	2
Dibromofluoromethane (Surr)	97		85 - 115		03/16/15 17:45	2
Toluene-d8 (Surr)	102		75 - 125		03/16/15 17:45	2
Trifluorotoluene (Surr)	110		80 - 127		03/16/15 17:45	2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.13		mg/L		03/20/15 17:46	03/23/15 11:58	1
Motor Oil (>C24-C36)	ND		0.27		mg/L		03/20/15 17:46	03/23/15 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	72		50 - 150	03/20/15 17:46	03/23/15 11:58	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 16:47	5
Arsenic	0.091		0.0050		mg/L		03/25/15 16:16	03/26/15 16:47	5
Beryllium	0.0060		0.0020		mg/L		03/25/15 16:16	03/26/15 16:47	5
Cadmium	0.0031		0.0020		mg/L		03/25/15 16:16	03/26/15 16:47	5
Chromium	0.76		0.0020		mg/L		03/25/15 16:16	03/26/15 16:47	5
Copper	0.51		0.010		mg/L		03/25/15 16:16	03/26/15 16:47	5
Lead	0.073		0.0020		mg/L		03/25/15 16:16	03/26/15 19:28	5
Nickel	1.4		0.015		mg/L		03/25/15 16:16	03/26/15 16:47	5
Selenium	0.022		0.0050		mg/L		03/25/15 16:16	03/26/15 16:47	5
Silver	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 16:47	5
Thallium	ND		0.0050		mg/L		03/25/15 16:16	03/26/15 16:47	5
Zinc	1.0		0.035		mg/L		03/25/15 16:16	03/26/15 16:47	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0010		0.00020		mg/L		03/25/15 10:09	03/25/15 13:55	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-1-9

Lab Sample ID: 580-47968-6

Date Collected: 03/13/15 12:45

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,1,1-Trichloroethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,1,2,2-Tetrachloroethane	ND		3.3		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,1,2-Trichloroethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,1-Dichloroethane	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,1-Dichloroethene	ND		4.1		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,1-Dichloropropene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2,3-Trichlorobenzene	ND		2.5		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2,3-Trichloropropane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2,4-Trichlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2,4-Trimethylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2-Dibromo-3-Chloropropane	ND		8.2		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2-Dibromoethane	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2-Dichloroethane	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,2-Dichloropropane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,3,5-Trimethylbenzene	ND		4.1		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,3-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,3-Dichloropropane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
1,4-Dichlorobenzene	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
2,2-Dichloropropane	ND		4.1		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
2-Chlorotoluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
4-Chlorotoluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
4-Isopropyltoluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Benzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Bromobenzene	ND		8.2		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Bromochloromethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Bromodichloromethane	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Bromoform	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Bromomethane	ND *		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Carbon tetrachloride	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Chlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Chloroethane	ND ^		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Chloroform	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Chloromethane	ND ^		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
cis-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
cis-1,3-Dichloropropene	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Dibromochloromethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Dibromomethane	ND		0.82		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Dichlorodifluoromethane	ND ^		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Ethylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Hexachlorobutadiene	ND		2.5		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Isopropylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Methyl tert-butyl ether	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Methylene Chloride	ND		12		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
m-Xylene & p-Xylene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Naphthalene	ND		8.2		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
n-Butylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
N-Propylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-1-9

Lab Sample ID: 580-47968-6

Date Collected: 03/13/15 12:45

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
sec-Butylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Styrene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
t-Butylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Tetrachloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Toluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
trans-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
trans-1,3-Dichloropropene	ND		8.2		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Trichloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Trichlorofluoromethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1
Vinyl chloride	ND	^	1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 13:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		71 - 136	03/13/15 17:15	03/16/15 13:54	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/13/15 17:15	03/16/15 13:54	1
Dibromofluoromethane (Surr)	96		75 - 132	03/13/15 17:15	03/16/15 13:54	1
Toluene-d8 (Surr)	105		80 - 120	03/13/15 17:15	03/16/15 13:54	1
Trifluorotoluene (Surr)	105		65 - 140	03/13/15 17:15	03/16/15 13:54	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.0		mg/Kg	☼	03/17/15 15:17	03/18/15 09:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150	03/17/15 15:17	03/18/15 09:13	1
Trifluorotoluene (Surr)				03/17/15 15:17	03/18/15 09:13	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		27		mg/Kg	☼	03/16/15 17:31	03/17/15 13:59	1
Motor Oil (>C24-C36)	ND		55		mg/Kg	☼	03/16/15 17:31	03/17/15 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	65		50 - 150	03/16/15 17:31	03/17/15 13:59	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.39		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Arsenic	2.9		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Beryllium	ND		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Cadmium	ND		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Chromium	29		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Copper	16		0.40		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Lead	2.5		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Nickel	49		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Selenium	ND		1.0		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Silver	ND		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Thallium	ND		0.40		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10
Zinc	33		5.0		mg/Kg	☼	03/17/15 11:25	03/17/15 14:17	10

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-1-9

Date Collected: 03/13/15 12:45

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-6

Matrix: Solid

Percent Solids: 86.2

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.022		0.019		mg/Kg	☼	03/17/15 07:05	03/17/15 09:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			03/17/15 14:33	1
Percent Moisture	14		0.10		%			03/17/15 14:33	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-2-10.5

Lab Sample ID: 580-47968-7

Date Collected: 03/13/15 14:10

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,1,1-Trichloroethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,1,2,2-Tetrachloroethane	ND		3.1		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,1,2-Trichloroethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,1-Dichloroethane	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,1-Dichloroethene	ND		3.9		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,1-Dichloropropene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2,3-Trichlorobenzene	ND		2.3		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2,3-Trichloropropane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2,4-Trichlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2,4-Trimethylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2-Dibromo-3-Chloropropane	ND		7.8		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2-Dibromoethane	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2-Dichloroethane	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,2-Dichloropropane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,3,5-Trimethylbenzene	ND		3.9		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,3-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,3-Dichloropropane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
1,4-Dichlorobenzene	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
2,2-Dichloropropane	ND		3.9		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
2-Chlorotoluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
4-Chlorotoluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
4-Isopropyltoluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Benzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Bromobenzene	ND		7.8		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Bromochloromethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Bromodichloromethane	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Bromoform	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Bromomethane	ND *		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Carbon tetrachloride	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Chlorobenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Chloroethane	ND ^		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Chloroform	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Chloromethane	ND ^		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
cis-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
cis-1,3-Dichloropropene	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Dibromochloromethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Dibromomethane	ND		0.78		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Dichlorodifluoromethane	ND ^		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Ethylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Hexachlorobutadiene	ND		2.3		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Isopropylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Methyl tert-butyl ether	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Methylene Chloride	ND		12		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
m-Xylene & p-Xylene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Naphthalene	ND		7.8		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
n-Butylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
N-Propylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-2-10.5

Lab Sample ID: 580-47968-7

Date Collected: 03/13/15 14:10

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
sec-Butylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Styrene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
t-Butylbenzene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Tetrachloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Toluene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
trans-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
trans-1,3-Dichloropropene	ND		7.8		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Trichloroethene	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Trichlorofluoromethane	ND		1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1
Vinyl chloride	ND	^	1.6		ug/Kg	☼	03/13/15 17:15	03/16/15 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 136	03/13/15 17:15	03/16/15 14:20	1
4-Bromofluorobenzene (Surr)	94		70 - 120	03/13/15 17:15	03/16/15 14:20	1
Dibromofluoromethane (Surr)	97		75 - 132	03/13/15 17:15	03/16/15 14:20	1
Toluene-d8 (Surr)	106		80 - 120	03/13/15 17:15	03/16/15 14:20	1
Trifluorotoluene (Surr)	101		65 - 140	03/13/15 17:15	03/16/15 14:20	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.3		mg/Kg	☼	03/17/15 15:17	03/18/15 09:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150	03/17/15 15:17	03/18/15 09:46	1
Trifluorotoluene (Surr)				03/17/15 15:17	03/18/15 09:46	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		28		mg/Kg	☼	03/16/15 17:31	03/17/15 14:17	1
Motor Oil (>C24-C36)	ND		56		mg/Kg	☼	03/16/15 17:31	03/17/15 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150	03/16/15 17:31	03/17/15 14:17	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.24		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Arsenic	2.8		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Beryllium	ND		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Cadmium	ND		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Chromium	29		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Copper	17		0.40		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Lead	2.4		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Nickel	50		0.50		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Selenium	ND		1.0		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Silver	ND		0.20		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Thallium	ND		0.40		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10
Zinc	33		5.0		mg/Kg	☼	03/17/15 11:25	03/17/15 14:21	10

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-2-10.5

Date Collected: 03/13/15 14:10

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-7

Matrix: Solid

Percent Solids: 86.2

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019		mg/Kg	☼	03/17/15 07:05	03/17/15 09:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			03/17/15 14:33	1
Percent Moisture	14		0.10		%			03/17/15 14:33	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-1-G

Lab Sample ID: 580-47968-8

Date Collected: 03/13/15 11:00

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
4,4'-DDE	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
4,4'-DDT	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
Aldrin	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
alpha-BHC	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
alpha-Chlordane	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
beta-BHC	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
delta-BHC	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
Dieldrin	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
Endosulfan I	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
Endosulfan II	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
Endosulfan sulfate	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
Endrin	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
Endrin aldehyde	ND		0.027		ug/L		03/17/15 13:38	03/19/15 10:37	1
Endrin ketone	ND		0.011		ug/L		03/17/15 13:38	03/19/15 10:37	1
gamma-BHC (Lindane)	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
gamma-Chlordane	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
Heptachlor	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
Heptachlor epoxide	ND		0.0053		ug/L		03/17/15 13:38	03/19/15 10:37	1
Methoxychlor	ND		0.053		ug/L		03/17/15 13:38	03/19/15 10:37	1
Toxaphene	ND		0.53		ug/L		03/17/15 13:38	03/19/15 10:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		33 - 133				03/17/15 13:38	03/19/15 10:37	1
Tetrachloro-m-xylene	72		45 - 123				03/17/15 13:38	03/19/15 10:37	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: TB-031315-01

Lab Sample ID: 580-47968-9

Date Collected: 03/13/15 00:01

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/16/15 15:08	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/16/15 15:08	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/16/15 15:08	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/16/15 15:08	1
1,1-Dichloroethane	ND		0.20		ug/L			03/16/15 15:08	1
1,1-Dichloroethene	ND		0.10		ug/L			03/16/15 15:08	1
1,1-Dichloropropene	ND		0.10		ug/L			03/16/15 15:08	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/16/15 15:08	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/16/15 15:08	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/16/15 15:08	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/16/15 15:08	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/16/15 15:08	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/16/15 15:08	1
1,2-Dichloroethane	ND		0.20		ug/L			03/16/15 15:08	1
1,2-Dichloropropane	ND		0.20		ug/L			03/16/15 15:08	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/16/15 15:08	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/16/15 15:08	1
1,3-Dichloropropane	ND		0.20		ug/L			03/16/15 15:08	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/16/15 15:08	1
2,2-Dichloropropane	ND		0.50		ug/L			03/16/15 15:08	1
2-Chlorotoluene	ND		0.50		ug/L			03/16/15 15:08	1
4-Chlorotoluene	ND		0.30		ug/L			03/16/15 15:08	1
4-Isopropyltoluene	ND		0.30		ug/L			03/16/15 15:08	1
Benzene	ND		0.20		ug/L			03/16/15 15:08	1
Bromobenzene	ND		0.20		ug/L			03/16/15 15:08	1
Bromoform	ND		0.50		ug/L			03/16/15 15:08	1
Bromomethane	ND		1.0		ug/L			03/16/15 15:08	1
Carbon tetrachloride	ND		0.20		ug/L			03/16/15 15:08	1
Chlorobenzene	ND		0.20		ug/L			03/16/15 15:08	1
Chlorobromomethane	ND		0.20		ug/L			03/16/15 15:08	1
Chlorodibromomethane	ND		0.20		ug/L			03/16/15 15:08	1
Chloroethane	ND		0.50		ug/L			03/16/15 15:08	1
Chloroform	ND		0.20		ug/L			03/16/15 15:08	1
Chloromethane	ND		0.30		ug/L			03/16/15 15:08	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/16/15 15:08	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/16/15 15:08	1
Dibromomethane	ND		0.20		ug/L			03/16/15 15:08	1
Dichlorobromomethane	ND		0.20		ug/L			03/16/15 15:08	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/16/15 15:08	1
Ethylbenzene	ND		0.20		ug/L			03/16/15 15:08	1
Ethylene Dibromide	ND		0.10		ug/L			03/16/15 15:08	1
Hexachlorobutadiene	ND		0.50		ug/L			03/16/15 15:08	1
Isopropylbenzene	ND		0.50		ug/L			03/16/15 15:08	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/16/15 15:08	1
Methylene Chloride	1.3		0.50		ug/L			03/16/15 15:08	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/16/15 15:08	1
Naphthalene	ND		0.50		ug/L			03/16/15 15:08	1
n-Butylbenzene	ND		0.50		ug/L			03/16/15 15:08	1
N-Propylbenzene	ND	*	0.20		ug/L			03/16/15 15:08	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: TB-031315-01

Lab Sample ID: 580-47968-9

Date Collected: 03/13/15 00:01

Matrix: Water

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/16/15 15:08	1
sec-Butylbenzene	ND		0.50		ug/L			03/16/15 15:08	1
Styrene	ND		0.50		ug/L			03/16/15 15:08	1
tert-Butylbenzene	ND		0.50		ug/L			03/16/15 15:08	1
Tetrachloroethene	ND		0.50		ug/L			03/16/15 15:08	1
Toluene	ND		0.20		ug/L			03/16/15 15:08	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/16/15 15:08	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/16/15 15:08	1
Trichloroethene	ND		0.20		ug/L			03/16/15 15:08	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/16/15 15:08	1
Vinyl chloride	ND		0.020		ug/L			03/16/15 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 128		03/16/15 15:08	1
4-Bromofluorobenzene (Surr)	95		75 - 120		03/16/15 15:08	1
Dibromofluoromethane (Surr)	91		85 - 115		03/16/15 15:08	1
Toluene-d8 (Surr)	104		75 - 125		03/16/15 15:08	1
Trifluorotoluene (Surr)	114		80 - 127		03/16/15 15:08	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: TB-031315-02

Lab Sample ID: 580-47968-10

Date Collected: 03/13/15 00:01

Matrix: Solid

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Benzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Bromobenzene	ND		10		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Bromochloromethane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Bromodichloromethane	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Bromoform	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Bromomethane	ND	*	1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Chlorobenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Chloroethane	ND	^	2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Chloroform	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Chloromethane	ND	^	1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Dibromochloromethane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Dibromomethane	ND		1.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Dichlorodifluoromethane	ND	^	2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Ethylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Isopropylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Methylene Chloride	ND		15		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Naphthalene	ND		10		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
n-Butylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
N-Propylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: TB-031315-02

Lab Sample ID: 580-47968-10

Date Collected: 03/13/15 00:01

Matrix: Solid

Date Received: 03/13/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Styrene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
t-Butylbenzene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Tetrachloroethene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Toluene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Trichloroethene	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1
Vinyl chloride	ND	^	2.0		ug/Kg		03/13/15 17:15	03/16/15 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		71 - 136	03/13/15 17:15	03/16/15 11:58	1
4-Bromofluorobenzene (Surr)	94		70 - 120	03/13/15 17:15	03/16/15 11:58	1
Dibromofluoromethane (Surr)	90		75 - 132	03/13/15 17:15	03/16/15 11:58	1
Toluene-d8 (Surr)	108		80 - 120	03/13/15 17:15	03/16/15 11:58	1
Trifluorotoluene (Surr)	102		65 - 140	03/13/15 17:15	03/16/15 11:58	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/17/15 15:17	03/18/15 08:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150	03/17/15 15:17	03/18/15 08:07	1
Trifluorotoluene (Surr)				03/17/15 15:17	03/18/15 08:07	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184449/6

Matrix: Water

Analysis Batch: 184449

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/16/15 12:02	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/16/15 12:02	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/16/15 12:02	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/16/15 12:02	1
1,1-Dichloroethane	ND		0.20		ug/L			03/16/15 12:02	1
1,1-Dichloroethene	ND		0.10		ug/L			03/16/15 12:02	1
1,1-Dichloropropene	ND		0.10		ug/L			03/16/15 12:02	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/16/15 12:02	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/16/15 12:02	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/16/15 12:02	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/16/15 12:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/16/15 12:02	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/16/15 12:02	1
1,2-Dichloroethane	ND		0.20		ug/L			03/16/15 12:02	1
1,2-Dichloropropane	ND		0.20		ug/L			03/16/15 12:02	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/16/15 12:02	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/16/15 12:02	1
1,3-Dichloropropane	ND		0.20		ug/L			03/16/15 12:02	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/16/15 12:02	1
2,2-Dichloropropane	ND		0.50		ug/L			03/16/15 12:02	1
2-Chlorotoluene	ND		0.50		ug/L			03/16/15 12:02	1
4-Chlorotoluene	ND		0.30		ug/L			03/16/15 12:02	1
4-Isopropyltoluene	ND		0.30		ug/L			03/16/15 12:02	1
Benzene	ND		0.20		ug/L			03/16/15 12:02	1
Bromobenzene	ND		0.20		ug/L			03/16/15 12:02	1
Bromoform	ND		0.50		ug/L			03/16/15 12:02	1
Bromomethane	ND		1.0		ug/L			03/16/15 12:02	1
Carbon tetrachloride	ND		0.20		ug/L			03/16/15 12:02	1
Chlorobenzene	ND		0.20		ug/L			03/16/15 12:02	1
Chlorobromomethane	ND		0.20		ug/L			03/16/15 12:02	1
Chlorodibromomethane	ND		0.20		ug/L			03/16/15 12:02	1
Chloroethane	ND		0.50		ug/L			03/16/15 12:02	1
Chloroform	ND		0.20		ug/L			03/16/15 12:02	1
Chloromethane	ND		0.30		ug/L			03/16/15 12:02	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/16/15 12:02	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/16/15 12:02	1
Dibromomethane	ND		0.20		ug/L			03/16/15 12:02	1
Dichlorobromomethane	ND		0.20		ug/L			03/16/15 12:02	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/16/15 12:02	1
Ethylbenzene	ND		0.20		ug/L			03/16/15 12:02	1
Ethylene Dibromide	ND		0.10		ug/L			03/16/15 12:02	1
Hexachlorobutadiene	ND		0.50		ug/L			03/16/15 12:02	1
Isopropylbenzene	ND		0.50		ug/L			03/16/15 12:02	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/16/15 12:02	1
Methylene Chloride	ND		0.50		ug/L			03/16/15 12:02	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/16/15 12:02	1
Naphthalene	ND		0.50		ug/L			03/16/15 12:02	1
n-Butylbenzene	ND		0.50		ug/L			03/16/15 12:02	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184449/6

Matrix: Water

Analysis Batch: 184449

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/16/15 12:02	1
o-Xylene	ND		0.50		ug/L			03/16/15 12:02	1
sec-Butylbenzene	ND		0.50		ug/L			03/16/15 12:02	1
Styrene	ND		0.50		ug/L			03/16/15 12:02	1
tert-Butylbenzene	ND		0.50		ug/L			03/16/15 12:02	1
Tetrachloroethene	ND		0.50		ug/L			03/16/15 12:02	1
Toluene	ND		0.20		ug/L			03/16/15 12:02	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/16/15 12:02	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/16/15 12:02	1
Trichloroethene	ND		0.20		ug/L			03/16/15 12:02	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/16/15 12:02	1
Vinyl chloride	ND		0.020		ug/L			03/16/15 12:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 128		03/16/15 12:02	1
4-Bromofluorobenzene (Surr)	101		75 - 120		03/16/15 12:02	1
Dibromofluoromethane (Surr)	94		85 - 115		03/16/15 12:02	1
Toluene-d8 (Surr)	104		75 - 125		03/16/15 12:02	1
Trifluorotoluene (Surr)	109		80 - 127		03/16/15 12:02	1

Lab Sample ID: LCS 580-184449/7

Matrix: Water

Analysis Batch: 184449

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.14		ug/L		103	75 - 125
1,1,1-Trichloroethane	5.00	4.63		ug/L		93	80 - 140
1,1,2,2-Tetrachloroethane	5.00	5.55		ug/L		111	75 - 125
1,1,2-Trichloroethane	5.00	5.49		ug/L		110	80 - 130
1,1-Dichloroethane	5.00	5.21		ug/L		104	75 - 135
1,1-Dichloroethene	5.00	4.84		ug/L		97	70 - 150
1,1-Dichloropropene	5.00	5.69		ug/L		114	80 - 130
1,2,3-Trichlorobenzene	5.00	4.55		ug/L		91	60 - 125
1,2,3-Trichloropropane	5.00	5.81		ug/L		116	75 - 120
1,2,4-Trichlorobenzene	5.00	5.02		ug/L		100	60 - 125
1,2,4-Trimethylbenzene	5.00	5.90		ug/L		118	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	5.35		ug/L		107	55 - 120
1,2-Dichlorobenzene	5.00	5.36		ug/L		107	80 - 130
1,2-Dichloroethane	5.00	4.61		ug/L		92	80 - 140
1,2-Dichloropropane	5.00	5.60		ug/L		112	80 - 120
1,3,5-Trimethylbenzene	5.00	6.14		ug/L		123	80 - 125
1,3-Dichlorobenzene	5.00	5.37		ug/L		107	80 - 120
1,3-Dichloropropane	5.00	5.34		ug/L		107	80 - 130
1,4-Dichlorobenzene	5.00	5.26		ug/L		105	80 - 120
2,2-Dichloropropane	5.00	4.75		ug/L		95	60 - 150
2-Chlorotoluene	5.00	6.03		ug/L		121	75 - 130
4-Chlorotoluene	5.00	5.99		ug/L		120	75 - 130
4-Isopropyltoluene	5.00	5.45		ug/L		109	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184449/7

Matrix: Water

Analysis Batch: 184449

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.35		ug/L		107	80 - 120
Bromobenzene	5.00	5.71		ug/L		114	80 - 130
Bromoform	5.00	4.70		ug/L		94	65 - 130
Bromomethane	5.00	5.45		ug/L		109	70 - 135
Carbon tetrachloride	5.00	4.81		ug/L		96	75 - 140
Chlorobenzene	5.00	5.23		ug/L		105	80 - 120
Chlorobromomethane	5.00	5.15		ug/L		103	80 - 125
Chlorodibromomethane	5.00	5.49		ug/L		110	70 - 120
Chloroethane	5.00	5.27		ug/L		105	75 - 140
Chloroform	5.00	4.66		ug/L		93	80 - 130
Chloromethane	5.00	4.37		ug/L		88	50 - 140
cis-1,2-Dichloroethene	5.00	5.10		ug/L		102	80 - 130
cis-1,3-Dichloropropene	5.00	6.19	*	ug/L		124	70 - 120
Dibromomethane	5.00	5.27		ug/L		105	80 - 130
Dichlorobromomethane	5.00	5.06		ug/L		101	80 - 125
Dichlorodifluoromethane	5.00	2.81	^	ug/L		56	30 - 180
Ethylbenzene	5.00	5.37		ug/L		107	80 - 125
Ethylene Dibromide	5.00	5.45		ug/L		109	70 - 130
Hexachlorobutadiene	5.00	4.85		ug/L		97	75 - 135
Isopropylbenzene	5.00	5.75		ug/L		115	75 - 120
Methyl tert-butyl ether	5.00	5.46		ug/L		109	75 - 120
Methylene Chloride	5.00	5.28		ug/L		106	60 - 145
m-Xylene & p-Xylene	5.00	5.47		ug/L		109	80 - 130
Naphthalene	5.00	5.36		ug/L		107	45 - 130
n-Butylbenzene	5.00	5.78		ug/L		116	75 - 125
N-Propylbenzene	5.00	6.14	*	ug/L		123	80 - 120
o-Xylene	5.00	5.47		ug/L		109	80 - 120
sec-Butylbenzene	5.00	6.24		ug/L		125	80 - 125
Styrene	5.00	5.82		ug/L		116	75 - 130
tert-Butylbenzene	5.00	6.32		ug/L		126	80 - 130
Tetrachloroethene	5.00	7.59		ug/L		152	40 - 180
Toluene	5.00	5.44		ug/L		109	80 - 120
trans-1,2-Dichloroethene	5.00	5.29		ug/L		106	80 - 140
trans-1,3-Dichloropropene	5.00	6.64		ug/L		133	60 - 140
Trichloroethene	5.00	5.35		ug/L		107	80 - 130
Trichlorofluoromethane	5.00	3.90	^	ug/L		78	30 - 180
Vinyl chloride	5.00	5.26		ug/L		105	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		70 - 128
4-Bromofluorobenzene (Surr)	95		75 - 120
Dibromofluoromethane (Surr)	92		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	113		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184449/8

Matrix: Water

Analysis Batch: 184449

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.04		ug/L		101	75 - 125	2	20
1,1,1-Trichloroethane	5.00	4.63		ug/L		93	80 - 140	0	20
1,1,2,2-Tetrachloroethane	5.00	5.22		ug/L		104	75 - 125	6	20
1,1,2-Trichloroethane	5.00	5.23		ug/L		105	80 - 130	5	20
1,1-Dichloroethane	5.00	5.13		ug/L		103	75 - 135	2	20
1,1-Dichloroethene	5.00	4.75		ug/L		95	70 - 150	2	20
1,1-Dichloropropene	5.00	5.58		ug/L		112	80 - 130	2	20
1,2,3-Trichlorobenzene	5.00	4.70		ug/L		94	60 - 125	3	20
1,2,3-Trichloropropane	5.00	5.50		ug/L		110	75 - 120	6	20
1,2,4-Trichlorobenzene	5.00	5.17		ug/L		103	60 - 125	3	20
1,2,4-Trimethylbenzene	5.00	5.75		ug/L		115	80 - 125	3	20
1,2-Dibromo-3-Chloropropane	5.00	5.25		ug/L		105	55 - 120	2	20
1,2-Dichlorobenzene	5.00	5.24		ug/L		105	80 - 130	2	20
1,2-Dichloroethane	5.00	4.46		ug/L		89	80 - 140	3	20
1,2-Dichloropropane	5.00	5.34		ug/L		107	80 - 120	5	20
1,3,5-Trimethylbenzene	5.00	5.93		ug/L		119	80 - 125	3	20
1,3-Dichlorobenzene	5.00	5.21		ug/L		104	80 - 120	3	20
1,3-Dichloropropane	5.00	5.19		ug/L		104	80 - 130	3	20
1,4-Dichlorobenzene	5.00	5.12		ug/L		102	80 - 120	3	20
2,2-Dichloropropane	5.00	4.74		ug/L		95	60 - 150	0	20
2-Chlorotoluene	5.00	5.78		ug/L		116	75 - 130	4	20
4-Chlorotoluene	5.00	5.71		ug/L		114	75 - 130	5	20
4-Isopropyltoluene	5.00	5.26		ug/L		105	80 - 120	4	20
Benzene	5.00	5.27		ug/L		105	80 - 120	1	20
Bromobenzene	5.00	5.50		ug/L		110	80 - 130	4	20
Bromoform	5.00	4.58		ug/L		92	65 - 130	3	20
Bromomethane	5.00	5.42		ug/L		108	70 - 135	1	20
Carbon tetrachloride	5.00	4.72		ug/L		94	75 - 140	2	20
Chlorobenzene	5.00	5.06		ug/L		101	80 - 120	3	20
Chlorobromomethane	5.00	5.11		ug/L		102	80 - 125	1	20
Chlorodibromomethane	5.00	5.31		ug/L		106	70 - 120	3	20
Chloroethane	5.00	5.09		ug/L		102	75 - 140	4	20
Chloroform	5.00	4.62		ug/L		92	80 - 130	1	20
Chloromethane	5.00	4.46		ug/L		89	50 - 140	2	20
cis-1,2-Dichloroethene	5.00	5.07		ug/L		101	80 - 130	1	20
cis-1,3-Dichloropropene	5.00	5.98		ug/L		120	70 - 120	3	20
Dibromomethane	5.00	5.02		ug/L		100	80 - 130	5	20
Dichlorobromomethane	5.00	4.97		ug/L		99	80 - 125	2	20
Dichlorodifluoromethane	5.00	2.82	^	ug/L		56	30 - 180	0	20
Ethylbenzene	5.00	5.26		ug/L		105	80 - 125	2	20
Ethylene Dibromide	5.00	5.30		ug/L		106	70 - 130	3	20
Hexachlorobutadiene	5.00	4.99		ug/L		100	75 - 135	3	20
Isopropylbenzene	5.00	5.63		ug/L		113	75 - 120	2	20
Methyl tert-butyl ether	5.00	5.27		ug/L		105	75 - 120	4	20
Methylene Chloride	5.00	5.18		ug/L		104	60 - 145	2	20
m-Xylene & p-Xylene	5.00	5.39		ug/L		108	80 - 130	1	20
Naphthalene	5.00	5.37		ug/L		107	45 - 130	0	20
n-Butylbenzene	5.00	5.56		ug/L		111	75 - 125	4	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184449/8

Matrix: Water

Analysis Batch: 184449

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.79		ug/L		116	80 - 120	6	20
o-Xylene	5.00	5.40		ug/L		108	80 - 120	1	20
sec-Butylbenzene	5.00	6.00		ug/L		120	80 - 125	4	20
Styrene	5.00	5.75		ug/L		115	75 - 130	1	20
tert-Butylbenzene	5.00	5.98		ug/L		120	80 - 130	5	20
Tetrachloroethene	5.00	8.31		ug/L		166	40 - 180	9	20
Toluene	5.00	5.32		ug/L		106	80 - 120	2	20
trans-1,2-Dichloroethene	5.00	5.19		ug/L		104	80 - 140	2	20
trans-1,3-Dichloropropene	5.00	6.34		ug/L		127	60 - 140	5	20
Trichloroethene	5.00	5.30		ug/L		106	80 - 130	1	20
Trichlorofluoromethane	5.00	4.12	^	ug/L		82	30 - 180	5	20
Vinyl chloride	5.00	5.24		ug/L		105	65 - 140	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	84		70 - 128
4-Bromofluorobenzene (Surr)	97		75 - 120
Dibromofluoromethane (Surr)	94		85 - 115
Toluene-d8 (Surr)	104		75 - 125
Trifluorotoluene (Surr)	112		80 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-184452/1-A

Matrix: Solid

Analysis Batch: 184446

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184452/1-A

Matrix: Solid

Analysis Batch: 184446

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Benzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Bromobenzene	ND		10		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Bromochloromethane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Bromodichloromethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Bromoform	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Bromomethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Chlorobenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Chloroethane	ND	^	2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Chloroform	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Chloromethane	ND	^	1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Dibromochloromethane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Dibromomethane	ND		1.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Dichlorodifluoromethane	ND	^	2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Ethylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Isopropylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Methylene Chloride	ND		15		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Naphthalene	ND		10		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
n-Butylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
N-Propylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
o-Xylene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Styrene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
t-Butylbenzene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Tetrachloroethene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Toluene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Trichloroethene	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1
Vinyl chloride	ND	^	2.0		ug/Kg		03/16/15 10:00	03/16/15 10:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		71 - 136	03/16/15 10:00	03/16/15 10:39	1
4-Bromofluorobenzene (Surr)	98		70 - 120	03/16/15 10:00	03/16/15 10:39	1
Dibromofluoromethane (Surr)	102		75 - 132	03/16/15 10:00	03/16/15 10:39	1
Toluene-d8 (Surr)	102		80 - 120	03/16/15 10:00	03/16/15 10:39	1
Trifluorotoluene (Surr)	88		65 - 140	03/16/15 10:00	03/16/15 10:39	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184452/2-A

Matrix: Solid

Analysis Batch: 184446

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	40.0	41.0		ug/Kg		102	72 - 123
1,1,1-Trichloroethane	40.0	35.4		ug/Kg		89	63 - 135
1,1,2,2-Tetrachloroethane	40.0	42.6		ug/Kg		107	73 - 125
1,1,2-Trichloroethane	40.0	41.4		ug/Kg		104	77 - 124
1,1-Dichloroethane	40.0	38.3		ug/Kg		96	70 - 128
1,1-Dichloroethene	40.0	32.3		ug/Kg		81	70 - 133
1,1-Dichloropropene	40.0	41.2		ug/Kg		103	77 - 125
1,2,3-Trichlorobenzene	40.0	44.0		ug/Kg		110	61 - 130
1,2,3-Trichloropropane	40.0	43.8		ug/Kg		109	77 - 123
1,2,4-Trichlorobenzene	40.0	43.0		ug/Kg		107	61 - 130
1,2,4-Trimethylbenzene	40.0	39.4		ug/Kg		99	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	40.7		ug/Kg		102	53 - 132
1,2-Dibromoethane	40.0	42.5		ug/Kg		106	69 - 126
1,2-Dichlorobenzene	40.0	39.4		ug/Kg		99	79 - 117
1,2-Dichloroethane	40.0	41.2		ug/Kg		103	71 - 128
1,2-Dichloropropane	40.0	40.2		ug/Kg		101	76 - 161
1,3,5-Trimethylbenzene	40.0	40.8		ug/Kg		102	80 - 125
1,3-Dichlorobenzene	40.0	40.5		ug/Kg		101	79 - 119
1,3-Dichloropropane	40.0	41.4		ug/Kg		103	77 - 123
1,4-Dichlorobenzene	40.0	41.0		ug/Kg		102	79 - 117
2,2-Dichloropropane	40.0	35.2		ug/Kg		88	56 - 144
2-Chlorotoluene	40.0	40.5		ug/Kg		101	79 - 122
4-Chlorotoluene	40.0	42.1		ug/Kg		105	80 - 122
4-Isopropyltoluene	40.0	38.2		ug/Kg		95	78 - 126
Benzene	40.0	40.2		ug/Kg		101	70 - 128
Bromobenzene	40.0	43.2		ug/Kg		108	80 - 120
Bromochloromethane	40.0	39.2		ug/Kg		98	78 - 123
Bromodichloromethane	40.0	41.0		ug/Kg		102	58 - 133
Bromoform	40.0	40.6		ug/Kg		102	50 - 124
Bromomethane	40.0	25.5		ug/Kg		64	57 - 148
Carbon tetrachloride	40.0	37.3		ug/Kg		93	59 - 145
Chlorobenzene	40.0	40.6		ug/Kg		101	75 - 120
Chloroethane	40.0	27.3	^	ug/Kg		68	48 - 167
Chloroform	40.0	38.8		ug/Kg		97	78 - 125
Chloromethane	40.0	28.6	^	ug/Kg		72	55 - 136
cis-1,2-Dichloroethene	40.0	36.6		ug/Kg		91	70 - 130
cis-1,3-Dichloropropene	40.0	44.9		ug/Kg		112	69 - 129
Dibromochloromethane	40.0	43.2		ug/Kg		108	42 - 129
Dibromomethane	40.0	41.0		ug/Kg		103	78 - 126
Dichlorodifluoromethane	40.0	18.4	^	ug/Kg		46	38 - 150
Ethylbenzene	40.0	40.5		ug/Kg		101	78 - 126
Hexachlorobutadiene	40.0	38.8		ug/Kg		97	68 - 134
Isopropylbenzene	40.0	39.6		ug/Kg		99	79 - 127
Methyl tert-butyl ether	40.0	38.6		ug/Kg		96	65 - 125
Methylene Chloride	40.0	34.5		ug/Kg		86	57 - 146
m-Xylene & p-Xylene	40.0	40.4		ug/Kg		101	78 - 126
Naphthalene	40.0	47.7		ug/Kg		119	14 - 170
n-Butylbenzene	40.0	37.9		ug/Kg		95	78 - 128

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184452/2-A

Matrix: Solid

Analysis Batch: 184446

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	40.0	40.5		ug/Kg		101	81 - 127
o-Xylene	40.0	39.7		ug/Kg		99	77 - 127
sec-Butylbenzene	40.0	39.8		ug/Kg		99	78 - 128
Styrene	40.0	40.2		ug/Kg		100	79 - 127
t-Butylbenzene	40.0	39.8		ug/Kg		100	71 - 136
Tetrachloroethene	40.0	43.0		ug/Kg		108	56 - 155
Toluene	40.0	41.4		ug/Kg		103	75 - 126
trans-1,2-Dichloroethene	40.0	35.1		ug/Kg		88	76 - 131
trans-1,3-Dichloropropene	40.0	47.5		ug/Kg		119	72 - 129
Trichloroethene	40.0	40.2		ug/Kg		101	83 - 124
Trichlorofluoromethane	40.0	30.4		ug/Kg		76	47 - 165
Vinyl chloride	40.0	27.2	^	ug/Kg		68	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		71 - 136
4-Bromofluorobenzene (Surr)	99		70 - 120
Dibromofluoromethane (Surr)	101		75 - 132
Toluene-d8 (Surr)	100		80 - 120
Trifluorotoluene (Surr)	94		65 - 140

Lab Sample ID: LCSD 580-184452/3-A

Matrix: Solid

Analysis Batch: 184446

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184452

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	39.2		ug/Kg		98	72 - 123	4	20
1,1,1-Trichloroethane	40.0	38.8		ug/Kg		97	63 - 135	9	20
1,1,2,2-Tetrachloroethane	40.0	37.5		ug/Kg		94	73 - 125	13	22
1,1,2-Trichloroethane	40.0	38.2		ug/Kg		95	77 - 124	8	18
1,1-Dichloroethane	40.0	42.4		ug/Kg		106	70 - 128	10	21
1,1-Dichloroethene	40.0	35.2		ug/Kg		88	70 - 133	8	23
1,1-Dichloropropene	40.0	39.8		ug/Kg		99	77 - 125	4	16
1,2,3-Trichlorobenzene	40.0	45.4		ug/Kg		113	61 - 130	3	23
1,2,3-Trichloropropane	40.0	36.1		ug/Kg		90	77 - 123	19	23
1,2,4-Trichlorobenzene	40.0	46.1		ug/Kg		115	61 - 130	7	22
1,2,4-Trimethylbenzene	40.0	39.0		ug/Kg		97	79 - 124	1	18
1,2-Dibromo-3-Chloropropane	40.0	38.8		ug/Kg		97	53 - 132	5	27
1,2-Dibromoethane	40.0	40.0		ug/Kg		100	69 - 126	6	21
1,2-Dichlorobenzene	40.0	40.0		ug/Kg		100	79 - 117	2	17
1,2-Dichloroethane	40.0	39.5		ug/Kg		99	71 - 128	4	18
1,2-Dichloropropane	40.0	39.9		ug/Kg		100	76 - 161	1	15
1,3,5-Trimethylbenzene	40.0	39.3		ug/Kg		98	80 - 125	4	18
1,3-Dichlorobenzene	40.0	40.1		ug/Kg		100	79 - 119	1	17
1,3-Dichloropropane	40.0	38.6		ug/Kg		96	77 - 123	7	19
1,4-Dichlorobenzene	40.0	40.9		ug/Kg		102	79 - 117	0	18
2,2-Dichloropropane	40.0	40.1		ug/Kg		100	56 - 144	13	21
2-Chlorotoluene	40.0	38.9		ug/Kg		97	79 - 122	4	18
4-Chlorotoluene	40.0	39.9		ug/Kg		100	80 - 122	5	18

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184452/3-A

Matrix: Solid

Analysis Batch: 184446

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184452

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Isopropyltoluene	40.0	37.8		ug/Kg		95	78 - 126	1	18
Benzene	40.0	40.8		ug/Kg		102	70 - 128	1	19
Bromobenzene	40.0	40.8		ug/Kg		102	80 - 120	6	19
Bromochloromethane	40.0	41.6		ug/Kg		104	78 - 123	6	19
Bromodichloromethane	40.0	40.6		ug/Kg		101	58 - 133	1	19
Bromoform	40.0	38.3		ug/Kg		96	50 - 124	6	25
Bromomethane	40.0	37.2	*	ug/Kg		93	57 - 148	37	29
Carbon tetrachloride	40.0	39.5		ug/Kg		99	59 - 145	6	19
Chlorobenzene	40.0	40.7		ug/Kg		102	75 - 120	0	21
Chloroethane	40.0	35.6	^	ug/Kg		89	48 - 167	26	53
Chloroform	40.0	41.9		ug/Kg		105	78 - 125	8	17
Chloromethane	40.0	33.4	^	ug/Kg		84	55 - 136	15	26
cis-1,2-Dichloroethene	40.0	40.1		ug/Kg		100	70 - 130	9	19
cis-1,3-Dichloropropene	40.0	41.1		ug/Kg		103	69 - 129	9	19
Dibromochloromethane	40.0	40.8		ug/Kg		102	42 - 129	6	23
Dibromomethane	40.0	40.0		ug/Kg		100	78 - 126	2	18
Dichlorodifluoromethane	40.0	23.1	^	ug/Kg		58	38 - 150	22	26
Ethylbenzene	40.0	39.8		ug/Kg		99	78 - 126	2	23
Hexachlorobutadiene	40.0	39.9		ug/Kg		100	68 - 134	3	21
Isopropylbenzene	40.0	38.9		ug/Kg		97	79 - 127	2	20
Methyl tert-butyl ether	40.0	40.2		ug/Kg		100	65 - 125	4	30
Methylene Chloride	40.0	39.4		ug/Kg		98	57 - 146	13	21
m-Xylene & p-Xylene	40.0	40.0		ug/Kg		100	78 - 126	1	23
Naphthalene	40.0	47.6		ug/Kg		119	14 - 170	0	50
n-Butylbenzene	40.0	37.7		ug/Kg		94	78 - 128	1	17
N-Propylbenzene	40.0	37.9		ug/Kg		95	81 - 127	7	20
o-Xylene	40.0	39.6		ug/Kg		99	77 - 127	0	22
sec-Butylbenzene	40.0	38.1		ug/Kg		95	78 - 128	4	17
Styrene	40.0	40.2		ug/Kg		101	79 - 127	0	21
t-Butylbenzene	40.0	36.5		ug/Kg		91	71 - 136	9	27
Tetrachloroethene	40.0	40.7		ug/Kg		102	56 - 155	6	27
Toluene	40.0	39.2		ug/Kg		98	75 - 126	5	19
trans-1,2-Dichloroethene	40.0	39.3		ug/Kg		98	76 - 131	11	18
trans-1,3-Dichloropropene	40.0	45.0		ug/Kg		113	72 - 129	5	20
Trichloroethene	40.0	39.4		ug/Kg		99	83 - 124	2	17
Trichlorofluoromethane	40.0	34.0		ug/Kg		85	47 - 165	11	54
Vinyl chloride	40.0	33.3	^	ug/Kg		83	67 - 131	20	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		71 - 136
4-Bromofluorobenzene (Surr)	101		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	95		80 - 120
Trifluorotoluene (Surr)	92		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184544/1-A

Matrix: Solid

Analysis Batch: 184539

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
2,2-Dichloropropane	ND	^	5.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Benzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Bromobenzene	ND		10		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Bromochloromethane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Bromodichloromethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Bromoform	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Bromomethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Carbon tetrachloride	ND	^	2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Chlorobenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Chloroethane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Chloroform	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Chloromethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Dibromochloromethane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Dibromomethane	ND		1.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Dichlorodifluoromethane	ND	^	2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Ethylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Isopropylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Methylene Chloride	ND		15		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Naphthalene	ND		10		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
n-Butylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184544/1-A

Matrix: Solid

Analysis Batch: 184539

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
o-Xylene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Styrene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
t-Butylbenzene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Tetrachloroethene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Toluene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Trichloroethene	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1
Vinyl chloride	ND		2.0		ug/Kg		03/17/15 11:00	03/17/15 11:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	129		71 - 136	03/17/15 11:00	03/17/15 11:19	1
4-Bromofluorobenzene (Surr)	96		70 - 120	03/17/15 11:00	03/17/15 11:19	1
Dibromofluoromethane (Surr)	103		75 - 132	03/17/15 11:00	03/17/15 11:19	1
Toluene-d8 (Surr)	104		80 - 120	03/17/15 11:00	03/17/15 11:19	1
Trifluorotoluene (Surr)	92		65 - 140	03/17/15 11:00	03/17/15 11:19	1

Lab Sample ID: LCS 580-184544/2-A

Matrix: Solid

Analysis Batch: 184539

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	40.0	40.1		ug/Kg		100	72 - 123
1,1,1-Trichloroethane	40.0	42.6		ug/Kg		107	63 - 135
1,1,2,2-Tetrachloroethane	40.0	43.4		ug/Kg		108	73 - 125
1,1,2-Trichloroethane	40.0	41.2		ug/Kg		103	77 - 124
1,1-Dichloroethane	40.0	43.6		ug/Kg		109	70 - 128
1,1-Dichloroethene	40.0	39.6		ug/Kg		99	70 - 133
1,1-Dichloropropene	40.0	39.4		ug/Kg		99	77 - 125
1,2,3-Trichlorobenzene	40.0	47.0		ug/Kg		118	61 - 130
1,2,3-Trichloropropane	40.0	42.0		ug/Kg		105	77 - 123
1,2,4-Trichlorobenzene	40.0	46.9		ug/Kg		117	61 - 130
1,2,4-Trimethylbenzene	40.0	41.6		ug/Kg		104	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	42.2		ug/Kg		106	53 - 132
1,2-Dibromoethane	40.0	42.8		ug/Kg		107	69 - 126
1,2-Dichlorobenzene	40.0	42.4		ug/Kg		106	79 - 117
1,2-Dichloroethane	40.0	42.4		ug/Kg		106	71 - 128
1,2-Dichloropropane	40.0	41.5		ug/Kg		104	76 - 161
1,3,5-Trimethylbenzene	40.0	42.2		ug/Kg		106	80 - 125
1,3-Dichlorobenzene	40.0	42.3		ug/Kg		106	79 - 119
1,3-Dichloropropane	40.0	41.9		ug/Kg		105	77 - 123
1,4-Dichlorobenzene	40.0	42.5		ug/Kg		106	79 - 117
2,2-Dichloropropane	40.0	45.4	^	ug/Kg		114	56 - 144
2-Chlorotoluene	40.0	41.4		ug/Kg		103	79 - 122
4-Chlorotoluene	40.0	42.4		ug/Kg		106	80 - 122

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184544/2-A

Matrix: Solid

Analysis Batch: 184539

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Isopropyltoluene	40.0	41.0		ug/Kg		102	78 - 126
Benzene	40.0	42.5		ug/Kg		106	70 - 128
Bromobenzene	40.0	43.5		ug/Kg		109	80 - 120
Bromochloromethane	40.0	44.7		ug/Kg		112	78 - 123
Bromodichloromethane	40.0	42.0		ug/Kg		105	58 - 133
Bromoform	40.0	40.6		ug/Kg		102	50 - 124
Bromomethane	40.0	35.2		ug/Kg		88	57 - 148
Carbon tetrachloride	40.0	42.8	^	ug/Kg		107	59 - 145
Chlorobenzene	40.0	41.9		ug/Kg		105	75 - 120
Chloroethane	40.0	30.2		ug/Kg		75	48 - 167
Chloroform	40.0	43.4		ug/Kg		108	78 - 125
Chloromethane	40.0	34.0		ug/Kg		85	55 - 136
cis-1,2-Dichloroethene	40.0	42.0		ug/Kg		105	70 - 130
cis-1,3-Dichloropropene	40.0	42.0		ug/Kg		105	69 - 129
Dibromochloromethane	40.0	43.4		ug/Kg		109	42 - 129
Dibromomethane	40.0	42.5		ug/Kg		106	78 - 126
Dichlorodifluoromethane	40.0	28.6	^	ug/Kg		71	38 - 150
Ethylbenzene	40.0	41.7		ug/Kg		104	78 - 126
Hexachlorobutadiene	40.0	41.7		ug/Kg		104	68 - 134
Isopropylbenzene	40.0	40.2		ug/Kg		100	79 - 127
Methyl tert-butyl ether	40.0	44.8		ug/Kg		112	65 - 125
Methylene Chloride	40.0	41.3		ug/Kg		103	57 - 146
m-Xylene & p-Xylene	40.0	40.9		ug/Kg		102	78 - 126
Naphthalene	40.0	48.8		ug/Kg		122	14 - 170
n-Butylbenzene	40.0	39.8		ug/Kg		99	78 - 128
N-Propylbenzene	40.0	41.4		ug/Kg		104	81 - 127
o-Xylene	40.0	41.0		ug/Kg		102	77 - 127
sec-Butylbenzene	40.0	41.6		ug/Kg		104	78 - 128
Styrene	40.0	42.0		ug/Kg		105	79 - 127
t-Butylbenzene	40.0	39.7		ug/Kg		99	71 - 136
Tetrachloroethene	40.0	38.2		ug/Kg		95	56 - 155
Toluene	40.0	40.5		ug/Kg		101	75 - 126
trans-1,2-Dichloroethene	40.0	40.7		ug/Kg		102	76 - 131
trans-1,3-Dichloropropene	40.0	42.9		ug/Kg		107	72 - 129
Trichloroethene	40.0	39.6		ug/Kg		99	83 - 124
Trichlorofluoromethane	40.0	34.8		ug/Kg		87	47 - 165
Vinyl chloride	40.0	34.4		ug/Kg		86	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		71 - 136
4-Bromofluorobenzene (Surr)	98		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	95		80 - 120
Trifluorotoluene (Surr)	93		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184544/3-A

Matrix: Solid

Analysis Batch: 184539

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184544

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	40.8		ug/Kg		102	72 - 123	2	20
1,1,1-Trichloroethane	40.0	34.9		ug/Kg		87	63 - 135	20	20
1,1,2,2-Tetrachloroethane	40.0	44.4		ug/Kg		111	73 - 125	2	22
1,1,2-Trichloroethane	40.0	45.2		ug/Kg		113	77 - 124	9	18
1,1-Dichloroethane	40.0	39.4		ug/Kg		98	70 - 128	10	21
1,1-Dichloroethene	40.0	33.7		ug/Kg		84	70 - 133	16	23
1,1-Dichloropropene	40.0	38.4		ug/Kg		96	77 - 125	3	16
1,2,3-Trichlorobenzene	40.0	43.2		ug/Kg		108	61 - 130	8	23
1,2,3-Trichloropropane	40.0	43.2		ug/Kg		108	77 - 123	3	23
1,2,4-Trichlorobenzene	40.0	41.4		ug/Kg		103	61 - 130	13	22
1,2,4-Trimethylbenzene	40.0	38.1		ug/Kg		95	79 - 124	9	18
1,2-Dibromo-3-Chloropropane	40.0	44.3		ug/Kg		111	53 - 132	5	27
1,2-Dibromoethane	40.0	46.0		ug/Kg		115	69 - 126	7	21
1,2-Dichlorobenzene	40.0	39.0		ug/Kg		98	79 - 117	8	17
1,2-Dichloroethane	40.0	44.4		ug/Kg		111	71 - 128	5	18
1,2-Dichloropropane	40.0	42.1		ug/Kg		105	76 - 161	2	15
1,3,5-Trimethylbenzene	40.0	38.3		ug/Kg		96	80 - 125	10	18
1,3-Dichlorobenzene	40.0	39.2		ug/Kg		98	79 - 119	8	17
1,3-Dichloropropane	40.0	45.4		ug/Kg		113	77 - 123	8	19
1,4-Dichlorobenzene	40.0	39.6		ug/Kg		99	79 - 117	7	18
2,2-Dichloropropane	40.0	34.5	* ^	ug/Kg		86	56 - 144	27	21
2-Chlorotoluene	40.0	38.1		ug/Kg		95	79 - 122	8	18
4-Chlorotoluene	40.0	39.3		ug/Kg		98	80 - 122	8	18
4-Isopropyltoluene	40.0	36.4		ug/Kg		91	78 - 126	12	18
Benzene	40.0	41.5		ug/Kg		104	70 - 128	2	19
Bromobenzene	40.0	41.6		ug/Kg		104	80 - 120	5	19
Bromochloromethane	40.0	41.9		ug/Kg		105	78 - 123	6	19
Bromodichloromethane	40.0	43.2		ug/Kg		108	58 - 133	3	19
Bromoform	40.0	43.0		ug/Kg		107	50 - 124	6	25
Bromomethane	40.0	27.6		ug/Kg		69	57 - 148	24	29
Carbon tetrachloride	40.0	35.2	^	ug/Kg		88	59 - 145	19	19
Chlorobenzene	40.0	41.2		ug/Kg		103	75 - 120	2	21
Chloroethane	40.0	27.1		ug/Kg		68	48 - 167	11	53
Chloroform	40.0	40.6		ug/Kg		101	78 - 125	7	17
Chloromethane	40.0	28.0		ug/Kg		70	55 - 136	20	26
cis-1,2-Dichloroethene	40.0	38.0		ug/Kg		95	70 - 130	10	19
cis-1,3-Dichloropropene	40.0	45.7		ug/Kg		114	69 - 129	9	19
Dibromochloromethane	40.0	45.4		ug/Kg		113	42 - 129	4	23
Dibromomethane	40.0	43.0		ug/Kg		107	78 - 126	1	18
Dichlorodifluoromethane	40.0	21.5	* ^	ug/Kg		54	38 - 150	28	26
Ethylbenzene	40.0	40.6		ug/Kg		102	78 - 126	3	23
Hexachlorobutadiene	40.0	36.2		ug/Kg		91	68 - 134	14	21
Isopropylbenzene	40.0	38.5		ug/Kg		96	79 - 127	4	20
Methyl tert-butyl ether	40.0	40.8		ug/Kg		102	65 - 125	9	30
Methylene Chloride	40.0	38.1		ug/Kg		95	57 - 146	8	21
m-Xylene & p-Xylene	40.0	39.7		ug/Kg		99	78 - 126	3	23
Naphthalene	40.0	48.5		ug/Kg		121	14 - 170	1	50
n-Butylbenzene	40.0	35.1		ug/Kg		88	78 - 128	13	17

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184544/3-A

Matrix: Solid

Analysis Batch: 184539

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184544

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	40.0	37.5		ug/Kg		94	81 - 127	10	20
o-Xylene	40.0	39.6		ug/Kg		99	77 - 127	3	22
sec-Butylbenzene	40.0	37.1		ug/Kg		93	78 - 128	11	17
Styrene	40.0	41.0		ug/Kg		102	79 - 127	2	21
t-Butylbenzene	40.0	37.6		ug/Kg		94	71 - 136	5	27
Tetrachloroethene	40.0	38.9		ug/Kg		97	56 - 155	2	27
Toluene	40.0	42.6		ug/Kg		107	75 - 126	5	19
trans-1,2-Dichloroethene	40.0	34.8		ug/Kg		87	76 - 131	16	18
trans-1,3-Dichloropropene	40.0	47.1		ug/Kg		118	72 - 129	9	20
Trichloroethene	40.0	39.6		ug/Kg		99	83 - 124	0	17
Trichlorofluoromethane	40.0	27.6		ug/Kg		69	47 - 165	23	54
Vinyl chloride	40.0	27.0	*	ug/Kg		67	67 - 131	24	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		71 - 136
4-Bromofluorobenzene (Surr)	100		70 - 120
Dibromofluoromethane (Surr)	103		75 - 132
Toluene-d8 (Surr)	102		80 - 120
Trifluorotoluene (Surr)	88		65 - 140

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184671/1-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184671

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
1,2-Dichlorobenzene	ND		55		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
1,3-Dichlorobenzene	ND		50		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
1,4-Dichlorobenzene	ND		50		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
1-Methylnaphthalene	ND		30		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,4,5-Trichlorophenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,4,6-Trichlorophenol	ND		150		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,4-Dichlorophenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,4-Dimethylphenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,4-Dinitrophenol	ND		1000		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,4-Dinitrotoluene	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2,6-Dinitrotoluene	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2-Chloronaphthalene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2-Chlorophenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2-Methylnaphthalene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2-Methylphenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2-Nitroaniline	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
2-Nitrophenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
3 & 4 Methylphenol	ND		200		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
3,3'-Dichlorobenzidine	ND		200		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
3-Nitroaniline	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184671/1-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184671

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		1000		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
4-Bromophenyl phenyl ether	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
4-Chloro-3-methylphenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
4-Chloroaniline	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
4-Chlorophenyl phenyl ether	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
4-Nitroaniline	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
4-Nitrophenol	ND		1000		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Acenaphthene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Acenaphthylene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Anthracene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzo[a]anthracene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzo[a]pyrene	ND		30		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzo[b]fluoranthene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzo[g,h,i]perylene	ND		25		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzo[k]fluoranthene	ND		25		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzoic acid	ND		2500		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Benzyl alcohol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Bis(2-chloroethoxy)methane	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Bis(2-chloroethyl)ether	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
bis(chloroisopropyl) ether	ND		250		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Butyl benzyl phthalate	ND		200		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Carbazole	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Chrysene	ND		25		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Dibenz(a,h)anthracene	ND		40		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Dibenzofuran	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Diethyl phthalate	ND		200		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Dimethyl phthalate	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Di-n-butyl phthalate	ND		500		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Di-n-octyl phthalate	ND		500		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Fluoranthene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Fluorene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Hexachlorobenzene	ND		50		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Hexachlorobutadiene	ND		50		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Hexachlorocyclopentadiene	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Hexachloroethane	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Indeno[1,2,3-cd]pyrene	ND		40		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Isophorone	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Naphthalene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Nitrobenzene	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
N-Nitrosodi-n-propylamine	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
N-Nitrosodiphenylamine	ND		50		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Pentachlorophenol	ND		200		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Phenanthrene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Phenol	ND		100		ug/Kg		03/18/15 11:26	03/27/15 12:14	1
Pyrene	ND		20		ug/Kg		03/18/15 11:26	03/27/15 12:14	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184671/1-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184671

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	79		28 - 143	03/18/15 11:26	03/27/15 12:14	1
2-Fluorobiphenyl	80		42 - 140	03/18/15 11:26	03/27/15 12:14	1
2-Fluorophenol (Surr)	81		36 - 145	03/18/15 11:26	03/27/15 12:14	1
Nitrobenzene-d5 (Surr)	83		38 - 141	03/18/15 11:26	03/27/15 12:14	1
Phenol-d5 (Surr)	80		38 - 149	03/18/15 11:26	03/27/15 12:14	1
Terphenyl-d14 (Surr)	88		42 - 151	03/18/15 11:26	03/27/15 12:14	1

Lab Sample ID: LCS 580-184671/2-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	1000	852		ug/Kg		85	66 - 115
1,2-Dichlorobenzene	1000	834		ug/Kg		83	64 - 112
1,3-Dichlorobenzene	1000	850		ug/Kg		85	64 - 111
1,4-Dichlorobenzene	1000	870		ug/Kg		87	65 - 110
1-Methylnaphthalene	1000	910		ug/Kg		91	62 - 118
2,4,5-Trichlorophenol	1000	913		ug/Kg		91	57 - 133
2,4,6-Trichlorophenol	1000	895		ug/Kg		89	62 - 133
2,4-Dichlorophenol	1000	900		ug/Kg		90	68 - 125
2,4-Dimethylphenol	1000	933		ug/Kg		93	54 - 139
2,4-Dinitrophenol	2000	1320		ug/Kg		66	20 - 141
2,4-Dinitrotoluene	1000	850		ug/Kg		85	68 - 121
2,6-Dinitrotoluene	1000	872		ug/Kg		87	66 - 123
2-Chloronaphthalene	1000	845		ug/Kg		85	68 - 112
2-Chlorophenol	1000	936		ug/Kg		94	68 - 117
2-Methylnaphthalene	1000	839		ug/Kg		84	64 - 119
2-Methylphenol	1000	872		ug/Kg		87	71 - 116
2-Nitroaniline	1000	912		ug/Kg		91	64 - 112
2-Nitrophenol	1000	906		ug/Kg		91	67 - 127
3 & 4 Methylphenol	1000	917		ug/Kg		92	70 - 116
3,3'-Dichlorobenzidine	2000	1260		ug/Kg		63	20 - 103
3-Nitroaniline	1000	531		ug/Kg		53	27 - 103
4,6-Dinitro-2-methylphenol	2000	1620		ug/Kg		81	48 - 130
4-Bromophenyl phenyl ether	1000	900		ug/Kg		90	68 - 122
4-Chloro-3-methylphenol	1000	987		ug/Kg		99	69 - 121
4-Chloroaniline	1000	464		ug/Kg		46	20 - 103
4-Chlorophenyl phenyl ether	1000	793		ug/Kg		79	75 - 108
4-Nitroaniline	1000	719		ug/Kg		72	58 - 108
4-Nitrophenol	2000	1630		ug/Kg		82	20 - 165
Acenaphthene	1000	897		ug/Kg		90	68 - 116
Acenaphthylene	1000	897		ug/Kg		90	68 - 120
Anthracene	1000	903		ug/Kg		90	73 - 116
Benzo[a]anthracene	1000	961		ug/Kg		96	76 - 119
Benzo[a]pyrene	1000	939		ug/Kg		94	72 - 117
Benzo[b]fluoranthene	1000	876		ug/Kg		88	63 - 132
Benzo[g,h,i]perylene	1000	912		ug/Kg		91	55 - 139
Benzo[k]fluoranthene	1000	1010		ug/Kg		101	63 - 119

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184671/2-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	2010	1790	J	ug/Kg		89	29 - 158
Benzyl alcohol	1000	1010		ug/Kg		101	55 - 123
Bis(2-chloroethoxy)methane	1000	840		ug/Kg		84	69 - 107
Bis(2-chloroethyl)ether	1000	768		ug/Kg		77	62 - 110
Bis(2-ethylhexyl) phthalate	1000	1070		ug/Kg		107	62 - 144
bis(chloroisopropyl) ether	1000	780		ug/Kg		78	41 - 126
Butyl benzyl phthalate	1000	1080		ug/Kg		108	69 - 142
Carbazole	1000	903		ug/Kg		90	76 - 135
Chrysene	1000	866		ug/Kg		87	75 - 114
Dibenz(a,h)anthracene	1000	877		ug/Kg		88	56 - 134
Dibenzofuran	1000	841		ug/Kg		84	72 - 109
Diethyl phthalate	1000	876		ug/Kg		88	73 - 116
Dimethyl phthalate	1000	881		ug/Kg		88	78 - 117
Di-n-butyl phthalate	1000	1000		ug/Kg		100	66 - 140
Di-n-octyl phthalate	1000	1030		ug/Kg		103	65 - 141
Fluoranthene	1000	885		ug/Kg		89	73 - 125
Fluorene	1000	860		ug/Kg		86	70 - 121
Hexachlorobenzene	1000	905		ug/Kg		91	66 - 117
Hexachlorobutadiene	1000	953		ug/Kg		95	65 - 116
Hexachlorocyclopentadiene	1000	959		ug/Kg		96	46 - 131
Hexachloroethane	1000	910		ug/Kg		91	62 - 120
Indeno[1,2,3-cd]pyrene	1000	949		ug/Kg		95	56 - 127
Isophorone	1000	967		ug/Kg		97	67 - 119
Naphthalene	1000	879		ug/Kg		88	62 - 112
Nitrobenzene	1000	900		ug/Kg		90	64 - 118
N-Nitrosodi-n-propylamine	1000	897		ug/Kg		90	62 - 116
N-Nitrosodiphenylamine	2010	1870		ug/Kg		93	73 - 115
Pentachlorophenol	2000	1320		ug/Kg		66	45 - 117
Phenanthrene	1000	786		ug/Kg		79	73 - 106
Phenol	1000	812		ug/Kg		81	63 - 111
Pyrene	1000	880		ug/Kg		88	70 - 120

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	95		28 - 143
2-Fluorobiphenyl	84		42 - 140
2-Fluorophenol (Surr)	89		36 - 145
Nitrobenzene-d5 (Surr)	93		38 - 141
Phenol-d5 (Surr)	90		38 - 149
Terphenyl-d14 (Surr)	92		42 - 151

Lab Sample ID: LCSD 580-184671/3-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD
							Limits	RPD	
1,2,4-Trichlorobenzene	1000	843		ug/Kg		84	66 - 115	1	28
1,2-Dichlorobenzene	1000	824		ug/Kg		82	64 - 112	1	30
1,3-Dichlorobenzene	1000	809		ug/Kg		81	64 - 111	5	30

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184671/3-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	1000	824		ug/Kg		82	65 - 110	5	30
1-Methylnaphthalene	1000	884		ug/Kg		88	62 - 118	3	30
2,4,5-Trichlorophenol	1000	910		ug/Kg		91	57 - 133	0	30
2,4,6-Trichlorophenol	1000	901		ug/Kg		90	62 - 133	1	30
2,4-Dichlorophenol	1000	888		ug/Kg		89	68 - 125	1	30
2,4-Dimethylphenol	1000	892		ug/Kg		89	54 - 139	5	30
2,4-Dinitrophenol	2000	1440		ug/Kg		72	20 - 141	9	36
2,4-Dinitrotoluene	1000	839		ug/Kg		84	68 - 121	1	30
2,6-Dinitrotoluene	1000	872		ug/Kg		87	66 - 123	0	30
2-Chloronaphthalene	1000	866		ug/Kg		87	68 - 112	2	25
2-Chlorophenol	1000	898		ug/Kg		90	68 - 117	4	27
2-Methylnaphthalene	1000	826		ug/Kg		83	64 - 119	2	27
2-Methylphenol	1000	869		ug/Kg		87	71 - 116	0	25
2-Nitroaniline	1000	890		ug/Kg		89	64 - 112	2	22
2-Nitrophenol	1000	885		ug/Kg		88	67 - 127	2	30
3 & 4 Methylphenol	1000	867		ug/Kg		87	70 - 116	6	27
3,3'-Dichlorobenzidine	2000	1380		ug/Kg		69	20 - 103	9	60
3-Nitroaniline	1000	608		ug/Kg		61	27 - 103	14	33
4,6-Dinitro-2-methylphenol	2000	1710		ug/Kg		85	48 - 130	5	22
4-Bromophenyl phenyl ether	1000	875		ug/Kg		88	68 - 122	3	30
4-Chloro-3-methylphenol	1000	979		ug/Kg		98	69 - 121	1	27
4-Chloroaniline	1000	547		ug/Kg		55	20 - 103	16	60
4-Chlorophenyl phenyl ether	1000	794		ug/Kg		79	75 - 108	0	30
4-Nitroaniline	1000	773		ug/Kg		77	58 - 108	7	32
4-Nitrophenol	2000	1510		ug/Kg		76	20 - 165	8	30
Acenaphthene	1000	887		ug/Kg		89	68 - 116	1	27
Acenaphthylene	1000	891		ug/Kg		89	68 - 120	1	28
Anthracene	1000	887		ug/Kg		89	73 - 116	2	27
Benzo[a]anthracene	1000	911		ug/Kg		91	76 - 119	5	27
Benzo[a]pyrene	1000	941		ug/Kg		94	72 - 117	0	30
Benzo[b]fluoranthene	1000	902		ug/Kg		90	63 - 132	3	30
Benzo[g,h,i]perylene	1000	890		ug/Kg		89	55 - 139	2	28
Benzo[k]fluoranthene	1000	974		ug/Kg		97	63 - 119	3	30
Benzoic acid	2010	1770	J	ug/Kg		88	29 - 158	1	28
Benzyl alcohol	1000	961		ug/Kg		96	55 - 123	5	60
Bis(2-chloroethoxy)methane	1000	800		ug/Kg		80	69 - 107	5	30
Bis(2-chloroethyl)ether	1000	759		ug/Kg		76	62 - 110	1	22
Bis(2-ethylhexyl) phthalate	1000	1040		ug/Kg		104	62 - 144	3	30
bis(chloroisopropyl) ether	1000	772		ug/Kg		77	41 - 126	1	57
Butyl benzyl phthalate	1000	1040		ug/Kg		104	69 - 142	3	30
Carbazole	1000	890		ug/Kg		89	76 - 135	1	30
Chrysene	1000	859		ug/Kg		86	75 - 114	1	26
Dibenz(a,h)anthracene	1000	891		ug/Kg		89	56 - 134	2	30
Dibenzofuran	1000	864		ug/Kg		86	72 - 109	3	30
Diethyl phthalate	1000	849		ug/Kg		85	73 - 116	3	26
Dimethyl phthalate	1000	863		ug/Kg		86	78 - 117	2	30
Di-n-butyl phthalate	1000	1000		ug/Kg		100	66 - 140	0	30
Di-n-octyl phthalate	1000	1010		ug/Kg		101	65 - 141	2	30

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184671/3-A

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	1000	888		ug/Kg		89	73 - 125	0	30
Fluorene	1000	851		ug/Kg		85	70 - 121	1	30
Hexachlorobenzene	1000	917		ug/Kg		92	66 - 117	1	30
Hexachlorobutadiene	1000	917		ug/Kg		92	65 - 116	4	30
Hexachlorocyclopentadiene	1000	1020		ug/Kg		102	46 - 131	6	29
Hexachloroethane	1000	871		ug/Kg		87	62 - 120	4	30
Indeno[1,2,3-cd]pyrene	1000	954		ug/Kg		95	56 - 127	1	29
Isophorone	1000	954		ug/Kg		95	67 - 119	1	30
Naphthalene	1000	864		ug/Kg		86	62 - 112	2	26
Nitrobenzene	1000	924		ug/Kg		92	64 - 118	3	30
N-Nitrosodi-n-propylamine	1000	863		ug/Kg		86	62 - 116	4	28
N-Nitrosodiphenylamine	2010	1850		ug/Kg		92	73 - 115	1	30
Pentachlorophenol	2000	1170		ug/Kg		59	45 - 117	12	23
Phenanthrene	1000	785		ug/Kg		79	73 - 106	0	28
Phenol	1000	832		ug/Kg		83	63 - 111	2	26
Pyrene	1000	882		ug/Kg		88	70 - 120	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	89		28 - 143
2-Fluorobiphenyl	80		42 - 140
2-Fluorophenol (Surr)	82		36 - 145
Nitrobenzene-d5 (Surr)	86		38 - 141
Phenol-d5 (Surr)	81		38 - 149
Terphenyl-d14 (Surr)	86		42 - 151

Lab Sample ID: 580-47968-1 MS

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: B2-3-3

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		1230	941		ug/Kg	☼	77	66 - 115
1,2-Dichlorobenzene	ND		1230	908		ug/Kg	☼	74	64 - 112
1,3-Dichlorobenzene	ND		1230	926		ug/Kg	☼	75	64 - 111
1,4-Dichlorobenzene	ND		1230	936		ug/Kg	☼	76	65 - 110
1-Methylnaphthalene	ND		1230	1000		ug/Kg	☼	82	62 - 118
2,4,5-Trichlorophenol	ND		1230	1070		ug/Kg	☼	87	57 - 133
2,4,6-Trichlorophenol	ND		1230	1020		ug/Kg	☼	83	62 - 133
2,4-Dichlorophenol	ND		1230	1000		ug/Kg	☼	82	68 - 125
2,4-Dimethylphenol	ND		1230	974		ug/Kg	☼	79	54 - 139
2,4-Dinitrophenol	ND		2460	1470		ug/Kg	☼	60	20 - 141
2,4-Dinitrotoluene	ND		1230	943		ug/Kg	☼	77	68 - 121
2,6-Dinitrotoluene	ND		1230	988		ug/Kg	☼	80	66 - 123
2-Chloronaphthalene	ND		1230	971		ug/Kg	☼	79	68 - 112
2-Chlorophenol	ND		1230	1000		ug/Kg	☼	82	68 - 117
2-Methylnaphthalene	ND		1230	931		ug/Kg	☼	76	64 - 119
2-Methylphenol	ND		1230	958		ug/Kg	☼	78	71 - 116
2-Nitroaniline	ND		1230	1000		ug/Kg	☼	82	64 - 112
2-Nitrophenol	ND		1230	1030		ug/Kg	☼	84	67 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-47968-1 MS

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: B2-3-3

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
3 & 4 Methylphenol	ND		1230	975		ug/Kg	✱	79	70 - 116
3,3'-Dichlorobenzidine	ND		2460	1580		ug/Kg	✱	64	20 - 103
3-Nitroaniline	ND		1230	728		ug/Kg	✱	59	27 - 103
4,6-Dinitro-2-methylphenol	ND		2460	1830		ug/Kg	✱	74	48 - 130
4-Bromophenyl phenyl ether	ND		1230	967		ug/Kg	✱	79	68 - 122
4-Chloro-3-methylphenol	ND		1230	1110		ug/Kg	✱	90	69 - 121
4-Chloroaniline	ND		1230	628		ug/Kg	✱	51	20 - 103
4-Chlorophenyl phenyl ether	ND	F1	1230	920		ug/Kg	✱	75	75 - 108
4-Nitroaniline	ND		1230	877		ug/Kg	✱	71	58 - 108
4-Nitrophenol	ND		2460	1730		ug/Kg	✱	70	20 - 165
Acenaphthene	ND		1230	997		ug/Kg	✱	81	68 - 116
Acenaphthylene	ND		1230	1010		ug/Kg	✱	82	68 - 120
Anthracene	ND		1230	1010		ug/Kg	✱	82	73 - 116
Benzo[a]anthracene	ND		1230	1040		ug/Kg	✱	85	76 - 119
Benzo[a]pyrene	ND		1230	1070		ug/Kg	✱	87	72 - 117
Benzo[b]fluoranthene	ND		1230	1070		ug/Kg	✱	87	63 - 132
Benzo[g,h,i]perylene	ND		1230	1060		ug/Kg	✱	86	55 - 139
Benzo[k]fluoranthene	ND		1230	1020		ug/Kg	✱	83	63 - 119
Benzoic acid	ND		2470	ND		ug/Kg	✱	95	29 - 158
Benzyl alcohol	ND		1230	1160		ug/Kg	✱	94	55 - 123
Bis(2-chloroethoxy)methane	ND		1230	926		ug/Kg	✱	75	69 - 107
Bis(2-chloroethyl)ether	ND		1230	822		ug/Kg	✱	67	62 - 110
Bis(2-ethylhexyl) phthalate	ND		1230	1180		ug/Kg	✱	96	62 - 144
bis(chloroisopropyl) ether	ND		1230	875		ug/Kg	✱	71	41 - 126
Butyl benzyl phthalate	ND		1230	1190		ug/Kg	✱	97	69 - 142
Carbazole	ND		1230	1040		ug/Kg	✱	85	76 - 135
Chrysene	ND	F1	1230	983		ug/Kg	✱	80	75 - 114
Dibenz(a,h)anthracene	ND		1230	1040		ug/Kg	✱	84	56 - 134
Dibenzofuran	ND		1230	946		ug/Kg	✱	77	72 - 109
Diethyl phthalate	ND		1230	983		ug/Kg	✱	80	73 - 116
Dimethyl phthalate	ND	F1	1230	977		ug/Kg	✱	79	78 - 117
Di-n-butyl phthalate	ND		1230	1150		ug/Kg	✱	94	66 - 140
Di-n-octyl phthalate	ND		1230	1180		ug/Kg	✱	96	65 - 141
Fluoranthene	ND		1230	1010		ug/Kg	✱	82	73 - 125
Fluorene	ND		1230	974		ug/Kg	✱	79	70 - 121
Hexachlorobenzene	ND		1230	1060		ug/Kg	✱	86	66 - 117
Hexachlorobutadiene	ND		1230	1020		ug/Kg	✱	83	65 - 116
Hexachlorocyclopentadiene	ND		1230	1070		ug/Kg	✱	87	46 - 131
Hexachloroethane	ND		1230	1000		ug/Kg	✱	81	62 - 120
Indeno[1,2,3-cd]pyrene	ND		1230	1120		ug/Kg	✱	91	56 - 127
Isophorone	ND		1230	1060		ug/Kg	✱	86	67 - 119
Naphthalene	ND		1230	985		ug/Kg	✱	80	62 - 112
Nitrobenzene	ND		1230	1080		ug/Kg	✱	88	64 - 118
N-Nitrosodi-n-propylamine	ND		1230	935		ug/Kg	✱	76	62 - 116
N-Nitrosodiphenylamine	ND		2470	2070		ug/Kg	✱	84	73 - 115
Pentachlorophenol	ND	F1	2460	1320		ug/Kg	✱	54	45 - 117
Phenanthrene	ND	F1	1230	897		ug/Kg	✱	73	73 - 106
Phenol	ND		1230	895		ug/Kg	✱	73	63 - 111

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-47968-1 MS

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: B2-3-3

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Pyrene	ND		1230	997		ug/Kg	✖	81	70 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
2,4,6-Tribromophenol (Surr)	83		28 - 143						
2-Fluorobiphenyl	75		42 - 140						
2-Fluorophenol (Surr)	78		36 - 145						
Nitrobenzene-d5 (Surr)	80		38 - 141						
Phenol-d5 (Surr)	77		38 - 149						
Terphenyl-d14 (Surr)	80		42 - 151						

Lab Sample ID: 580-47968-1 MSD

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: B2-3-3

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND		1250	914		ug/Kg	✖	73	66 - 115	3	28
1,2-Dichlorobenzene	ND		1250	895		ug/Kg	✖	72	64 - 112	1	60
1,3-Dichlorobenzene	ND		1250	892		ug/Kg	✖	71	64 - 111	4	60
1,4-Dichlorobenzene	ND		1250	887		ug/Kg	✖	71	65 - 110	5	32
1-Methylnaphthalene	ND		1250	976		ug/Kg	✖	78	62 - 118	3	30
2,4,5-Trichlorophenol	ND		1250	1000		ug/Kg	✖	80	57 - 133	7	60
2,4,6-Trichlorophenol	ND		1250	960		ug/Kg	✖	77	62 - 133	6	60
2,4-Dichlorophenol	ND		1250	967		ug/Kg	✖	77	68 - 125	4	60
2,4-Dimethylphenol	ND		1250	904		ug/Kg	✖	72	54 - 139	8	60
2,4-Dinitrophenol	ND		2500	1440		ug/Kg	✖	58	20 - 141	2	60
2,4-Dinitrotoluene	ND		1250	918		ug/Kg	✖	73	68 - 121	3	31
2,6-Dinitrotoluene	ND		1250	964		ug/Kg	✖	77	66 - 123	3	60
2-Chloronaphthalene	ND		1250	936		ug/Kg	✖	75	68 - 112	4	25
2-Chlorophenol	ND		1250	958		ug/Kg	✖	77	68 - 117	5	27
2-Methylnaphthalene	ND		1250	905		ug/Kg	✖	72	64 - 119	3	27
2-Methylphenol	ND		1250	939		ug/Kg	✖	75	71 - 116	2	25
2-Nitroaniline	ND		1250	1030		ug/Kg	✖	82	64 - 112	2	60
2-Nitrophenol	ND		1250	948		ug/Kg	✖	76	67 - 127	8	60
3 & 4 Methylphenol	ND		1250	967		ug/Kg	✖	77	70 - 116	1	27
3,3'-Dichlorobenzidine	ND		2500	1450		ug/Kg	✖	58	20 - 103	9	60
3-Nitroaniline	ND		1250	628		ug/Kg	✖	50	27 - 103	15	60
4,6-Dinitro-2-methylphenol	ND		2500	1710		ug/Kg	✖	68	48 - 130	7	60
4-Bromophenyl phenyl ether	ND		1250	972		ug/Kg	✖	78	68 - 122	0	60
4-Chloro-3-methylphenol	ND		1250	1070		ug/Kg	✖	86	69 - 121	3	27
4-Chloroaniline	ND		1250	515		ug/Kg	✖	41	20 - 103	20	60
4-Chlorophenyl phenyl ether	ND	F1	1250	869	F1	ug/Kg	✖	69	75 - 108	6	60
4-Nitroaniline	ND		1250	821		ug/Kg	✖	66	58 - 108	7	60
4-Nitrophenol	ND		2500	1630		ug/Kg	✖	65	20 - 165	6	33
Acenaphthene	ND		1250	966		ug/Kg	✖	77	68 - 116	3	27
Acenaphthylene	ND		1250	992		ug/Kg	✖	79	68 - 120	1	28
Anthracene	ND		1250	947		ug/Kg	✖	76	73 - 116	6	27
Benzo[a]anthracene	ND		1250	1000		ug/Kg	✖	80	76 - 119	4	27
Benzo[a]pyrene	ND		1250	969		ug/Kg	✖	78	72 - 117	10	30

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-47968-1 MSD

Matrix: Solid

Analysis Batch: 185375

Client Sample ID: B2-3-3

Prep Type: Total/NA

Prep Batch: 184671

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene	ND		1250	942		ug/Kg	✱	75	63 - 132	13	31
Benzo[g,h,i]perylene	ND		1250	993		ug/Kg	✱	79	55 - 139	6	28
Benzo[k]fluoranthene	ND		1250	1020		ug/Kg	✱	82	63 - 119	0	31
Benzoic acid	ND		2510	ND		ug/Kg	✱	88	29 - 158	6	60
Benzyl alcohol	ND		1250	1040		ug/Kg	✱	83	55 - 123	10	60
Bis(2-chloroethoxy)methane	ND		1250	896		ug/Kg	✱	72	69 - 107	3	60
Bis(2-chloroethyl)ether	ND		1250	822		ug/Kg	✱	66	62 - 110	0	60
Bis(2-ethylhexyl) phthalate	ND		1250	1110		ug/Kg	✱	89	62 - 144	6	60
bis(chloroisopropyl) ether	ND		1250	830		ug/Kg	✱	66	41 - 126	5	60
Butyl benzyl phthalate	ND		1250	1120		ug/Kg	✱	89	69 - 142	7	60
Carbazole	ND		1250	976		ug/Kg	✱	78	76 - 135	6	60
Chrysene	ND	F1	1250	928	F1	ug/Kg	✱	74	75 - 114	6	26
Dibenz(a,h)anthracene	ND		1250	819		ug/Kg	✱	65	56 - 134	24	30
Dibenzofuran	ND		1250	920		ug/Kg	✱	74	72 - 109	3	60
Diethyl phthalate	ND		1250	953		ug/Kg	✱	76	73 - 116	3	26
Dimethyl phthalate	ND	F1	1250	922	F1	ug/Kg	✱	74	78 - 117	6	60
Di-n-butyl phthalate	ND		1250	1080		ug/Kg	✱	86	66 - 140	7	60
Di-n-octyl phthalate	ND		1250	1090		ug/Kg	✱	87	65 - 141	9	31
Fluoranthene	ND		1250	952		ug/Kg	✱	76	73 - 125	6	36
Fluorene	ND		1250	931		ug/Kg	✱	74	70 - 121	4	31
Hexachlorobenzene	ND		1250	981		ug/Kg	✱	78	66 - 117	8	60
Hexachlorobutadiene	ND		1250	1010		ug/Kg	✱	81	65 - 116	2	60
Hexachlorocyclopentadiene	ND		1250	996		ug/Kg	✱	80	46 - 131	7	60
Hexachloroethane	ND		1250	990		ug/Kg	✱	79	62 - 120	1	60
Indeno[1,2,3-cd]pyrene	ND		1250	1020		ug/Kg	✱	82	56 - 127	9	29
Isophorone	ND		1250	1020		ug/Kg	✱	82	67 - 119	4	60
Naphthalene	ND		1250	929		ug/Kg	✱	74	62 - 112	6	26
Nitrobenzene	ND		1250	1000		ug/Kg	✱	80	64 - 118	7	60
N-Nitrosodi-n-propylamine	ND		1250	942		ug/Kg	✱	75	62 - 116	1	28
N-Nitrosodiphenylamine	ND		2510	1960		ug/Kg	✱	78	73 - 115	6	60
Pentachlorophenol	ND	F1	2500	1050	F1	ug/Kg	✱	42	45 - 117	22	68
Phenanthrene	ND	F1	1250	848	F1	ug/Kg	✱	68	73 - 106	6	28
Phenol	ND		1250	829		ug/Kg	✱	66	63 - 111	8	26
Pyrene	ND		1250	935		ug/Kg	✱	75	70 - 120	6	31

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	74		28 - 143
2-Fluorobiphenyl	71		42 - 140
2-Fluorophenol (Surr)	72		36 - 145
Nitrobenzene-d5 (Surr)	73		38 - 141
Phenol-d5 (Surr)	74		38 - 149
Terphenyl-d14 (Surr)	76		42 - 151

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184545/18-A

Matrix: Solid

Analysis Batch: 184608

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184545

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/17/15 15:22	03/18/15 07:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150				03/17/15 15:22	03/18/15 07:34	1
Trifluorotoluene (Surr)	99		50 - 150				03/17/15 15:22	03/18/15 07:34	1

Lab Sample ID: MB 580-184545/1-A

Matrix: Solid

Analysis Batch: 184608

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184545

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/17/15 12:56	03/18/15 01:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150				03/17/15 12:56	03/18/15 01:32	1
Trifluorotoluene (Surr)	106		50 - 150				03/17/15 12:56	03/18/15 01:32	1

Lab Sample ID: LCS 580-184545/2-A

Matrix: Solid

Analysis Batch: 184608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	34.3		mg/Kg		86	68 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	101		50 - 150				
Trifluorotoluene (Surr)	107		50 - 150				

Lab Sample ID: LCSD 580-184545/3-A

Matrix: Solid

Analysis Batch: 184608

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184545

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	36.2		mg/Kg		90	68 - 120	5	25
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		50 - 150						
Trifluorotoluene (Surr)	110		50 - 150						

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-184555/1-A

Matrix: Water

Analysis Batch: 184664

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-184555/1-A

Matrix: Water

Analysis Batch: 184664

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
4,4'-DDT	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
Aldrin	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
alpha-BHC	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
alpha-Chlordane	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
beta-BHC	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
delta-BHC	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
Dieldrin	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
Endosulfan I	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
Endosulfan II	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
Endosulfan sulfate	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
Endrin	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
Endrin aldehyde	ND		0.050		ug/L		03/17/15 13:38	03/19/15 09:46	1
Endrin ketone	ND		0.020		ug/L		03/17/15 13:38	03/19/15 09:46	1
gamma-BHC (Lindane)	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
gamma-Chlordane	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
Heptachlor	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
Heptachlor epoxide	ND		0.010		ug/L		03/17/15 13:38	03/19/15 09:46	1
Methoxychlor	ND		0.10		ug/L		03/17/15 13:38	03/19/15 09:46	1
Toxaphene	ND		1.0		ug/L		03/17/15 13:38	03/19/15 09:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		33 - 133	03/17/15 13:38	03/19/15 09:46	1
Tetrachloro-m-xylene	69		45 - 123	03/17/15 13:38	03/19/15 09:46	1

Lab Sample ID: LCS 580-184555/2-A

Matrix: Water

Analysis Batch: 184664

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.160	0.127		ug/L		79	48 - 147
4,4'-DDE	0.160	0.129		ug/L		81	61 - 131
4,4'-DDT	0.160	0.126		ug/L		79	47 - 143
Aldrin	0.160	0.124		ug/L		77	56 - 124
alpha-BHC	0.160	0.108		ug/L		68	41 - 126
alpha-Chlordane	0.160	0.130		ug/L		81	58 - 133
beta-BHC	0.160	0.121		ug/L		76	56 - 114
delta-BHC	0.160	0.0784		ug/L		49	30 - 130
Dieldrin	0.160	0.131		ug/L		82	63 - 140
Endosulfan I	0.160	0.134		ug/L		84	54 - 151
Endosulfan II	0.160	0.132		ug/L		82	53 - 144
Endosulfan sulfate	0.160	0.121		ug/L		75	45 - 130
Endrin	0.160	0.123		ug/L		77	57 - 137
Endrin aldehyde	0.160	0.193		ug/L		121	52 - 139
Endrin ketone	0.160	0.134		ug/L		84	52 - 150
gamma-BHC (Lindane)	0.160	0.124		ug/L		77	46 - 127
gamma-Chlordane	0.160	0.131		ug/L		82	61 - 130
Heptachlor	0.160	0.121		ug/L		75	46 - 138

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-184555/2-A

Matrix: Water

Analysis Batch: 184664

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlor epoxide	0.160	0.133		ug/L		83	58 - 142
Methoxychlor	0.160	0.140		ug/L		87	51 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	80		33 - 133
Tetrachloro-m-xylene	72		45 - 123

Lab Sample ID: LCSD 580-184555/3-A

Matrix: Water

Analysis Batch: 184664

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184555

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
4,4'-DDD	0.160	0.114		ug/L		71	48 - 147	10	52
4,4'-DDE	0.160	0.120		ug/L		75	61 - 131	8	50
4,4'-DDT	0.160	0.113		ug/L		71	47 - 143	11	52
Aldrin	0.160	0.117		ug/L		73	56 - 124	5	52
alpha-BHC	0.160	0.106		ug/L		66	41 - 126	2	53
alpha-Chlordane	0.160	0.120		ug/L		75	58 - 133	8	52
beta-BHC	0.160	0.110		ug/L		69	56 - 114	10	50
delta-BHC	0.160	0.0748		ug/L		47	30 - 130	5	56
Dieldrin	0.160	0.121		ug/L		76	63 - 140	8	51
Endosulfan I	0.160	0.124		ug/L		77	54 - 151	8	55
Endosulfan II	0.160	0.123		ug/L		77	53 - 144	7	19
Endosulfan sulfate	0.160	0.112		ug/L		70	45 - 130	8	52
Endrin	0.160	0.117		ug/L		73	57 - 137	6	52
Endrin aldehyde	0.160	0.193		ug/L		121	52 - 139	0	51
Endrin ketone	0.160	0.120		ug/L		75	52 - 150	11	50
gamma-BHC (Lindane)	0.160	0.113		ug/L		71	46 - 127	9	50
gamma-Chlordane	0.160	0.121		ug/L		75	61 - 130	8	51
Heptachlor	0.160	0.117		ug/L		73	46 - 138	3	50
Heptachlor epoxide	0.160	0.123		ug/L		77	58 - 142	7	49
Methoxychlor	0.160	0.129		ug/L		80	51 - 147	8	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	76		33 - 133
Tetrachloro-m-xylene	70		45 - 123

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-184847/1-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1221	ND		0.011		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1232	ND		0.011		mg/Kg		03/20/15 10:53	03/21/15 04:04	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 580-184847/1-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1242	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1248	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1254	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1260	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	95		50 - 140	03/20/15 10:53	03/21/15 04:04	1
Tetrachloro-m-xylene	57		45 - 135	03/20/15 10:53	03/21/15 04:04	1

Lab Sample ID: LCS 580-184847/4-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.100	0.0765		mg/Kg		77	40 - 140
PCB-1260	0.100	0.101		mg/Kg		101	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	99		50 - 140
Tetrachloro-m-xylene	65		45 - 135

Lab Sample ID: LCSD 580-184847/5-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
PCB-1016	0.100	0.0733		mg/Kg		73	40 - 140	4	20
PCB-1260	0.100	0.101		mg/Kg		101	60 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	98		50 - 140
Tetrachloro-m-xylene	62		45 - 135

Lab Sample ID: 580-47968-2 MS

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: B2-2-3

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		0.112	0.0752		mg/Kg	☼	67	40 - 140
PCB-1260	ND		0.112	0.109		mg/Kg	☼	97	60 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	78		50 - 140
Tetrachloro-m-xylene	38	X	45 - 135

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-47968-2 MSD

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: B2-2-3

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		0.111	0.0842		mg/Kg	☼	76	40 - 140	11	20
PCB-1260	ND		0.111	0.106		mg/Kg	☼	96	60 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
DCB Decachlorobiphenyl	87		50 - 140								
Tetrachloro-m-xylene	49		45 - 135								

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184492/1-A

Matrix: Solid

Analysis Batch: 184521

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184492

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		03/16/15 17:31	03/17/15 10:41	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		03/16/15 17:31	03/17/15 10:41	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	61		50 - 150				03/16/15 17:31	03/17/15 10:41	1

Lab Sample ID: LCS 580-184492/2-A

Matrix: Solid

Analysis Batch: 184521

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184492

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)	500	386		mg/Kg		77	70 - 125		
Motor Oil (>C24-C36)	502	401		mg/Kg		80	64 - 127		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
o-Terphenyl	74		50 - 150						

Lab Sample ID: LCSD 580-184492/3-A

Matrix: Solid

Analysis Batch: 184521

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184492

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	396		mg/Kg		79	70 - 125	3	16
Motor Oil (>C24-C36)	502	413		mg/Kg		82	64 - 127	3	17
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
o-Terphenyl	75		50 - 150						

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-184908/1-B

Matrix: Water

Analysis Batch: 184943

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/20/15 17:46	03/23/15 10:06	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/20/15 17:46	03/23/15 10:06	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150				03/20/15 17:46	03/23/15 10:06	1

Lab Sample ID: LCS 580-184908/2-A

Matrix: Water

Analysis Batch: 184943

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)	4.00	4.11		mg/L		103	59 - 120		
Motor Oil (>C24-C36)	4.02	4.26		mg/L		106	71 - 140		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
o-Terphenyl	76		50 - 150						

Lab Sample ID: LCSD 580-184908/3-A

Matrix: Water

Analysis Batch: 184943

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184908

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	4.00	2.97	*	mg/L		74	59 - 120	32	27
Motor Oil (>C24-C36)	4.02	3.66		mg/L		91	71 - 140	15	27
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
o-Terphenyl	77		50 - 150						

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-184537/11-A

Matrix: Solid

Analysis Batch: 184579

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Arsenic	ND		0.50		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Beryllium	ND		0.20		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Cadmium	ND		0.20		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Chromium	ND		0.50		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Copper	ND		0.40		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Lead	ND		0.50		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Nickel	ND		0.50		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Selenium	ND		1.0		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Silver	ND		0.20		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Thallium	ND		0.40		mg/Kg		03/17/15 11:25	03/17/15 13:11	10
Zinc	ND		5.0		mg/Kg		03/17/15 11:25	03/17/15 13:11	10

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-184537/12-A

Matrix: Solid

Analysis Batch: 184579

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	150	153		mg/Kg		102	80 - 120
Arsenic	200	197		mg/Kg		98	80 - 120
Beryllium	5.00	5.07		mg/Kg		101	80 - 120
Cadmium	5.00	5.03		mg/Kg		101	80 - 120
Chromium	20.0	20.1		mg/Kg		101	80 - 120
Copper	25.0	24.7		mg/Kg		99	80 - 120
Lead	50.0	50.1		mg/Kg		100	80 - 120
Nickel	50.0	48.9		mg/Kg		98	80 - 120
Selenium	200	209		mg/Kg		104	80 - 120
Silver	30.0	32.8		mg/Kg		109	80 - 120
Thallium	200	199		mg/Kg		99	80 - 120
Zinc	200	197		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 580-184537/13-A

Matrix: Solid

Analysis Batch: 184579

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184537

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	150	152		mg/Kg		101	80 - 120	1	20
Arsenic	200	195		mg/Kg		97	80 - 120	1	20
Beryllium	5.00	4.62		mg/Kg		92	80 - 120	9	20
Cadmium	5.00	5.04		mg/Kg		101	80 - 120	0	20
Chromium	20.0	19.8		mg/Kg		99	80 - 120	2	20
Copper	25.0	24.0		mg/Kg		96	80 - 120	3	20
Lead	50.0	49.5		mg/Kg		99	80 - 120	1	20
Nickel	50.0	47.8		mg/Kg		96	80 - 120	2	20
Selenium	200	204		mg/Kg		102	80 - 120	2	20
Silver	30.0	32.6		mg/Kg		109	80 - 120	1	20
Thallium	200	196		mg/Kg		98	80 - 120	1	20
Zinc	200	196		mg/Kg		98	80 - 120	0	20

Lab Sample ID: 580-47968-2 MS

Matrix: Solid

Analysis Batch: 184579

Client Sample ID: B2-2-3

Prep Type: Total/NA

Prep Batch: 184537

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.16		133	131		mg/Kg	☼	98	80 - 120
Arsenic	3.4		177	187		mg/Kg	☼	103	80 - 120
Beryllium	0.24		4.43	4.82		mg/Kg	☼	103	80 - 120
Cadmium	ND		4.43	4.81		mg/Kg	☼	108	80 - 120
Chromium	33	F1	17.7	57.9	F1	mg/Kg	☼	141	80 - 120
Copper	13	F1	22.2	45.0	F1	mg/Kg	☼	143	80 - 120
Lead	2.7		44.3	48.9		mg/Kg	☼	104	80 - 120
Nickel	45	F1	44.3	98.9	F1	mg/Kg	☼	122	80 - 120
Selenium	1.0		177	193		mg/Kg	☼	108	80 - 120
Silver	ND		26.6	29.9		mg/Kg	☼	112	80 - 120
Thallium	ND		177	183		mg/Kg	☼	103	80 - 120
Zinc	24		177	211		mg/Kg	☼	105	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-47968-2 MSD

Matrix: Solid

Analysis Batch: 184579

Client Sample ID: B2-2-3

Prep Type: Total/NA

Prep Batch: 184537

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.16		142	139		mg/Kg	☼	98	80 - 120	6	20
Arsenic	3.4		189	193		mg/Kg	☼	100	80 - 120	3	20
Beryllium	0.24		4.72	4.94		mg/Kg	☼	99	80 - 120	2	20
Cadmium	ND		4.72	4.92		mg/Kg	☼	104	80 - 120	2	20
Chromium	33	F1	18.9	59.6	F1	mg/Kg	☼	142	80 - 120	3	20
Copper	13	F1	23.6	38.9		mg/Kg	☼	108	80 - 120	14	20
Lead	2.7		47.2	50.6		mg/Kg	☼	102	80 - 120	3	20
Nickel	45	F1	47.2	98.5		mg/Kg	☼	113	80 - 120	0	20
Selenium	1.0		189	200		mg/Kg	☼	105	80 - 120	4	20
Silver	ND		28.3	31.8		mg/Kg	☼	112	80 - 120	6	20
Thallium	ND		189	191		mg/Kg	☼	101	80 - 120	4	20
Zinc	24		189	215		mg/Kg	☼	101	80 - 120	2	20

Lab Sample ID: 580-47968-2 DU

Matrix: Solid

Analysis Batch: 184579

Client Sample ID: B2-2-3

Prep Type: Total/NA

Prep Batch: 184537

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	0.16		ND		mg/Kg	☼	NC	20
Arsenic	3.4		3.74		mg/Kg	☼	9	20
Beryllium	0.24		0.266		mg/Kg	☼	9	20
Cadmium	ND		ND		mg/Kg	☼	NC	20
Chromium	33	F1	33.4		mg/Kg	☼	2	20
Copper	13	F1	13.8		mg/Kg	☼	3	20
Lead	2.7		2.75		mg/Kg	☼	3	20
Nickel	45	F1	48.2		mg/Kg	☼	7	20
Selenium	1.0		1.03		mg/Kg	☼	2	20
Silver	ND		ND		mg/Kg	☼	NC	20
Thallium	ND		ND		mg/Kg	☼	NC	20
Zinc	24		25.1		mg/Kg	☼	3	20

Lab Sample ID: MB 580-185216/24-A

Matrix: Water

Analysis Batch: 185345

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 185216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 15:47	5
Arsenic	ND		0.0050		mg/L		03/25/15 16:16	03/26/15 15:47	5
Beryllium	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 15:47	5
Cadmium	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 15:47	5
Chromium	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 15:47	5
Copper	ND		0.010		mg/L		03/25/15 16:16	03/26/15 15:47	5
Nickel	ND		0.015		mg/L		03/25/15 16:16	03/26/15 15:47	5
Selenium	ND		0.0050		mg/L		03/25/15 16:16	03/26/15 15:47	5
Silver	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 15:47	5
Thallium	ND		0.0050		mg/L		03/25/15 16:16	03/26/15 15:47	5
Zinc	ND		0.035		mg/L		03/25/15 16:16	03/26/15 15:47	5

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-185216/24-A

Matrix: Water

Analysis Batch: 185354

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 185216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		03/25/15 16:16	03/26/15 17:34	5

Lab Sample ID: LCS 580-185216/25-A

Matrix: Water

Analysis Batch: 185345

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	3.07		mg/L		102	80 - 120
Arsenic	4.00	4.16		mg/L		104	80 - 120
Beryllium	0.100	0.103		mg/L		103	80 - 120
Cadmium	0.100	0.108		mg/L		108	80 - 120
Chromium	0.400	0.410		mg/L		103	80 - 120
Copper	0.500	0.527		mg/L		105	80 - 120
Nickel	1.00	1.05		mg/L		105	80 - 120
Selenium	4.00	4.22		mg/L		105	80 - 120
Silver	0.600	0.681		mg/L		114	80 - 120
Thallium	4.00	4.09		mg/L		102	80 - 120
Zinc	4.00	4.20		mg/L		105	80 - 120

Lab Sample ID: LCS 580-185216/25-A

Matrix: Water

Analysis Batch: 185354

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.999		mg/L		100	80 - 120

Lab Sample ID: LCSD 580-185216/26-A

Matrix: Water

Analysis Batch: 185345

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.00	3.09		mg/L		103	80 - 120	1	20
Arsenic	4.00	4.18		mg/L		104	80 - 120	0	20
Beryllium	0.100	0.107		mg/L		107	80 - 120	4	20
Cadmium	0.100	0.105		mg/L		105	80 - 120	3	20
Chromium	0.400	0.406		mg/L		102	80 - 120	1	20
Copper	0.500	0.528		mg/L		106	80 - 120	0	20
Nickel	1.00	1.06		mg/L		106	80 - 120	1	20
Selenium	4.00	4.19		mg/L		105	80 - 120	1	20
Silver	0.600	0.684		mg/L		114	80 - 120	0	20
Thallium	4.00	4.15		mg/L		104	80 - 120	1	20
Zinc	4.00	4.18		mg/L		105	80 - 120	0	20

Lab Sample ID: LCSD 580-185216/26-A

Matrix: Water

Analysis Batch: 185354

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	1.00		mg/L		100	80 - 120	0	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-185149/24-A
Matrix: Water
Analysis Batch: 185209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185149

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/25/15 10:25	03/25/15 12:50	1

Lab Sample ID: LCS 580-185149/25-A
Matrix: Water
Analysis Batch: 185209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185149

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00171		mg/L		86	80 - 120

Lab Sample ID: LCSD 580-185149/26-A
Matrix: Water
Analysis Batch: 185209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185149

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00170		mg/L		85	80 - 120	0	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-184494/14-A
Matrix: Solid
Analysis Batch: 184525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184494

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		03/17/15 07:05	03/17/15 09:12	1

Lab Sample ID: LCS 580-184494/15-A
Matrix: Solid
Analysis Batch: 184525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184494

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.152		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 580-184494/16-A
Matrix: Solid
Analysis Batch: 184525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184494

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.151		mg/Kg		91	80 - 120	0	20

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B2-3-3

Date Collected: 03/13/15 12:16

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-1

Matrix: Solid

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184544	03/13/15 17:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184539	03/17/15 13:28	CJ	TAL SEA
Total/NA	Prep	3550B			184671	03/18/15 11:26	ERZ	TAL SEA
Total/NA	Analysis	8270D		1	185375	03/27/15 13:30	AHP	TAL SEA
Total/NA	Prep	3546			184492	03/16/15 17:31	AHP	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184521	03/17/15 13:23	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	184565	03/17/15 14:33	ERZ	TAL SEA

Client Sample ID: B2-2-3

Date Collected: 03/13/15 12:51

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-2

Matrix: Solid

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184452	03/13/15 17:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184446	03/16/15 13:16	CJ	TAL SEA
Total/NA	Prep	5035			184545	03/17/15 15:17	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184608	03/18/15 08:40	IWH	TAL SEA
Total/NA	Prep	3550B			184847	03/20/15 10:53	EKK	TAL SEA
Total/NA	Analysis	8082A		1	184871	03/21/15 04:54	ALC	TAL SEA
Total/NA	Prep	3546			184492	03/16/15 17:31	AHP	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184521	03/17/15 13:41	EKK	TAL SEA
Total/NA	Prep	3050B			184537	03/17/15 11:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	184579	03/17/15 13:58	FCW	TAL SEA
Total/NA	Prep	7471A			184494	03/17/15 07:05	PAB	TAL SEA
Total/NA	Analysis	7471A		1	184525	03/17/15 09:48	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184565	03/17/15 14:33	ERZ	TAL SEA

Client Sample ID: B2-2-G

Date Collected: 03/13/15 13:15

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	184449	03/16/15 16:53	TL1	TAL SEA
Total/NA	Prep	3510C			184908	03/20/15 17:46	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184943	03/23/15 11:26	EKK	TAL SEA

Client Sample ID: B3-1-G

Date Collected: 03/13/15 13:55

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	184449	03/16/15 17:19	TL1	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-1-G

Lab Sample ID: 580-47968-4

Date Collected: 03/13/15 13:55

Matrix: Water

Date Received: 03/13/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			184908	03/20/15 17:46	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184943	03/23/15 11:42	EKK	TAL SEA
Total Recoverable	Prep	3005A			185216	03/25/15 16:16	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185345	03/26/15 16:51	FCW	TAL SEA
Total Recoverable	Prep	3005A			185216	03/25/15 16:16	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185354	03/26/15 19:32	FCW	TAL SEA
Total/NA	Prep	7470A			185149	03/25/15 10:09	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185209	03/25/15 13:53	FCW	TAL SEA

Client Sample ID: B3-2-G

Lab Sample ID: 580-47968-5

Date Collected: 03/13/15 14:35

Matrix: Water

Date Received: 03/13/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	184449	03/16/15 17:45	TL1	TAL SEA
Total/NA	Prep	3510C			184908	03/20/15 17:46	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184943	03/23/15 11:58	EKK	TAL SEA
Total Recoverable	Prep	3005A			185216	03/25/15 16:16	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185345	03/26/15 16:47	FCW	TAL SEA
Total Recoverable	Prep	3005A			185216	03/25/15 16:16	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185354	03/26/15 19:28	FCW	TAL SEA
Total/NA	Prep	7470A			185149	03/25/15 10:09	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185209	03/25/15 13:55	FCW	TAL SEA

Client Sample ID: B3-1-9

Lab Sample ID: 580-47968-6

Date Collected: 03/13/15 12:45

Matrix: Solid

Date Received: 03/13/15 16:45

Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184452	03/13/15 17:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184446	03/16/15 13:54	CJ	TAL SEA
Total/NA	Prep	5035			184545	03/17/15 15:17	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184608	03/18/15 09:13	IWH	TAL SEA
Total/NA	Prep	3546			184492	03/16/15 17:31	AHP	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184521	03/17/15 13:59	EKK	TAL SEA
Total/NA	Prep	3050B			184537	03/17/15 11:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	184579	03/17/15 14:17	FCW	TAL SEA
Total/NA	Prep	7471A			184494	03/17/15 07:05	PAB	TAL SEA
Total/NA	Analysis	7471A		1	184525	03/17/15 09:50	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184565	03/17/15 14:33	ERZ	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Client Sample ID: B3-2-10.5

Date Collected: 03/13/15 14:10

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-7

Matrix: Solid

Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184452	03/13/15 17:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184446	03/16/15 14:20	CJ	TAL SEA
Total/NA	Prep	5035			184545	03/17/15 15:17	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184608	03/18/15 09:46	IWH	TAL SEA
Total/NA	Prep	3546			184492	03/16/15 17:31	AHP	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184521	03/17/15 14:17	EKK	TAL SEA
Total/NA	Prep	3050B			184537	03/17/15 11:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	184579	03/17/15 14:21	FCW	TAL SEA
Total/NA	Prep	7471A			184494	03/17/15 07:05	PAB	TAL SEA
Total/NA	Analysis	7471A		1	184525	03/17/15 09:52	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184565	03/17/15 14:33	ERZ	TAL SEA

Client Sample ID: B2-1-G

Date Collected: 03/13/15 11:00

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			184555	03/17/15 13:38	RBL	TAL SEA
Total/NA	Analysis	8081B		1	184664	03/19/15 10:37	EKK	TAL SEA

Client Sample ID: TB-031315-01

Date Collected: 03/13/15 00:01

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184449	03/16/15 15:08	TL1	TAL SEA

Client Sample ID: TB-031315-02

Date Collected: 03/13/15 00:01

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184452	03/13/15 17:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184446	03/16/15 11:58	CJ	TAL SEA
Total/NA	Prep	5035			184545	03/17/15 15:17	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184608	03/18/15 08:07	IWH	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TestAmerica Seattle

Certification Summary

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
8270D	3550B	Solid	1,2,4-Trichlorobenzene
8270D	3550B	Solid	bis(chloroisopropyl) ether
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Sample Summary

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-47968-1	B2-3-3	Solid	03/13/15 12:16	03/13/15 16:45
580-47968-2	B2-2-3	Solid	03/13/15 12:51	03/13/15 16:45
580-47968-3	B2-2-G	Water	03/13/15 13:15	03/13/15 16:45
580-47968-4	B3-1-G	Water	03/13/15 13:55	03/13/15 16:45
580-47968-5	B3-2-G	Water	03/13/15 14:35	03/13/15 16:45
580-47968-6	B3-1-9	Solid	03/13/15 12:45	03/13/15 16:45
580-47968-7	B3-2-10.5	Solid	03/13/15 14:10	03/13/15 16:45
580-47968-8	B2-1-G	Water	03/13/15 11:00	03/13/15 16:45
580-47968-9	TB-031315-01	Water	03/13/15 00:01	03/13/15 16:45
580-47968-10	TB-031315-02	Solid	03/13/15 00:01	03/13/15 16:45

Client ERM	Client Contact Mike Arnold	Date 3/13/15	Chain of Custody Number 26317
Address 1218 3rd Ave STE 1412	Telephone Number (Area Code)/Fax Number 425 462 8591	Lab Number 470608	Page 1 of 1
City Seattle	State WA	Zip Code 98101	
Project Name and Location (State) K2 Facility Vashon, Wa			
Contract/Purchase Order/Quote No. 266125			

City	State	Zip Code	Sampler	Lab Contact	Analysis (Attach list if more space is needed)										Special Instructions/ Conditions of Receipt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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580-47968 Chain of Custody

Cooler ☐ Yes ☐ No	Cooler Temp: _____	Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	Sample Disposal ☐ Return To Client ☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
Turn Around Time Required (business days) ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days		QC Requirements (Specify) * Standard		
1. Relinquished By Sign/Print Q2		Date 3/13/15	Time 1645	1. Received By Sign/Print R Vance
2. Relinquished By Sign/Print		Date	Time	2. Received By Sign/Print
3. Relinquished By Sign/Print		Date	Time	3. Received By Sign/Print
Comments				

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-47968-1

Login Number: 47968

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-47968-2

Client Project/Site: K2 Facility Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:

3/20/2015 5:42:07 PM

Kristine Allen, Manager of Project Management
(253)248-4970

kristine.allen@testamericainc.com

Designee for

David Burk, Project Manager I
(253)248-4972

david.burk@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Job ID: 580-47968-2

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-47968-2

Comments

No additional comments.

Receipt

The samples were received on 3/13/2015 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

Except:

The following samples are biphasic: B2-2-G (580-47968-3), B3-1-G (580-47968-4), B3-2-G (580-47968-5).

GC/MS VOA

The following sample(s) were recieved with a significant amount of mud filling the bottom of each VOA vial, thus the samples were unable to be run at full strength. In order to prevent instrument damage, the samples were consequently diluted due to the nature of the sample matrix: B2-2-G (580-47968-3), B3-1-G (580-47968-4), B3-2-G (580-47968-5) at half strength. Elevated reporting limits (RLs) are provided.

Method(s) NWTPH-Gx: The following samples were diluted due to the nature of the sample matrix. Sample vials contained significant amounts of sediment and an aliquot had to be removed and brought up to volume in order to run the samples without solid particulates touching the auto-sampling needle: B2-2-G (580-47968-3), B3-1-G (580-47968-4), B3-2-G (580-47968-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Client Sample ID: B2-2-G

Date Collected: 03/13/15 13:15

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-3

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.20		mg/L			03/18/15 06:57	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					03/18/15 06:57	2
Trifluorotoluene (Surr)	109		50 - 150					03/18/15 06:57	2

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Client Sample ID: B3-1-G

Date Collected: 03/13/15 13:55

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-4

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.20		mg/L			03/18/15 07:27	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150					03/18/15 07:27	2
Trifluorotoluene (Surr)	107		50 - 150					03/18/15 07:27	2

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Client Sample ID: B3-2-G

Date Collected: 03/13/15 14:35

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-5

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.20		mg/L			03/18/15 07:58	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150					03/18/15 07:58	2
Trifluorotoluene (Surr)	108		50 - 150					03/18/15 07:58	2

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Client Sample ID: TB-031315-01

Lab Sample ID: 580-47968-9

Date Collected: 03/13/15 00:01

Matrix: Water

Date Received: 03/13/15 16:45

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/18/15 05:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/18/15 05:55	1
Trifluorotoluene (Surr)	107		50 - 150					03/18/15 05:55	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184615/5

Matrix: Water

Analysis Batch: 184615

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/18/15 04:22	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/18/15 04:22	1
Trifluorotoluene (Surr)	108		50 - 150					03/18/15 04:22	1

Lab Sample ID: LCS 580-184615/6

Matrix: Water

Analysis Batch: 184615

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.903		mg/L		90	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	101		50 - 150				
Trifluorotoluene (Surr)	94		50 - 150				

Lab Sample ID: LCSD 580-184615/7

Matrix: Water

Analysis Batch: 184615

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.910		mg/L		91	79 - 110	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	102		50 - 150						
Trifluorotoluene (Surr)	94		50 - 150						

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Client Sample ID: B2-2-G

Date Collected: 03/13/15 13:15

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		2	184615	03/18/15 06:57	IWH	TAL SEA

Client Sample ID: B3-1-G

Date Collected: 03/13/15 13:55

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		2	184615	03/18/15 07:27	IWH	TAL SEA

Client Sample ID: B3-2-G

Date Collected: 03/13/15 14:35

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		2	184615	03/18/15 07:58	IWH	TAL SEA

Client Sample ID: TB-031315-01

Date Collected: 03/13/15 00:01

Date Received: 03/13/15 16:45

Lab Sample ID: 580-47968-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184615	03/18/15 05:55	IWH	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16
Analysis Method	Prep Method	Matrix	Analyte	

Sample Summary

Client: ERM-West
Project/Site: K2 Facility Vashon, WA

TestAmerica Job ID: 580-47968-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-47968-3	B2-2-G	Water	03/13/15 13:15	03/13/15 16:45
580-47968-4	B3-1-G	Water	03/13/15 13:55	03/13/15 16:45
580-47968-5	B3-2-G	Water	03/13/15 14:35	03/13/15 16:45
580-47968-9	TB-031315-01	Water	03/13/15 00:01	03/13/15 16:45

Client ERM		Client Contact Mike Arnold		Date 3/13/15	Chain of Custody Number 26317	
Address 1218 3rd Ave STE 1412		Telephone Number (Area Code)/Fax Number 425 462 8591		Lab Number 470608	Page 1 of 1	
City Seattle	State WA	Zip Code 98101	Sampler Scott Terrence	Lab Contact David Burk		
Project Name and Location (State) K2 Facility Vashon, WA			Billing Contact			
Contract/Purchase Order/Quote No. 266125						

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)					Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH	TPH-D/HO	VOC	SVOC	TPH-G		PCBs
B2-3-3	3/13/15	1216				X		4								X			
B2-2-3		1251				X		5								X			
B2-2-G		1315		X							8					X			
B3-1-G		1355		X							18					X			
B3-2-G		1435		X							18					X			
B3-1-9		1245				X		4								X			
B3-2-10.5		1410				X		4								X			
B2-1-G		1100		X				2								X			
T8-031315-01				X							2					X			
T8-031315-02																X			



580-47968 Chain of Custody

Cooler/TB Dig IR for 2.7 unc 3.2 °C
Cooler Dsc 1g Blended @ Lab
Wet/Packs Packing Bubble
w/b client Drop

Cooler ☐ Yes ☐ No	Cooler Temp: _____	Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown	Sample Disposal ☐ Return To Client ☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
Turn Around Time Required (business days) ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days				
QC Requirements (Specify) * Standard				
1. Relinquished By Sign/Print Q2		Date 3/13/15	Time 1645	1. Received By Sign/Print R Vance
2. Relinquished By Sign/Print		Date	Time	2. Received By Sign/Print
3. Relinquished By Sign/Print		Date	Time	3. Received By Sign/Print

Comments

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-47968-2

Login Number: 47968

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle

5755 8th Street East

Tacoma, WA 98424

Tel: (253)922-2310

TestAmerica Job ID: 580-48087-1

Client Project/Site: K2 Facility

For:

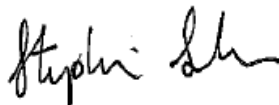
ERM-West

1218 3rd Ave

Suite 1412

Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:

4/2/2015 6:24:09 PM

Stephanie Sanders, Project Manager I

(303)736-0196

stephanie.sanders@testamericainc.com

LINKS

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results through

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Job ID: 580-48087-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/17/2015 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.7° C.

Except:

A sample that arrived at lab without a label. I attached this container to the sample HA6-1-3. The contents match those of sample No. HA6-1-3. The COC states that the sample HA6-1-3- has 5 containers and without adding the sample without a label it would have been only 4 containers attached to that sample.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184860 recovered above the upper control limit for Vinyl chloride, trans-1,3-Dichloropropene and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-184860/3).

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 184860 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated. A low level calibration verification (CCVL) was analyzed as per method recommendation.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184860 recovered outside acceptance criteria, low biased, for 1,2,3-Trichlorobenzene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch 184860 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, N-Propylbenzene and Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 184860 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, Isopropylbenzene and Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184870 recovered outside control limits for the following analytes: Chloroform and Dichlorodifluoromethane.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 184860 recovered outside control limits for the following analyte: trans-1,3-Dichloropropene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185483 was outside criteria for the following analyte(s): 4-Chloro-3-methylphenol, Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D SIM: All PAH analyte(s) recovered outside control limits for the LCS/LCSD associated with prep batch 184868. These analytes were outside the Marginal Exceedance Limits and were indicative of a systematic problem; therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported. Affected samples: (580-48087-5), (LCS 580-184868/2-A), (LCSD 580-184868/3-A), HA2-1-3EB (580-48087-5)

Method(s) 8270D SIM: Surrogate recovery for the following sample(s) was outside control limits: (580-48087-5), HA2-1-3EB

Case Narrative

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Job ID: 580-48087-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

(580-48087-5). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D SIM: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184868 recovered outside control limits for multiple analytes.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3550B: In preparation batch 184747, the following sample matrix observation(s) were made for sample(s) (580-48087-1), (580-48087-1 MS), (580-48087-1 MSD), HA6-1-3 (580-48087-1): the sample contained standing water.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD exceeds the control limits
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA6-1-3

Lab Sample ID: 580-48087-1

Date Collected: 03/17/15 12:15

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 80.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,1,1-Trichloroethane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,1,2,2-Tetrachloroethane	ND		3.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,1,2-Trichloroethane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,1-Dichloroethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,1-Dichloroethene	ND		4.2		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,1-Dichloropropene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2,3-Trichlorobenzene	ND		2.5		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2,3-Trichloropropane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2,4-Trichlorobenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2,4-Trimethylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2-Dibromo-3-Chloropropane	ND		8.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2-Dibromoethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2-Dichlorobenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2-Dichloroethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,2-Dichloropropane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,3,5-Trimethylbenzene	ND		4.2		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,3-Dichlorobenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,3-Dichloropropane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
1,4-Dichlorobenzene	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
2,2-Dichloropropane	ND		4.2		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
2-Chlorotoluene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
4-Chlorotoluene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
4-Isopropyltoluene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Benzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Bromobenzene	ND		8.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Bromochloromethane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Bromodichloromethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Bromoform	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Bromomethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Carbon tetrachloride	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Chlorobenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Chloroethane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Chloroform	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Chloromethane	ND *		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
cis-1,2-Dichloroethene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
cis-1,3-Dichloropropene	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Dibromochloromethane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Dibromomethane	ND		0.84		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Dichlorodifluoromethane	ND *		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Ethylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Hexachlorobutadiene	ND		2.5		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Isopropylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Methyl tert-butyl ether	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Methylene Chloride	ND		13		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
m-Xylene & p-Xylene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Naphthalene	ND		8.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
n-Butylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
N-Propylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA6-1-3

Lab Sample ID: 580-48087-1

Date Collected: 03/17/15 12:15

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 80.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
sec-Butylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Styrene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
t-Butylbenzene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Tetrachloroethene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Toluene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
trans-1,2-Dichloroethene	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
trans-1,3-Dichloropropene	ND	*	8.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Trichloroethene	8.2		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Trichlorofluoromethane	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1
Vinyl chloride	ND		1.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		71 - 136	03/17/15 16:55	03/20/15 19:05	1
4-Bromofluorobenzene (Surr)	96		70 - 120	03/17/15 16:55	03/20/15 19:05	1
Dibromofluoromethane (Surr)	96		75 - 132	03/17/15 16:55	03/20/15 19:05	1
Toluene-d8 (Surr)	103		80 - 120	03/17/15 16:55	03/20/15 19:05	1
Trifluorotoluene (Surr)	100		65 - 140	03/17/15 16:55	03/20/15 19:05	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	F1	61		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
1,2-Dichlorobenzene	ND		67		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
1,3-Dichlorobenzene	ND		61		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
1,4-Dichlorobenzene	ND	F1	61		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
1-Methylnaphthalene	ND		37		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,4,5-Trichlorophenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,4,6-Trichlorophenol	ND		180		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,4-Dichlorophenol	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,4-Dimethylphenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,4-Dinitrophenol	ND		1200		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,4-Dinitrotoluene	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2,6-Dinitrotoluene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2-Chloronaphthalene	ND		24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2-Chlorophenol	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2-Methylnaphthalene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2-Methylphenol	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2-Nitroaniline	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
2-Nitrophenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
3 & 4 Methylphenol	ND	F1	240		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
3,3'-Dichlorobenzidine	ND		240		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
3-Nitroaniline	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4,6-Dinitro-2-methylphenol	ND		1200		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4-Bromophenyl phenyl ether	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4-Chloro-3-methylphenol	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4-Chloroaniline	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4-Chlorophenyl phenyl ether	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4-Nitroaniline	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
4-Nitrophenol	ND		1200		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Acenaphthene	ND		24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA6-1-3

Lab Sample ID: 580-48087-1

Date Collected: 03/17/15 12:15

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Anthracene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzo[a]anthracene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzo[a]pyrene	ND	F1	37		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzo[b]fluoranthene	ND		24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzo[g,h,i]perylene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzo[k]fluoranthene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzoic acid	ND		3100		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Benzyl alcohol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Bis(2-chloroethoxy)methane	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Bis(2-chloroethyl)ether	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Bis(2-ethylhexyl) phthalate	ND		730		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
bis(chloroisopropyl) ether	ND		310		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Butyl benzyl phthalate	ND		240		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Carbazole	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Chrysene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Dibenz(a,h)anthracene	ND		49		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Dibenzofuran	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Diethyl phthalate	ND	F1	240		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Dimethyl phthalate	ND	F1	120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Di-n-butyl phthalate	ND		610		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Di-n-octyl phthalate	ND	F1	610		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Fluoranthene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Fluorene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Hexachlorobenzene	ND	F1	61		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Hexachlorobutadiene	ND	F1	61		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Hexachlorocyclopentadiene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Hexachloroethane	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Indeno[1,2,3-cd]pyrene	ND		49		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Isophorone	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Naphthalene	ND		24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Nitrobenzene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
N-Nitrosodi-n-propylamine	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
N-Nitrosodiphenylamine	ND	F1	61		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Pentachlorophenol	ND		240		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Phenanthrene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Phenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1
Pyrene	ND	F1	24		ug/Kg	☼	03/19/15 10:42	03/30/15 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	64		28 - 143	03/19/15 10:42	03/30/15 16:31	1
2-Fluorobiphenyl	87		42 - 140	03/19/15 10:42	03/30/15 16:31	1
2-Fluorophenol (Surr)	88		36 - 145	03/19/15 10:42	03/30/15 16:31	1
Nitrobenzene-d5 (Surr)	81		38 - 141	03/19/15 10:42	03/30/15 16:31	1
Phenol-d5 (Surr)	86		38 - 149	03/19/15 10:42	03/30/15 16:31	1
Terphenyl-d14 (Surr)	87		42 - 151	03/19/15 10:42	03/30/15 16:31	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA6-1-3

Lab Sample ID: 580-48087-1

Date Collected: 03/17/15 12:15

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 80.6

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.013		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1
PCB-1232	ND		0.013		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1
PCB-1242	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1
PCB-1248	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1
PCB-1254	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1
PCB-1260	ND		0.012		mg/Kg	☼	03/20/15 10:53	03/21/15 05:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	89		50 - 140	03/20/15 10:53	03/21/15 05:45	1
Tetrachloro-m-xylene	55		45 - 135	03/20/15 10:53	03/21/15 05:45	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		30		mg/Kg	☼	03/19/15 08:05	03/19/15 20:56	1
Motor Oil (>C24-C36)	ND		61		mg/Kg	☼	03/19/15 08:05	03/19/15 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150	03/19/15 08:05	03/19/15 20:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81		0.10		%			03/20/15 17:37	1
Percent Moisture	19		0.10		%			03/20/15 17:37	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3

Lab Sample ID: 580-48087-2

Date Collected: 03/17/15 10:30

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 83.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,1,1-Trichloroethane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,1,2,2-Tetrachloroethane	ND		3.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,1,2-Trichloroethane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,1-Dichloroethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,1-Dichloroethene	ND		4.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,1-Dichloropropene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2,3-Trichlorobenzene	ND		2.8		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2,3-Trichloropropane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2-Dibromo-3-Chloropropane	ND		9.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2-Dibromoethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2-Dichlorobenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2-Dichloroethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,2-Dichloropropane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,3,5-Trimethylbenzene	ND		4.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,3-Dichlorobenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,3-Dichloropropane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
1,4-Dichlorobenzene	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
2,2-Dichloropropane	ND		4.7		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
2-Chlorotoluene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
4-Chlorotoluene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
4-Isopropyltoluene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Benzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Bromobenzene	ND		9.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Bromochloromethane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Bromodichloromethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Bromoform	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Bromomethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Carbon tetrachloride	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Chlorobenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Chloroethane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Chloroform	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Chloromethane	ND *		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
cis-1,2-Dichloroethene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
cis-1,3-Dichloropropene	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Dibromochloromethane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Dibromomethane	ND		0.94		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Dichlorodifluoromethane	ND *		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Ethylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Hexachlorobutadiene	ND		2.8		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Isopropylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Methyl tert-butyl ether	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Methylene Chloride	ND		14		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Naphthalene	ND		9.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
n-Butylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
N-Propylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3

Lab Sample ID: 580-48087-2

Date Collected: 03/17/15 10:30

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 83.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
sec-Butylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Styrene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
t-Butylbenzene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Tetrachloroethene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Toluene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
trans-1,2-Dichloroethene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
trans-1,3-Dichloropropene	ND	*	9.4		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Trichloroethene	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Trichlorofluoromethane	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1
Vinyl chloride	ND		1.9		ug/Kg	☼	03/17/15 16:55	03/20/15 19:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 136	03/17/15 16:55	03/20/15 19:31	1
4-Bromofluorobenzene (Surr)	97		70 - 120	03/17/15 16:55	03/20/15 19:31	1
Dibromofluoromethane (Surr)	97		75 - 132	03/17/15 16:55	03/20/15 19:31	1
Toluene-d8 (Surr)	106		80 - 120	03/17/15 16:55	03/20/15 19:31	1
Trifluorotoluene (Surr)	101		65 - 140	03/17/15 16:55	03/20/15 19:31	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
1,2-Dichlorobenzene	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
1,3-Dichlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
1,4-Dichlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
1-Methylnaphthalene	ND		34		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,4,5-Trichlorophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,4,6-Trichlorophenol	ND		170		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,4-Dichlorophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,4-Dimethylphenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,4-Dinitrophenol	ND		1100		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,4-Dinitrotoluene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2,6-Dinitrotoluene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2-Chloronaphthalene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2-Chlorophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2-Methylnaphthalene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2-Methylphenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2-Nitroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
2-Nitrophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
3 & 4 Methylphenol	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
3,3'-Dichlorobenzidine	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
3-Nitroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4,6-Dinitro-2-methylphenol	ND		1100		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4-Bromophenyl phenyl ether	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4-Chloro-3-methylphenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4-Chloroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4-Chlorophenyl phenyl ether	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4-Nitroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
4-Nitrophenol	ND		1100		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Acenaphthene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3

Lab Sample ID: 580-48087-2

Date Collected: 03/17/15 10:30

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Anthracene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzo[a]anthracene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzo[a]pyrene	ND		34		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzo[b]fluoranthene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzo[g,h,i]perylene	ND		28		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzo[k]fluoranthene	ND		28		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzoic acid	ND		2800		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Benzyl alcohol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Bis(2-chloroethoxy)methane	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Bis(2-chloroethyl)ether	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Bis(2-ethylhexyl) phthalate	ND		680		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
bis(chloroisopropyl) ether	ND		280		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Butyl benzyl phthalate	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Carbazole	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Chrysene	ND		28		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Dibenz(a,h)anthracene	ND		45		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Dibenzofuran	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Diethyl phthalate	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Dimethyl phthalate	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Di-n-butyl phthalate	ND		570		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Di-n-octyl phthalate	ND		570		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Fluoranthene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Fluorene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Hexachlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Hexachlorobutadiene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Hexachlorocyclopentadiene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Hexachloroethane	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Indeno[1,2,3-cd]pyrene	ND		45		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Isophorone	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Naphthalene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Nitrobenzene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
N-Nitrosodi-n-propylamine	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
N-Nitrosodiphenylamine	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Pentachlorophenol	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Phenanthrene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Phenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1
Pyrene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	60		28 - 143	03/19/15 10:42	03/30/15 17:50	1
2-Fluorobiphenyl	81		42 - 140	03/19/15 10:42	03/30/15 17:50	1
2-Fluorophenol (Surr)	93		36 - 145	03/19/15 10:42	03/30/15 17:50	1
Nitrobenzene-d5 (Surr)	78		38 - 141	03/19/15 10:42	03/30/15 17:50	1
Phenol-d5 (Surr)	90		38 - 149	03/19/15 10:42	03/30/15 17:50	1
Terphenyl-d14 (Surr)	82		42 - 151	03/19/15 10:42	03/30/15 17:50	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		29		mg/Kg	☼	03/19/15 08:05	03/19/15 21:32	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3

Lab Sample ID: 580-48087-2

Date Collected: 03/17/15 10:30

Matrix: Solid

Date Received: 03/17/15 16:45

Percent Solids: 83.8

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	ND		58		mg/Kg	☼	03/19/15 08:05	03/19/15 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	62		50 - 150	03/19/15 08:05	03/19/15 21:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			03/20/15 17:37	1
Percent Moisture	16		0.10		%			03/20/15 17:37	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA4-1-3

Lab Sample ID: 580-48087-3

Date Collected: 03/17/15 09:55

Matrix: Solid

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,1,1-Trichloroethane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,1,2,2-Tetrachloroethane	ND		3.5		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,1,2-Trichloroethane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,1-Dichloroethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,1-Dichloroethene	ND		4.3		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,1-Dichloropropene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2,3-Trichlorobenzene	ND		2.6		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2,3-Trichloropropane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2,4-Trichlorobenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2,4-Trimethylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2-Dibromo-3-Chloropropane	ND		8.6		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2-Dibromoethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2-Dichlorobenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2-Dichloroethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,2-Dichloropropane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,3,5-Trimethylbenzene	ND		4.3		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,3-Dichlorobenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,3-Dichloropropane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
1,4-Dichlorobenzene	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
2,2-Dichloropropane	ND		4.3		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
2-Chlorotoluene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
4-Chlorotoluene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
4-Isopropyltoluene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Benzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Bromobenzene	ND		8.6		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Bromochloromethane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Bromodichloromethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Bromoform	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Bromomethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Carbon tetrachloride	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Chlorobenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Chloroethane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Chloroform	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Chloromethane	ND *		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
cis-1,2-Dichloroethene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
cis-1,3-Dichloropropene	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Dibromochloromethane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Dibromomethane	ND		0.86		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Dichlorodifluoromethane	ND *		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Ethylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Hexachlorobutadiene	ND		2.6		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Isopropylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Methyl tert-butyl ether	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Methylene Chloride	ND		13		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
m-Xylene & p-Xylene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Naphthalene	ND		8.6		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
n-Butylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
N-Propylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA4-1-3

Lab Sample ID: 580-48087-3

Date Collected: 03/17/15 09:55

Matrix: Solid

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
sec-Butylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Styrene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
t-Butylbenzene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Tetrachloroethene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Toluene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
trans-1,2-Dichloroethene	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
trans-1,3-Dichloropropene	ND	*	8.6		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Trichloroethene	19		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Trichlorofluoromethane	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Vinyl chloride	ND		1.7		ug/Kg		03/17/15 16:55	03/20/15 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		71 - 136				03/17/15 16:55	03/20/15 17:50	1
4-Bromofluorobenzene (Surr)	93		70 - 120				03/17/15 16:55	03/20/15 17:50	1
Dibromofluoromethane (Surr)	96		75 - 132				03/17/15 16:55	03/20/15 17:50	1
Toluene-d8 (Surr)	108		80 - 120				03/17/15 16:55	03/20/15 17:50	1
Trifluorotoluene (Surr)	103		65 - 140				03/17/15 16:55	03/20/15 17:50	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA4-2-2.5

Lab Sample ID: 580-48087-4

Date Collected: 03/17/15 08:55

Matrix: Solid

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,1,1-Trichloroethane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,1,2,2-Tetrachloroethane	ND		5.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,1,2-Trichloroethane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,1-Dichloroethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,1-Dichloroethene	ND		6.6		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,1-Dichloropropene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2,3-Trichlorobenzene	ND		4.0		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2,3-Trichloropropane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2,4-Trichlorobenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2,4-Trimethylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2-Dibromo-3-Chloropropane	ND		13		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2-Dibromoethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2-Dichlorobenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2-Dichloroethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,2-Dichloropropane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,3,5-Trimethylbenzene	ND		6.6		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,3-Dichlorobenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,3-Dichloropropane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
1,4-Dichlorobenzene	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
2,2-Dichloropropane	ND		6.6		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
2-Chlorotoluene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
4-Chlorotoluene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
4-Isopropyltoluene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Benzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Bromobenzene	ND		13		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Bromochloromethane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Bromodichloromethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Bromoform	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Bromomethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Carbon tetrachloride	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Chlorobenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Chloroethane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Chloroform	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Chloromethane	ND *		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
cis-1,2-Dichloroethene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
cis-1,3-Dichloropropene	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Dibromochloromethane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Dibromomethane	ND		1.3		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Dichlorodifluoromethane	ND *		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Ethylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Hexachlorobutadiene	ND		4.0		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Isopropylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Methyl tert-butyl ether	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Methylene Chloride	ND		20		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
m-Xylene & p-Xylene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Naphthalene	ND		13		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
n-Butylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
N-Propylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA4-2-2.5

Lab Sample ID: 580-48087-4

Date Collected: 03/17/15 08:55

Matrix: Solid

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
sec-Butylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Styrene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
t-Butylbenzene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Tetrachloroethene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Toluene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
trans-1,2-Dichloroethene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
trans-1,3-Dichloropropene	ND *		13		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Trichloroethene	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Trichlorofluoromethane	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1
Vinyl chloride	ND		2.7		ug/Kg		03/17/15 16:55	03/20/15 21:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		71 - 136	03/17/15 16:55	03/20/15 21:11	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/17/15 16:55	03/20/15 21:11	1
Dibromofluoromethane (Surr)	96		75 - 132	03/17/15 16:55	03/20/15 21:11	1
Toluene-d8 (Surr)	107		80 - 120	03/17/15 16:55	03/20/15 21:11	1
Trifluorotoluene (Surr)	98		65 - 140	03/17/15 16:55	03/20/15 21:11	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3EB

Lab Sample ID: 580-48087-5

Date Collected: 03/17/15 11:30

Matrix: Water

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 19:38	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 19:38	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 19:38	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 19:38	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 19:38	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 19:38	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 19:38	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 19:38	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 19:38	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 19:38	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 19:38	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 19:38	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 19:38	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 19:38	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 19:38	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 19:38	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 19:38	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 19:38	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 19:38	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 19:38	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 19:38	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 19:38	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 19:38	1
Benzene	ND		0.20		ug/L			03/20/15 19:38	1
Bromobenzene	ND		0.20		ug/L			03/20/15 19:38	1
Bromoform	ND		0.50		ug/L			03/20/15 19:38	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 19:38	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 19:38	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 19:38	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 19:38	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 19:38	1
Chloroethane	ND		0.50		ug/L			03/20/15 19:38	1
Chloroform	ND		0.20		ug/L			03/20/15 19:38	1
Chloromethane	ND		0.30		ug/L			03/20/15 19:38	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 19:38	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 19:38	1
Dibromomethane	ND		0.20		ug/L			03/20/15 19:38	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 19:38	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 19:38	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 19:38	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 19:38	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 19:38	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 19:38	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 19:38	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 19:38	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 19:38	1
Naphthalene	ND		0.50		ug/L			03/20/15 19:38	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 19:38	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 19:38	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3EB

Lab Sample ID: 580-48087-5

Date Collected: 03/17/15 11:30

Matrix: Water

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 19:38	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 19:38	1
Styrene	ND		0.50		ug/L			03/20/15 19:38	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 19:38	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 19:38	1
Toluene	ND		0.20		ug/L			03/20/15 19:38	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 19:38	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 19:38	1
Trichloroethene	ND		0.20		ug/L			03/20/15 19:38	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 19:38	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 128		03/20/15 19:38	1
4-Bromofluorobenzene (Surr)	102		75 - 120		03/20/15 19:38	1
Dibromofluoromethane (Surr)	106		85 - 115		03/20/15 19:38	1
Toluene-d8 (Surr)	102		75 - 125		03/20/15 19:38	1
Trifluorotoluene (Surr)	112		80 - 127		03/20/15 19:38	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/20/15 12:03	03/24/15 13:20	1
Acenaphthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Acenaphthylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Benzo[a]anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Benzo[a]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Benzo[b]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Benzo[g,h,i]perylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Chrysene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Dibenz(a,h)anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Fluorene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Indeno[1,2,3-cd]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Naphthalene	0.097	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Phenanthrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1
Pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	62	X	64 - 150	03/20/15 12:03	03/24/15 13:20	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
2-Methylnaphthalene	ND	H	0.027		ug/L		03/30/15 16:50	04/01/15 17:22	1
Acenaphthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Acenaphthylene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Anthracene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3EB

Lab Sample ID: 580-48087-5

Date Collected: 03/17/15 11:30

Matrix: Water

Date Received: 03/17/15 16:45

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Benzo[a]pyrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Benzo[b]fluoranthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Benzo[g,h,i]perylene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Benzo[k]fluoranthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Chrysene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Dibenz[a,h]anthracene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Fluoranthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Fluorene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Indeno[1,2,3-cd]pyrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Naphthalene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Phenanthrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1
Pyrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		64 - 150	03/30/15 16:50	04/01/15 17:22	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/24/15 21:40	03/25/15 13:02	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/24/15 21:40	03/25/15 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/24/15 21:40	03/25/15 13:02	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: TB-031701-01

Lab Sample ID: 580-48087-6

Date Collected: 03/17/15 00:01

Matrix: Solid

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Benzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Bromobenzene	ND		10		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Bromochloromethane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Bromodichloromethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Bromoform	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Bromomethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Chlorobenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Chloroethane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Chloroform	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Chloromethane	ND	*	1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Dibromochloromethane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Dibromomethane	ND		1.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Dichlorodifluoromethane	ND	*	2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Ethylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Isopropylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Methylene Chloride	ND		15		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Naphthalene	ND		10		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
n-Butylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
N-Propylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: TB-031701-01

Lab Sample ID: 580-48087-6

Date Collected: 03/17/15 00:01

Matrix: Solid

Date Received: 03/17/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Styrene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
t-Butylbenzene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Tetrachloroethene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Toluene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
trans-1,3-Dichloropropene	ND *		10		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Trichloroethene	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1
Vinyl chloride	ND		2.0		ug/Kg		03/17/15 16:55	03/20/15 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		71 - 136	03/17/15 16:55	03/20/15 14:40	1
4-Bromofluorobenzene (Surr)	96		70 - 120	03/17/15 16:55	03/20/15 14:40	1
Dibromofluoromethane (Surr)	92		75 - 132	03/17/15 16:55	03/20/15 14:40	1
Toluene-d8 (Surr)	113		80 - 120	03/17/15 16:55	03/20/15 14:40	1
Trifluorotoluene (Surr)	98		65 - 140	03/17/15 16:55	03/20/15 14:40	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184860/6

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 13:34	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 13:34	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 13:34	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 13:34	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 13:34	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 13:34	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 13:34	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 13:34	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 13:34	1
Benzene	ND		0.20		ug/L			03/20/15 13:34	1
Bromobenzene	ND		0.20		ug/L			03/20/15 13:34	1
Bromoform	ND		0.50		ug/L			03/20/15 13:34	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 13:34	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 13:34	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 13:34	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Chloroethane	ND		0.50		ug/L			03/20/15 13:34	1
Chloroform	ND		0.20		ug/L			03/20/15 13:34	1
Chloromethane	ND		0.30		ug/L			03/20/15 13:34	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/20/15 13:34	1
Dibromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 13:34	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 13:34	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 13:34	1
Isopropylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/20/15 13:34	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 13:34	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 13:34	1
Naphthalene	ND		0.50		ug/L			03/20/15 13:34	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184860/6

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
o-Xylene	ND		0.50		ug/L			03/20/15 13:34	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Styrene	ND		0.50		ug/L			03/20/15 13:34	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 13:34	1
Toluene	ND		0.20		ug/L			03/20/15 13:34	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/20/15 13:34	1
Trichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 13:34	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 13:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 128		03/20/15 13:34	1
4-Bromofluorobenzene (Surr)	102		75 - 120		03/20/15 13:34	1
Dibromofluoromethane (Surr)	103		85 - 115		03/20/15 13:34	1
Toluene-d8 (Surr)	104		75 - 125		03/20/15 13:34	1
Trifluorotoluene (Surr)	113		80 - 127		03/20/15 13:34	1

Lab Sample ID: LCS 580-184860/7

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.57		ug/L		111	75 - 125
1,1,1-Trichloroethane	5.00	5.79		ug/L		116	80 - 140
1,1,2,2-Tetrachloroethane	5.00	5.27		ug/L		105	75 - 125
1,1,2-Trichloroethane	5.00	5.46		ug/L		109	80 - 130
1,1-Dichloroethane	5.00	5.54		ug/L		111	75 - 135
1,1-Dichloroethene	5.00	5.08		ug/L		102	70 - 150
1,1-Dichloropropene	5.00	6.27		ug/L		125	80 - 130
1,2,3-Trichlorobenzene	5.00	3.95	^	ug/L		79	60 - 125
1,2,3-Trichloropropane	5.00	6.01		ug/L		120	75 - 120
1,2,4-Trichlorobenzene	5.00	4.55		ug/L		91	60 - 125
1,2,4-Trimethylbenzene	5.00	5.99		ug/L		120	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	5.61		ug/L		112	55 - 120
1,2-Dichlorobenzene	5.00	5.22		ug/L		104	80 - 130
1,2-Dichloroethane	5.00	5.58		ug/L		112	80 - 140
1,2-Dichloropropane	5.00	5.50		ug/L		110	80 - 120
1,3,5-Trimethylbenzene	5.00	6.23		ug/L		125	80 - 125
1,3-Dichlorobenzene	5.00	5.31		ug/L		106	80 - 120
1,3-Dichloropropane	5.00	5.38		ug/L		108	80 - 130
1,4-Dichlorobenzene	5.00	5.17		ug/L		103	80 - 120
2,2-Dichloropropane	5.00	5.77		ug/L		115	60 - 150
2-Chlorotoluene	5.00	5.86		ug/L		117	75 - 130
4-Chlorotoluene	5.00	6.03		ug/L		121	75 - 130
4-Isopropyltoluene	5.00	5.39		ug/L		108	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184860/7

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.51		ug/L		110	80 - 120
Bromobenzene	5.00	5.64		ug/L		113	80 - 130
Bromoform	5.00	5.32		ug/L		106	65 - 130
Bromomethane	5.00	5.45	^	ug/L		109	70 - 135
Carbon tetrachloride	5.00	6.00		ug/L		120	75 - 140
Chlorobenzene	5.00	5.21		ug/L		104	80 - 120
Chlorobromomethane	5.00	5.60		ug/L		112	80 - 125
Chlorodibromomethane	5.00	6.02		ug/L		120	70 - 120
Chloroethane	5.00	5.00		ug/L		100	75 - 140
Chloroform	5.00	5.34		ug/L		107	80 - 130
Chloromethane	5.00	4.02		ug/L		80	50 - 140
cis-1,2-Dichloroethene	5.00	5.29		ug/L		106	80 - 130
cis-1,3-Dichloropropene	5.00	6.56	*	ug/L		131	70 - 120
Dibromomethane	5.00	5.79		ug/L		116	80 - 130
Dichlorobromomethane	5.00	5.87		ug/L		117	80 - 125
Dichlorodifluoromethane	5.00	2.57		ug/L		51	30 - 180
Ethylbenzene	5.00	5.46		ug/L		109	80 - 125
Ethylene Dibromide	5.00	5.76		ug/L		115	70 - 130
Hexachlorobutadiene	5.00	4.50		ug/L		90	75 - 135
Isopropylbenzene	5.00	5.84		ug/L		117	75 - 120
Methyl tert-butyl ether	5.00	6.23	*	ug/L		125	75 - 120
Methylene Chloride	5.00	5.68		ug/L		114	60 - 145
m-Xylene & p-Xylene	5.00	5.61		ug/L		112	80 - 130
Naphthalene	5.00	4.80		ug/L		96	45 - 130
n-Butylbenzene	5.00	5.62		ug/L		112	75 - 125
N-Propylbenzene	5.00	6.08	*	ug/L		122	80 - 120
o-Xylene	5.00	5.65		ug/L		113	80 - 120
sec-Butylbenzene	5.00	6.11		ug/L		122	80 - 125
Styrene	5.00	5.88		ug/L		118	75 - 130
tert-Butylbenzene	5.00	6.31		ug/L		126	80 - 130
Tetrachloroethene	5.00	7.18		ug/L		144	40 - 180
Toluene	5.00	5.43		ug/L		109	80 - 120
trans-1,2-Dichloroethene	5.00	5.57		ug/L		111	80 - 140
trans-1,3-Dichloropropene	5.00	7.07	* ^	ug/L		141	60 - 140
Trichloroethene	5.00	5.83		ug/L		117	80 - 130
Trichlorofluoromethane	5.00	4.60		ug/L		92	30 - 180
Vinyl chloride	5.00	4.70	^	ug/L		94	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 128
4-Bromofluorobenzene (Surr)	97		75 - 120
Dibromofluoromethane (Surr)	102		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	113		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184860/8

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.83		ug/L		117	75 - 125	5	20
1,1,1-Trichloroethane	5.00	5.87		ug/L		117	80 - 140	1	20
1,1,2,2-Tetrachloroethane	5.00	5.22		ug/L		104	75 - 125	1	20
1,1,2-Trichloroethane	5.00	5.11		ug/L		102	80 - 130	7	20
1,1-Dichloroethane	5.00	5.72		ug/L		114	75 - 135	3	20
1,1-Dichloroethene	5.00	4.99		ug/L		100	70 - 150	2	20
1,1-Dichloropropene	5.00	6.31		ug/L		126	80 - 130	1	20
1,2,3-Trichlorobenzene	5.00	3.76	^	ug/L		75	60 - 125	5	20
1,2,3-Trichloropropane	5.00	5.76		ug/L		115	75 - 120	4	20
1,2,4-Trichlorobenzene	5.00	4.33		ug/L		87	60 - 125	5	20
1,2,4-Trimethylbenzene	5.00	5.86		ug/L		117	80 - 125	2	20
1,2-Dibromo-3-Chloropropane	5.00	5.11		ug/L		102	55 - 120	9	20
1,2-Dichlorobenzene	5.00	5.11		ug/L		102	80 - 130	2	20
1,2-Dichloroethane	5.00	5.23		ug/L		105	80 - 140	6	20
1,2-Dichloropropane	5.00	5.25		ug/L		105	80 - 120	5	20
1,3,5-Trimethylbenzene	5.00	6.00		ug/L		120	80 - 125	4	20
1,3-Dichlorobenzene	5.00	5.15		ug/L		103	80 - 120	3	20
1,3-Dichloropropane	5.00	5.00		ug/L		100	80 - 130	7	20
1,4-Dichlorobenzene	5.00	5.09		ug/L		102	80 - 120	2	20
2,2-Dichloropropane	5.00	6.41		ug/L		128	60 - 150	11	20
2-Chlorotoluene	5.00	5.84		ug/L		117	75 - 130	0	20
4-Chlorotoluene	5.00	5.76		ug/L		115	75 - 130	5	20
4-Isopropyltoluene	5.00	5.22		ug/L		104	80 - 120	3	20
Benzene	5.00	5.43		ug/L		109	80 - 120	1	20
Bromobenzene	5.00	5.54		ug/L		111	80 - 130	2	20
Bromoform	5.00	5.25		ug/L		105	65 - 130	1	20
Bromomethane	5.00	5.08	^	ug/L		102	70 - 135	7	20
Carbon tetrachloride	5.00	6.04		ug/L		121	75 - 140	1	20
Chlorobenzene	5.00	5.12		ug/L		102	80 - 120	2	20
Chlorobromomethane	5.00	5.67		ug/L		113	80 - 125	1	20
Chlorodibromomethane	5.00	5.81		ug/L		116	70 - 120	3	20
Chloroethane	5.00	4.86		ug/L		97	75 - 140	3	20
Chloroform	5.00	5.43		ug/L		109	80 - 130	2	20
Chloromethane	5.00	4.02		ug/L		80	50 - 140	0	20
cis-1,2-Dichloroethene	5.00	5.43		ug/L		109	80 - 130	3	20
cis-1,3-Dichloropropene	5.00	6.15	*	ug/L		123	70 - 120	7	20
Dibromomethane	5.00	5.32		ug/L		106	80 - 130	9	20
Dichlorobromomethane	5.00	5.56		ug/L		111	80 - 125	5	20
Dichlorodifluoromethane	5.00	2.59		ug/L		52	30 - 180	1	20
Ethylbenzene	5.00	5.46		ug/L		109	80 - 125	0	20
Ethylene Dibromide	5.00	5.29		ug/L		106	70 - 130	9	20
Hexachlorobutadiene	5.00	4.49		ug/L		90	75 - 135	0	20
Isopropylbenzene	5.00	6.03	*	ug/L		121	75 - 120	3	20
Methyl tert-butyl ether	5.00	6.31	*	ug/L		126	75 - 120	1	20
Methylene Chloride	5.00	5.83		ug/L		117	60 - 145	3	20
m-Xylene & p-Xylene	5.00	5.70		ug/L		114	80 - 130	1	20
Naphthalene	5.00	4.52		ug/L		90	45 - 130	6	20
n-Butylbenzene	5.00	5.43		ug/L		109	75 - 125	3	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184860/8

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.86		ug/L		117	80 - 120	4	20
o-Xylene	5.00	5.82		ug/L		116	80 - 120	3	20
sec-Butylbenzene	5.00	5.88		ug/L		118	80 - 125	4	20
Styrene	5.00	5.83		ug/L		117	75 - 130	1	20
tert-Butylbenzene	5.00	6.12		ug/L		122	80 - 130	3	20
Tetrachloroethene	5.00	7.27		ug/L		145	40 - 180	1	20
Toluene	5.00	5.42		ug/L		108	80 - 120	0	20
trans-1,2-Dichloroethene	5.00	5.68		ug/L		114	80 - 140	2	20
trans-1,3-Dichloropropene	5.00	6.56	^	ug/L		131	60 - 140	8	20
Trichloroethene	5.00	5.68		ug/L		114	80 - 130	2	20
Trichlorofluoromethane	5.00	5.10		ug/L		102	30 - 180	10	20
Vinyl chloride	5.00	4.78	^	ug/L		95	65 - 140	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 128
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	105		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	114		80 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-184883/1-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184883/1-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Benzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromobenzene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromochloromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromodichloromethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromoform	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromomethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloroform	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloromethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dibromochloromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dibromomethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Ethylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Isopropylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Methylene Chloride	ND		15		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Naphthalene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
n-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
N-Propylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
o-Xylene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Styrene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
t-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Tetrachloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Toluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Trichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Vinyl chloride	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 136	03/20/15 12:00	03/20/15 12:34	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/20/15 12:00	03/20/15 12:34	1
Dibromofluoromethane (Surr)	97		75 - 132	03/20/15 12:00	03/20/15 12:34	1
Toluene-d8 (Surr)	102		80 - 120	03/20/15 12:00	03/20/15 12:34	1
Trifluorotoluene (Surr)	95		65 - 140	03/20/15 12:00	03/20/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184883/2-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	40.0	42.1		ug/Kg		105	72 - 123
1,1,1-Trichloroethane	40.0	40.8		ug/Kg		102	63 - 135
1,1,2,2-Tetrachloroethane	40.0	43.0		ug/Kg		108	73 - 125
1,1,2-Trichloroethane	40.0	41.6		ug/Kg		104	77 - 124
1,1-Dichloroethane	40.0	43.3		ug/Kg		108	70 - 128
1,1-Dichloroethene	40.0	36.3		ug/Kg		91	70 - 133
1,1-Dichloropropene	40.0	44.3		ug/Kg		111	77 - 125
1,2,3-Trichlorobenzene	40.0	49.8		ug/Kg		124	61 - 130
1,2,3-Trichloropropane	40.0	43.6		ug/Kg		109	77 - 123
1,2,4-Trichlorobenzene	40.0	49.2		ug/Kg		123	61 - 130
1,2,4-Trimethylbenzene	40.0	42.0		ug/Kg		105	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	44.4		ug/Kg		111	53 - 132
1,2-Dibromoethane	40.0	44.5		ug/Kg		111	69 - 126
1,2-Dichlorobenzene	40.0	42.6		ug/Kg		107	79 - 117
1,2-Dichloroethane	40.0	41.7		ug/Kg		104	71 - 128
1,2-Dichloropropane	40.0	40.9		ug/Kg		102	76 - 161
1,3,5-Trimethylbenzene	40.0	43.6		ug/Kg		109	80 - 125
1,3-Dichlorobenzene	40.0	42.9		ug/Kg		107	79 - 119
1,3-Dichloropropane	40.0	41.9		ug/Kg		105	77 - 123
1,4-Dichlorobenzene	40.0	43.2		ug/Kg		108	79 - 117
2,2-Dichloropropane	40.0	40.5		ug/Kg		101	56 - 144
2-Chlorotoluene	40.0	42.8		ug/Kg		107	79 - 122
4-Chlorotoluene	40.0	43.7		ug/Kg		109	80 - 122
4-Isopropyltoluene	40.0	41.9		ug/Kg		105	78 - 126
Benzene	40.0	42.0		ug/Kg		105	70 - 128
Bromobenzene	40.0	44.5		ug/Kg		111	80 - 120
Bromochloromethane	40.0	42.4		ug/Kg		106	78 - 123
Bromodichloromethane	40.0	41.3		ug/Kg		103	58 - 133
Bromoform	40.0	41.2		ug/Kg		103	50 - 124
Bromomethane	40.0	30.3		ug/Kg		76	57 - 148
Carbon tetrachloride	40.0	42.3		ug/Kg		106	59 - 145
Chlorobenzene	40.0	42.6		ug/Kg		106	75 - 120
Chloroethane	40.0	31.9		ug/Kg		80	48 - 167
Chloroform	40.0	42.3		ug/Kg		106	78 - 125
Chloromethane	40.0	27.0		ug/Kg		67	55 - 136
cis-1,2-Dichloroethene	40.0	40.6		ug/Kg		102	70 - 130
cis-1,3-Dichloropropene	40.0	45.0		ug/Kg		113	69 - 129
Dibromochloromethane	40.0	43.6		ug/Kg		109	42 - 129
Dibromomethane	40.0	41.5		ug/Kg		104	78 - 126
Dichlorodifluoromethane	40.0	15.7		ug/Kg		39	38 - 150
Ethylbenzene	40.0	42.3		ug/Kg		106	78 - 126
Hexachlorobutadiene	40.0	44.0		ug/Kg		110	68 - 134
Isopropylbenzene	40.0	41.8		ug/Kg		104	79 - 127
Methyl tert-butyl ether	40.0	42.5		ug/Kg		106	65 - 125
Methylene Chloride	40.0	39.3		ug/Kg		98	57 - 146
m-Xylene & p-Xylene	40.0	41.6		ug/Kg		104	78 - 126
Naphthalene	40.0	53.1		ug/Kg		133	14 - 170
n-Butylbenzene	40.0	41.4		ug/Kg		104	78 - 128

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184883/2-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	40.0	43.1		ug/Kg		108	81 - 127
o-Xylene	40.0	41.4		ug/Kg		103	77 - 127
sec-Butylbenzene	40.0	43.0		ug/Kg		108	78 - 128
Styrene	40.0	41.3		ug/Kg		103	79 - 127
t-Butylbenzene	40.0	41.6		ug/Kg		104	71 - 136
Tetrachloroethene	40.0	44.1		ug/Kg		110	56 - 155
Toluene	40.0	42.6		ug/Kg		107	75 - 126
trans-1,2-Dichloroethene	40.0	40.0		ug/Kg		100	76 - 131
trans-1,3-Dichloropropene	40.0	48.8		ug/Kg		122	72 - 129
Trichloroethene	40.0	41.3		ug/Kg		103	83 - 124
Trichlorofluoromethane	40.0	32.0		ug/Kg		80	47 - 165
Vinyl chloride	40.0	29.3		ug/Kg		73	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	98		80 - 120
Trifluorotoluene (Surr)	92		65 - 140

Lab Sample ID: LCSD 580-184883/3-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	44.9		ug/Kg		112	72 - 123	6	20
1,1,1-Trichloroethane	40.0	38.3		ug/Kg		96	63 - 135	6	20
1,1,2,2-Tetrachloroethane	40.0	41.5		ug/Kg		104	73 - 125	4	22
1,1,2-Trichloroethane	40.0	45.0		ug/Kg		113	77 - 124	8	18
1,1-Dichloroethane	40.0	42.3		ug/Kg		106	70 - 128	2	21
1,1-Dichloroethene	40.0	34.0		ug/Kg		85	70 - 133	7	23
1,1-Dichloropropene	40.0	45.1		ug/Kg		113	77 - 125	2	16
1,2,3-Trichlorobenzene	40.0	50.8		ug/Kg		127	61 - 130	2	23
1,2,3-Trichloropropane	40.0	42.0		ug/Kg		105	77 - 123	4	23
1,2,4-Trichlorobenzene	40.0	51.0		ug/Kg		128	61 - 130	4	22
1,2,4-Trimethylbenzene	40.0	44.6		ug/Kg		111	79 - 124	6	18
1,2-Dibromo-3-Chloropropane	40.0	41.3		ug/Kg		103	53 - 132	7	27
1,2-Dibromoethane	40.0	45.6		ug/Kg		114	69 - 126	2	21
1,2-Dichlorobenzene	40.0	44.4		ug/Kg		111	79 - 117	4	17
1,2-Dichloroethane	40.0	44.0		ug/Kg		110	71 - 128	5	18
1,2-Dichloropropane	40.0	45.1		ug/Kg		113	76 - 161	10	15
1,3,5-Trimethylbenzene	40.0	45.3		ug/Kg		113	80 - 125	4	18
1,3-Dichlorobenzene	40.0	45.2		ug/Kg		113	79 - 119	5	17
1,3-Dichloropropane	40.0	44.4		ug/Kg		111	77 - 123	6	19
1,4-Dichlorobenzene	40.0	45.7		ug/Kg		114	79 - 117	6	18
2,2-Dichloropropane	40.0	37.8		ug/Kg		95	56 - 144	7	21
2-Chlorotoluene	40.0	43.3		ug/Kg		108	79 - 122	1	18
4-Chlorotoluene	40.0	45.4		ug/Kg		113	80 - 122	4	18

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184883/3-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
4-Isopropyltoluene	40.0	43.0		ug/Kg		107	78 - 126		3	18
Benzene	40.0	44.8		ug/Kg		112	70 - 128		6	19
Bromobenzene	40.0	46.6		ug/Kg		116	80 - 120		5	19
Bromochloromethane	40.0	42.0		ug/Kg		105	78 - 123		1	19
Bromodichloromethane	40.0	44.8		ug/Kg		112	58 - 133		8	19
Bromoform	40.0	41.3		ug/Kg		103	50 - 124		0	25
Bromomethane	40.0	33.2		ug/Kg		83	57 - 148		9	29
Carbon tetrachloride	40.0	39.8		ug/Kg		99	59 - 145		6	19
Chlorobenzene	40.0	45.2		ug/Kg		113	75 - 120		6	21
Chloroethane	40.0	32.2		ug/Kg		80	48 - 167		1	53
Chloroform	40.0	42.2		ug/Kg		105	78 - 125		0	17
Chloromethane	40.0	35.4	*	ug/Kg		88	55 - 136		27	26
cis-1,2-Dichloroethene	40.0	39.6		ug/Kg		99	70 - 130		3	19
cis-1,3-Dichloropropene	40.0	50.5		ug/Kg		126	69 - 129		11	19
Dibromochloromethane	40.0	46.8		ug/Kg		117	42 - 129		7	23
Dibromomethane	40.0	43.9		ug/Kg		110	78 - 126		6	18
Dichlorodifluoromethane	40.0	30.2	*	ug/Kg		76	38 - 150		63	26
Ethylbenzene	40.0	44.5		ug/Kg		111	78 - 126		5	23
Hexachlorobutadiene	40.0	48.3		ug/Kg		121	68 - 134		9	21
Isopropylbenzene	40.0	43.2		ug/Kg		108	79 - 127		3	20
Methyl tert-butyl ether	40.0	39.4		ug/Kg		98	65 - 125		8	30
Methylene Chloride	40.0	38.5		ug/Kg		96	57 - 146		2	21
m-Xylene & p-Xylene	40.0	44.5		ug/Kg		111	78 - 126		7	23
Naphthalene	40.0	52.4		ug/Kg		131	14 - 170		1	50
n-Butylbenzene	40.0	43.0		ug/Kg		108	78 - 128		4	17
N-Propylbenzene	40.0	43.7		ug/Kg		109	81 - 127		1	20
o-Xylene	40.0	43.3		ug/Kg		108	77 - 127		5	22
sec-Butylbenzene	40.0	44.5		ug/Kg		111	78 - 128		3	17
Styrene	40.0	44.0		ug/Kg		110	79 - 127		6	21
t-Butylbenzene	40.0	44.8		ug/Kg		112	71 - 136		7	27
Tetrachloroethene	40.0	48.3		ug/Kg		121	56 - 155		9	27
Toluene	40.0	46.3		ug/Kg		116	75 - 126		8	19
trans-1,2-Dichloroethene	40.0	38.5		ug/Kg		96	76 - 131		4	18
trans-1,3-Dichloropropene	40.0	52.2	*	ug/Kg		131	72 - 129		7	20
Trichloroethene	40.0	43.4		ug/Kg		108	83 - 124		5	17
Trichlorofluoromethane	40.0	33.9		ug/Kg		85	47 - 165		6	54
Vinyl chloride	40.0	31.1		ug/Kg		78	67 - 131		6	22

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	97		75 - 132
Toluene-d8 (Surr)	103		80 - 120
Trifluorotoluene (Surr)	91		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184747/1-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184747

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1,2-Dichlorobenzene	ND		55		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1,3-Dichlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1,4-Dichlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1-Methylnaphthalene	ND		30		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4,5-Trichlorophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4,6-Trichlorophenol	ND		150		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dichlorophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dimethylphenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dinitrophenol	ND		1000		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dinitrotoluene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,6-Dinitrotoluene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Chloronaphthalene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Chlorophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Methylnaphthalene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Methylphenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Nitroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Nitrophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
3 & 4 Methylphenol	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
3,3'-Dichlorobenzidine	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
3-Nitroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4,6-Dinitro-2-methylphenol	ND		1000		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Bromophenyl phenyl ether	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Chloro-3-methylphenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Chloroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Chlorophenyl phenyl ether	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Nitroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Nitrophenol	ND		1000		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Acenaphthene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Acenaphthylene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Anthracene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[a]anthracene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[a]pyrene	ND		30		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[b]fluoranthene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[g,h,i]perylene	ND		25		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[k]fluoranthene	ND		25		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzoic acid	ND		2500		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzyl alcohol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Bis(2-chloroethoxy)methane	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Bis(2-chloroethyl)ether	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
bis(chloroisopropyl) ether	ND		250		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Butyl benzyl phthalate	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Carbazole	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Chrysene	ND		25		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Dibenz(a,h)anthracene	ND		40		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Dibenzofuran	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Diethyl phthalate	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184747/1-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184747

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Di-n-butyl phthalate	ND		500		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Di-n-octyl phthalate	ND		500		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Fluoranthene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Fluorene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachlorobutadiene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachlorocyclopentadiene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachloroethane	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Indeno[1,2,3-cd]pyrene	ND		40		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Isophorone	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Naphthalene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Nitrobenzene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
N-Nitrosodi-n-propylamine	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
N-Nitrosodiphenylamine	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Pentachlorophenol	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Phenanthrene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Phenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Pyrene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	64		28 - 143	03/19/15 10:42	03/30/15 12:34	1
2-Fluorobiphenyl	89		42 - 140	03/19/15 10:42	03/30/15 12:34	1
2-Fluorophenol (Surr)	98		36 - 145	03/19/15 10:42	03/30/15 12:34	1
Nitrobenzene-d5 (Surr)	85		38 - 141	03/19/15 10:42	03/30/15 12:34	1
Phenol-d5 (Surr)	94		38 - 149	03/19/15 10:42	03/30/15 12:34	1
Terphenyl-d14 (Surr)	88		42 - 151	03/19/15 10:42	03/30/15 12:34	1

Lab Sample ID: LCS 580-184747/2-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	1000	957		ug/Kg		96	66 - 115
1,2-Dichlorobenzene	1000	888		ug/Kg		89	64 - 112
1,3-Dichlorobenzene	1000	947		ug/Kg		95	64 - 111
1,4-Dichlorobenzene	1000	901		ug/Kg		90	65 - 110
1-Methylnaphthalene	1000	971		ug/Kg		97	62 - 118
2,4,5-Trichlorophenol	1000	995		ug/Kg		100	57 - 133
2,4,6-Trichlorophenol	1000	950		ug/Kg		95	62 - 133
2,4-Dichlorophenol	1000	969		ug/Kg		97	68 - 125
2,4-Dimethylphenol	1000	793		ug/Kg		79	54 - 139
2,4-Dinitrophenol	2000	1900		ug/Kg		95	20 - 141
2,4-Dinitrotoluene	1000	949		ug/Kg		95	68 - 121
2,6-Dinitrotoluene	1000	880		ug/Kg		88	66 - 123
2-Chloronaphthalene	1000	991		ug/Kg		99	68 - 112
2-Chlorophenol	1000	920		ug/Kg		92	68 - 117
2-Methylnaphthalene	1000	882		ug/Kg		88	64 - 119

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184747/2-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	1000	955		ug/Kg		96	71 - 116
2-Nitroaniline	1000	964		ug/Kg		96	64 - 112
2-Nitrophenol	1000	943		ug/Kg		94	67 - 127
3 & 4 Methylphenol	1000	931		ug/Kg		93	70 - 116
3,3'-Dichlorobenzidine	2000	1070		ug/Kg		53	20 - 103
3-Nitroaniline	1000	687		ug/Kg		69	27 - 103
4,6-Dinitro-2-methylphenol	2000	2100		ug/Kg		105	48 - 130
4-Bromophenyl phenyl ether	1000	891		ug/Kg		89	68 - 122
4-Chloro-3-methylphenol	1000	957		ug/Kg		96	69 - 121
4-Chloroaniline	1000	328		ug/Kg		33	20 - 103
4-Chlorophenyl phenyl ether	1000	874		ug/Kg		87	75 - 108
4-Nitroaniline	1000	811		ug/Kg		81	58 - 108
4-Nitrophenol	2000	1840		ug/Kg		92	20 - 165
Acenaphthene	1000	1000		ug/Kg		100	68 - 116
Acenaphthylene	1000	937		ug/Kg		94	68 - 120
Anthracene	1000	911		ug/Kg		91	73 - 116
Benzo[a]anthracene	1000	917		ug/Kg		92	76 - 119
Benzo[a]pyrene	1000	872		ug/Kg		87	72 - 117
Benzo[b]fluoranthene	1000	977		ug/Kg		98	63 - 132
Benzo[g,h,i]perylene	1000	921		ug/Kg		92	55 - 139
Benzo[k]fluoranthene	1000	1070		ug/Kg		107	63 - 119
Benzoic acid	2010	2220	J	ug/Kg		111	29 - 158
Benzyl alcohol	1000	873		ug/Kg		87	55 - 123
Bis(2-chloroethoxy)methane	1000	969		ug/Kg		97	69 - 107
Bis(2-chloroethyl)ether	1000	1010		ug/Kg		101	62 - 110
Bis(2-ethylhexyl) phthalate	1000	872		ug/Kg		87	62 - 144
bis(chloroisopropyl) ether	1000	768		ug/Kg		77	41 - 126
Butyl benzyl phthalate	1000	1110		ug/Kg		111	69 - 142
Carbazole	1000	914		ug/Kg		91	76 - 135
Chrysene	1000	1050		ug/Kg		105	75 - 114
Dibenz(a,h)anthracene	1000	808		ug/Kg		81	56 - 134
Dibenzofuran	1000	968		ug/Kg		97	72 - 109
Diethyl phthalate	1000	949		ug/Kg		95	73 - 116
Dimethyl phthalate	1000	931		ug/Kg		93	78 - 117
Di-n-butyl phthalate	1000	920		ug/Kg		92	66 - 140
Di-n-octyl phthalate	1000	845		ug/Kg		84	65 - 141
Fluoranthene	1000	862		ug/Kg		86	73 - 125
Fluorene	1000	992		ug/Kg		99	70 - 121
Hexachlorobenzene	1000	981		ug/Kg		98	66 - 117
Hexachlorobutadiene	1000	815		ug/Kg		82	65 - 116
Hexachlorocyclopentadiene	1000	845		ug/Kg		84	46 - 131
Hexachloroethane	1000	974		ug/Kg		97	62 - 120
Indeno[1,2,3-cd]pyrene	1000	819		ug/Kg		82	56 - 127
Isophorone	1000	931		ug/Kg		93	67 - 119
Naphthalene	1000	941		ug/Kg		94	62 - 112
Nitrobenzene	1000	930		ug/Kg		93	64 - 118
N-Nitrosodi-n-propylamine	1000	832		ug/Kg		83	62 - 116
N-Nitrosodiphenylamine	2010	1880		ug/Kg		94	73 - 115

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184747/2-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	2000	1780		ug/Kg		89	45 - 117
Phenanthrene	1000	933		ug/Kg		93	73 - 106
Phenol	1000	965		ug/Kg		97	63 - 111
Pyrene	1000	862		ug/Kg		86	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	88		28 - 143
2-Fluorobiphenyl	97		42 - 140
2-Fluorophenol (Surr)	103		36 - 145
Nitrobenzene-d5 (Surr)	91		38 - 141
Phenol-d5 (Surr)	99		38 - 149
Terphenyl-d14 (Surr)	94		42 - 151

Lab Sample ID: LCSD 580-184747/3-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	1000	873		ug/Kg		87	66 - 115	9	28
1,2-Dichlorobenzene	1000	871		ug/Kg		87	64 - 112	2	30
1,3-Dichlorobenzene	1000	873		ug/Kg		87	64 - 111	8	30
1,4-Dichlorobenzene	1000	906		ug/Kg		91	65 - 110	1	30
1-Methylnaphthalene	1000	938		ug/Kg		94	62 - 118	3	30
2,4,5-Trichlorophenol	1000	956		ug/Kg		96	57 - 133	4	30
2,4,6-Trichlorophenol	1000	937		ug/Kg		94	62 - 133	1	30
2,4-Dichlorophenol	1000	930		ug/Kg		93	68 - 125	4	30
2,4-Dimethylphenol	1000	724		ug/Kg		72	54 - 139	9	30
2,4-Dinitrophenol	2000	1770		ug/Kg		88	20 - 141	7	36
2,4-Dinitrotoluene	1000	962		ug/Kg		96	68 - 121	1	30
2,6-Dinitrotoluene	1000	975		ug/Kg		97	66 - 123	10	30
2-Chloronaphthalene	1000	1000		ug/Kg		100	68 - 112	1	25
2-Chlorophenol	1000	882		ug/Kg		88	68 - 117	4	27
2-Methylnaphthalene	1000	872		ug/Kg		87	64 - 119	1	27
2-Methylphenol	1000	937		ug/Kg		94	71 - 116	2	25
2-Nitroaniline	1000	913		ug/Kg		91	64 - 112	5	22
2-Nitrophenol	1000	931		ug/Kg		93	67 - 127	1	30
3 & 4 Methylphenol	1000	903		ug/Kg		90	70 - 116	3	27
3,3'-Dichlorobenzidine	2000	995		ug/Kg		50	20 - 103	7	60
3-Nitroaniline	1000	583		ug/Kg		58	27 - 103	16	33
4,6-Dinitro-2-methylphenol	2000	2070		ug/Kg		104	48 - 130	2	22
4-Bromophenyl phenyl ether	1000	920		ug/Kg		92	68 - 122	3	30
4-Chloro-3-methylphenol	1000	857		ug/Kg		86	69 - 121	11	27
4-Chloroaniline	1000	274		ug/Kg		27	20 - 103	18	60
4-Chlorophenyl phenyl ether	1000	866		ug/Kg		87	75 - 108	1	30
4-Nitroaniline	1000	738		ug/Kg		74	58 - 108	9	32
4-Nitrophenol	2000	1720		ug/Kg		86	20 - 165	7	30
Acenaphthene	1000	954		ug/Kg		95	68 - 116	5	27
Acenaphthylene	1000	917		ug/Kg		92	68 - 120	2	28

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184747/3-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	1000	922		ug/Kg		92	73 - 116	1	27
Benzo[a]anthracene	1000	877		ug/Kg		88	76 - 119	4	27
Benzo[a]pyrene	1000	911		ug/Kg		91	72 - 117	4	30
Benzo[b]fluoranthene	1000	963		ug/Kg		96	63 - 132	1	30
Benzo[g,h,i]perylene	1000	963		ug/Kg		96	55 - 139	4	28
Benzo[k]fluoranthene	1000	1030		ug/Kg		103	63 - 119	5	30
Benzoic acid	2010	2150	J	ug/Kg		107	29 - 158	3	28
Benzyl alcohol	1000	826		ug/Kg		83	55 - 123	5	60
Bis(2-chloroethoxy)methane	1000	942		ug/Kg		94	69 - 107	3	30
Bis(2-chloroethyl)ether	1000	936		ug/Kg		94	62 - 110	7	22
Bis(2-ethylhexyl) phthalate	1000	851		ug/Kg		85	62 - 144	3	30
bis(chloroisopropyl) ether	1000	749		ug/Kg		75	41 - 126	3	57
Butyl benzyl phthalate	1000	1040		ug/Kg		104	69 - 142	6	30
Carbazole	1000	923		ug/Kg		92	76 - 135	1	30
Chrysene	1000	1020		ug/Kg		102	75 - 114	3	26
Dibenz(a,h)anthracene	1000	791		ug/Kg		79	56 - 134	2	30
Dibenzofuran	1000	920		ug/Kg		92	72 - 109	5	30
Diethyl phthalate	1000	945		ug/Kg		94	73 - 116	0	26
Dimethyl phthalate	1000	923		ug/Kg		92	78 - 117	1	30
Di-n-butyl phthalate	1000	903		ug/Kg		90	66 - 140	2	30
Di-n-octyl phthalate	1000	880		ug/Kg		88	65 - 141	4	30
Fluoranthene	1000	841		ug/Kg		84	73 - 125	2	30
Fluorene	1000	926		ug/Kg		93	70 - 121	7	30
Hexachlorobenzene	1000	904		ug/Kg		90	66 - 117	8	30
Hexachlorobutadiene	1000	835		ug/Kg		84	65 - 116	2	30
Hexachlorocyclopentadiene	1000	817		ug/Kg		82	46 - 131	3	29
Hexachloroethane	1000	945		ug/Kg		94	62 - 120	3	30
Indeno[1,2,3-cd]pyrene	1000	766		ug/Kg		77	56 - 127	7	29
Isophorone	1000	912		ug/Kg		91	67 - 119	2	30
Naphthalene	1000	907		ug/Kg		91	62 - 112	4	26
Nitrobenzene	1000	913		ug/Kg		91	64 - 118	2	30
N-Nitrosodi-n-propylamine	1000	803		ug/Kg		80	62 - 116	3	28
N-Nitrosodiphenylamine	2010	1780		ug/Kg		89	73 - 115	6	30
Pentachlorophenol	2000	1720		ug/Kg		86	45 - 117	4	23
Phenanthrene	1000	919		ug/Kg		92	73 - 106	2	28
Phenol	1000	914		ug/Kg		91	63 - 111	5	26
Pyrene	1000	866		ug/Kg		87	70 - 120	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	84		28 - 143
2-Fluorobiphenyl	92		42 - 140
2-Fluorophenol (Surr)	98		36 - 145
Nitrobenzene-d5 (Surr)	84		38 - 141
Phenol-d5 (Surr)	91		38 - 149
Terphenyl-d14 (Surr)	88		42 - 151

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48087-1 MS

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: HA6-1-3

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND	F1	1140	728	F1	ug/Kg	✱	64	66 - 115
1,2-Dichlorobenzene	ND		1140	751		ug/Kg	✱	66	64 - 112
1,3-Dichlorobenzene	ND		1140	756		ug/Kg	✱	66	64 - 111
1,4-Dichlorobenzene	ND	F1	1140	733	F1	ug/Kg	✱	64	65 - 110
1-Methylnaphthalene	ND		1140	756		ug/Kg	✱	66	62 - 118
2,4,5-Trichlorophenol	ND		1140	808		ug/Kg	✱	71	57 - 133
2,4,6-Trichlorophenol	ND		1140	746		ug/Kg	✱	65	62 - 133
2,4-Dichlorophenol	ND	F1	1140	747	F1	ug/Kg	✱	65	68 - 125
2,4-Dimethylphenol	ND		1140	650		ug/Kg	✱	57	54 - 139
2,4-Dinitrophenol	ND		2280	1510		ug/Kg	✱	66	20 - 141
2,4-Dinitrotoluene	ND	F1	1140	733	F1	ug/Kg	✱	64	68 - 121
2,6-Dinitrotoluene	ND		1140	757		ug/Kg	✱	66	66 - 123
2-Chloronaphthalene	ND		1140	796		ug/Kg	✱	70	68 - 112
2-Chlorophenol	ND	F1	1140	746	F1	ug/Kg	✱	65	68 - 117
2-Methylnaphthalene	ND	F1	1140	704	F1	ug/Kg	✱	62	64 - 119
2-Methylphenol	ND	F1	1140	790	F1	ug/Kg	✱	69	71 - 116
2-Nitroaniline	ND	F1	1140	686	F1	ug/Kg	✱	60	64 - 112
2-Nitrophenol	ND		1140	767		ug/Kg	✱	67	67 - 127
3 & 4 Methylphenol	ND	F1	1140	796		ug/Kg	✱	70	70 - 116
3,3'-Dichlorobenzidine	ND		2280	778		ug/Kg	✱	34	20 - 103
3-Nitroaniline	ND		1140	572		ug/Kg	✱	50	27 - 103
4,6-Dinitro-2-methylphenol	ND		2280	1750		ug/Kg	✱	77	48 - 130
4-Bromophenyl phenyl ether	ND		1140	771		ug/Kg	✱	68	68 - 122
4-Chloro-3-methylphenol	ND	F1	1140	716	F1	ug/Kg	✱	63	69 - 121
4-Chloroaniline	ND		1140	243		ug/Kg	✱	21	20 - 103
4-Chlorophenyl phenyl ether	ND	F1	1140	700	F1	ug/Kg	✱	61	75 - 108
4-Nitroaniline	ND	F1	1140	629	F1	ug/Kg	✱	55	58 - 108
4-Nitrophenol	ND		2280	1250		ug/Kg	✱	55	20 - 165
Acenaphthene	ND		1140	778		ug/Kg	✱	68	68 - 116
Acenaphthylene	ND	F1	1140	744	F1	ug/Kg	✱	65	68 - 120
Anthracene	ND	F1	1140	766	F1	ug/Kg	✱	67	73 - 116
Benzo[a]anthracene	ND	F1	1140	735	F1	ug/Kg	✱	64	76 - 119
Benzo[a]pyrene	ND	F1	1140	710	F1	ug/Kg	✱	62	72 - 117
Benzo[b]fluoranthene	ND		1140	790		ug/Kg	✱	69	63 - 132
Benzo[g,h,i]perylene	ND		1140	760		ug/Kg	✱	67	55 - 139
Benzo[k]fluoranthene	ND		1140	760		ug/Kg	✱	67	63 - 119
Benzoic acid	ND		2290	ND		ug/Kg	✱	81	29 - 158
Benzyl alcohol	ND		1140	651		ug/Kg	✱	57	55 - 123
Bis(2-chloroethoxy)methane	ND		1140	800		ug/Kg	✱	70	69 - 107
Bis(2-chloroethyl)ether	ND		1140	856		ug/Kg	✱	75	62 - 110
Bis(2-ethylhexyl) phthalate	ND		1140	712		ug/Kg	✱	62	62 - 144
bis(chloroisopropyl) ether	ND		1140	641		ug/Kg	✱	56	41 - 126
Butyl benzyl phthalate	ND		1140	952		ug/Kg	✱	84	69 - 142
Carbazole	ND	F1	1140	741	F1	ug/Kg	✱	65	76 - 135
Chrysene	ND		1140	900		ug/Kg	✱	79	75 - 114
Dibenz(a,h)anthracene	ND		1140	679		ug/Kg	✱	60	56 - 134
Dibenzofuran	ND	F1	1140	765	F1	ug/Kg	✱	67	72 - 109
Diethyl phthalate	ND	F1	1140	749	F1	ug/Kg	✱	66	73 - 116

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48087-1 MS

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: HA6-1-3

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	%Rec. Limits	
	Result	Qualifier		Result	Qualifier					
Dimethyl phthalate	ND	F1	1140	758	F1	ug/Kg	☼	67	78 - 117	
Di-n-butyl phthalate	ND		1140	759		ug/Kg	☼	67	66 - 140	
Di-n-octyl phthalate	ND	F1	1140	722	F1	ug/Kg	☼	63	65 - 141	
Fluoranthene	ND	F1	1140	717	F1	ug/Kg	☼	63	73 - 125	
Fluorene	ND	F1	1140	769	F1	ug/Kg	☼	67	70 - 121	
Hexachlorobenzene	ND	F1	1140	745	F1	ug/Kg	☼	65	66 - 117	
Hexachlorobutadiene	ND	F1	1140	699	F1	ug/Kg	☼	61	65 - 116	
Hexachlorocyclopentadiene	ND		1140	682		ug/Kg	☼	60	46 - 131	
Hexachloroethane	ND		1140	760		ug/Kg	☼	67	62 - 120	
Indeno[1,2,3-cd]pyrene	ND		1140	656		ug/Kg	☼	58	56 - 127	
Isophorone	ND		1140	785		ug/Kg	☼	69	67 - 119	
Naphthalene	ND		1140	767		ug/Kg	☼	67	62 - 112	
Nitrobenzene	ND		1140	754		ug/Kg	☼	66	64 - 118	
N-Nitrosodi-n-propylamine	ND		1140	743		ug/Kg	☼	65	62 - 116	
N-Nitrosodiphenylamine	ND	F1	2290	1560	F1	ug/Kg	☼	68	73 - 115	
Pentachlorophenol	ND		2280	1300		ug/Kg	☼	57	45 - 117	
Phenanthrene	ND	F1	1140	770	F1	ug/Kg	☼	67	73 - 106	
Phenol	ND		1140	731		ug/Kg	☼	64	63 - 111	
Pyrene	ND	F1	1140	691	F1	ug/Kg	☼	61	70 - 120	

MS		MS	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	70		28 - 143
2-Fluorobiphenyl	78		42 - 140
2-Fluorophenol (Surr)	84		36 - 145
Nitrobenzene-d5 (Surr)	73		38 - 141
Phenol-d5 (Surr)	83		38 - 149
Terphenyl-d14 (Surr)	75		42 - 151

Lab Sample ID: 580-48087-1 MSD

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: HA6-1-3

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,2,4-Trichlorobenzene	ND	F1	1240	885		ug/Kg	☼	72	66 - 115	20	28
1,2-Dichlorobenzene	ND		1240	823		ug/Kg	☼	67	64 - 112	9	60
1,3-Dichlorobenzene	ND		1240	818		ug/Kg	☼	66	64 - 111	8	60
1,4-Dichlorobenzene	ND	F1	1240	868		ug/Kg	☼	70	65 - 110	17	32
1-Methylnaphthalene	ND		1240	982		ug/Kg	☼	79	62 - 118	26	30
2,4,5-Trichlorophenol	ND		1240	966		ug/Kg	☼	78	57 - 133	18	60
2,4,6-Trichlorophenol	ND		1240	878		ug/Kg	☼	71	62 - 133	16	60
2,4-Dichlorophenol	ND	F1	1240	927		ug/Kg	☼	75	68 - 125	22	60
2,4-Dimethylphenol	ND		1240	763		ug/Kg	☼	62	54 - 139	16	60
2,4-Dinitrophenol	ND		2470	1690		ug/Kg	☼	68	20 - 141	11	60
2,4-Dinitrotoluene	ND	F1	1240	894		ug/Kg	☼	72	68 - 121	20	31
2,6-Dinitrotoluene	ND		1240	930		ug/Kg	☼	75	66 - 123	21	60
2-Chloronaphthalene	ND		1240	997		ug/Kg	☼	81	68 - 112	22	25
2-Chlorophenol	ND	F1	1240	902		ug/Kg	☼	73	68 - 117	19	27
2-Methylnaphthalene	ND	F1	1240	872		ug/Kg	☼	70	64 - 119	21	27

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48087-1 MSD

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: HA6-1-3

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	ND	F1	1240	872		ug/Kg	✱	71	71 - 116	10	25
2-Nitroaniline	ND	F1	1240	899		ug/Kg	✱	73	64 - 112	27	60
2-Nitrophenol	ND		1240	995		ug/Kg	✱	80	67 - 127	26	60
3 & 4 Methylphenol	ND	F1	1240	804	F1	ug/Kg	✱	65	70 - 116	1	27
3,3'-Dichlorobenzidine	ND		2470	973		ug/Kg	✱	39	20 - 103	22	60
3-Nitroaniline	ND		1240	603		ug/Kg	✱	49	27 - 103	5	60
4,6-Dinitro-2-methylphenol	ND		2470	1970		ug/Kg	✱	80	48 - 130	12	60
4-Bromophenyl phenyl ether	ND		1240	882		ug/Kg	✱	71	68 - 122	13	60
4-Chloro-3-methylphenol	ND	F1	1240	856		ug/Kg	✱	69	69 - 121	18	27
4-Chloroaniline	ND		1240	315		ug/Kg	✱	25	20 - 103	26	60
4-Chlorophenyl phenyl ether	ND	F1	1240	849	F1	ug/Kg	✱	69	75 - 108	19	60
4-Nitroaniline	ND	F1	1240	793		ug/Kg	✱	64	58 - 108	23	60
4-Nitrophenol	ND		2470	1590		ug/Kg	✱	64	20 - 165	24	33
Acenaphthene	ND		1240	926		ug/Kg	✱	75	68 - 116	17	27
Acenaphthylene	ND	F1	1240	892		ug/Kg	✱	72	68 - 120	18	28
Anthracene	ND	F1	1240	869	F1	ug/Kg	✱	70	73 - 116	13	27
Benzo[a]anthracene	ND	F1	1240	859	F1	ug/Kg	✱	69	76 - 119	16	27
Benzo[a]pyrene	ND	F1	1240	795	F1	ug/Kg	✱	64	72 - 117	11	30
Benzo[b]fluoranthene	ND		1240	897		ug/Kg	✱	73	63 - 132	13	31
Benzo[g,h,i]perylene	ND		1240	873		ug/Kg	✱	71	55 - 139	14	28
Benzo[k]fluoranthene	ND		1240	944		ug/Kg	✱	76	63 - 119	22	31
Benzoic acid	ND		2480	ND		ug/Kg	✱	89	29 - 158	18	60
Benzyl alcohol	ND		1240	829		ug/Kg	✱	67	55 - 123	24	60
Bis(2-chloroethoxy)methane	ND		1240	1020		ug/Kg	✱	82	69 - 107	24	60
Bis(2-chloroethyl)ether	ND		1240	963		ug/Kg	✱	78	62 - 110	12	60
Bis(2-ethylhexyl) phthalate	ND		1240	895		ug/Kg	✱	72	62 - 144	23	60
bis(chloroisopropyl) ether	ND		1240	766		ug/Kg	✱	62	41 - 126	18	60
Butyl benzyl phthalate	ND		1240	1100		ug/Kg	✱	89	69 - 142	14	60
Carbazole	ND	F1	1240	887	F1	ug/Kg	✱	72	76 - 135	18	60
Chrysene	ND		1240	971		ug/Kg	✱	79	75 - 114	8	26
Dibenz(a,h)anthracene	ND		1240	748		ug/Kg	✱	60	56 - 134	10	30
Dibenzofuran	ND	F1	1240	935		ug/Kg	✱	76	72 - 109	20	60
Diethyl phthalate	ND	F1	1240	923		ug/Kg	✱	75	73 - 116	21	26
Dimethyl phthalate	ND	F1	1240	895	F1	ug/Kg	✱	72	78 - 117	16	60
Di-n-butyl phthalate	ND		1240	923		ug/Kg	✱	75	66 - 140	19	60
Di-n-octyl phthalate	ND	F1	1240	869		ug/Kg	✱	70	65 - 141	19	31
Fluoranthene	ND	F1	1240	883	F1	ug/Kg	✱	71	73 - 125	21	36
Fluorene	ND	F1	1240	942		ug/Kg	✱	76	70 - 121	20	31
Hexachlorobenzene	ND	F1	1240	949		ug/Kg	✱	77	66 - 117	24	60
Hexachlorobutadiene	ND	F1	1240	824		ug/Kg	✱	67	65 - 116	16	60
Hexachlorocyclopentadiene	ND		1240	851		ug/Kg	✱	69	46 - 131	22	60
Hexachloroethane	ND		1240	909		ug/Kg	✱	74	62 - 120	18	60
Indeno[1,2,3-cd]pyrene	ND		1240	812		ug/Kg	✱	66	56 - 127	21	29
Isophorone	ND		1240	922		ug/Kg	✱	75	67 - 119	16	60
Naphthalene	ND		1240	965		ug/Kg	✱	78	62 - 112	23	26
Nitrobenzene	ND		1240	957		ug/Kg	✱	77	64 - 118	24	60
N-Nitrosodi-n-propylamine	ND		1240	813		ug/Kg	✱	66	62 - 116	9	28
N-Nitrosodiphenylamine	ND	F1	2480	1820		ug/Kg	✱	73	73 - 115	15	60

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48087-1 MSD

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: HA6-1-3

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	ND		2470	1630		ug/Kg	✱	66	45 - 117	22	68
Phenanthrene	ND	F1	1240	920		ug/Kg	✱	74	73 - 106	18	28
Phenol	ND		1240	868		ug/Kg	✱	70	63 - 111	17	26
Pyrene	ND	F1	1240	850	F1	ug/Kg	✱	69	70 - 120	21	31

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	77		28 - 143
2-Fluorobiphenyl	85		42 - 140
2-Fluorophenol (Surr)	86		36 - 145
Nitrobenzene-d5 (Surr)	87		38 - 141
Phenol-d5 (Surr)	85		38 - 149
Terphenyl-d14 (Surr)	82		42 - 151

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-184868/1-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184868

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
2-Methylnaphthalene	ND		0.026		ug/L		03/20/15 12:03	03/24/15 10:04	1
Acenaphthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Acenaphthylene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[a]anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[a]pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Chrysene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Fluorene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Naphthalene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Phenanthrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		64 - 150	03/20/15 12:03	03/24/15 10:04	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-184868/2-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184868

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	2.23		ug/L		56	54 - 125
2-Methylnaphthalene	4.00	2.14	*	ug/L		54	56 - 125
Acenaphthene	4.00	2.29	*	ug/L		57	63 - 125
Acenaphthylene	4.00	1.09	*	ug/L		27	62 - 125
Anthracene	4.00	1.15	*	ug/L		29	50 - 125
Benzo[a]anthracene	4.00	1.85	*	ug/L		46	65 - 125
Benzo[a]pyrene	4.00	0.757	*	ug/L		19	45 - 125
Benzo[b]fluoranthene	4.00	1.99	*	ug/L		50	70 - 129
Benzo[g,h,i]perylene	4.00	1.90	*	ug/L		47	65 - 153
Benzo[k]fluoranthene	4.00	1.89	*	ug/L		47	70 - 123
Chrysene	4.00	2.27	*	ug/L		57	70 - 125
Dibenz(a,h)anthracene	4.00	2.12	*	ug/L		53	69 - 154
Fluoranthene	4.00	2.45	*	ug/L		61	70 - 145
Fluorene	4.00	2.05	*	ug/L		51	69 - 125
Indeno[1,2,3-cd]pyrene	4.00	1.95	*	ug/L		49	70 - 136
Naphthalene	4.00	2.19	*	ug/L		55	56 - 125
Phenanthrene	4.00	2.18	*	ug/L		54	70 - 125
Pyrene	4.00	2.33	*	ug/L		58	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	64		64 - 150

Lab Sample ID: LCSD 580-184868/3-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184868

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.00	2.77	*	ug/L		69	54 - 125	21	20
2-Methylnaphthalene	4.00	2.73	*	ug/L		68	56 - 125	24	20
Acenaphthene	4.00	2.97	*	ug/L		74	63 - 125	26	20
Acenaphthylene	4.00	1.79	*	ug/L		45	62 - 125	48	20
Anthracene	4.00	1.65	*	ug/L		41	50 - 125	36	20
Benzo[a]anthracene	4.00	2.30	*	ug/L		57	65 - 125	21	20
Benzo[a]pyrene	4.00	1.27	*	ug/L		32	45 - 125	50	20
Benzo[b]fluoranthene	4.00	2.60	*	ug/L		65	70 - 129	26	20
Benzo[g,h,i]perylene	4.00	2.51	*	ug/L		63	65 - 153	28	20
Benzo[k]fluoranthene	4.00	2.29	*	ug/L		57	70 - 123	19	20
Chrysene	4.00	2.88	*	ug/L		72	70 - 125	24	20
Dibenz(a,h)anthracene	4.00	2.66	*	ug/L		67	69 - 154	23	20
Fluoranthene	4.00	2.93	*	ug/L		73	70 - 145	18	20
Fluorene	4.00	3.43	*	ug/L		86	69 - 125	50	20
Indeno[1,2,3-cd]pyrene	4.00	2.57	*	ug/L		64	70 - 136	27	20
Naphthalene	4.00	2.75	*	ug/L		69	56 - 125	23	20
Phenanthrene	4.00	2.67	*	ug/L		67	70 - 125	20	20
Pyrene	4.00	2.89	*	ug/L		72	70 - 133	21	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-184868/3-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184868

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	74		64 - 150

Lab Sample ID: MB 580-185536/1-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
2-Methylnaphthalene	ND		0.026		ug/L		03/30/15 12:41	04/01/15 13:02	1
Acenaphthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Acenaphthylene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[a]anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[a]pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Chrysene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Fluorene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Naphthalene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Phenanthrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	88		64 - 150	03/30/15 12:41	04/01/15 13:02	1

Lab Sample ID: LCS 580-185536/2-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	3.29		ug/L		82	54 - 125
2-Methylnaphthalene	4.00	3.20		ug/L		80	56 - 125
Acenaphthene	4.00	2.91		ug/L		73	63 - 125
Acenaphthylene	4.00	2.56		ug/L		64	62 - 125
Anthracene	4.00	3.16		ug/L		79	50 - 125
Benzo[a]anthracene	4.00	3.22		ug/L		80	65 - 125
Benzo[a]pyrene	4.00	2.34		ug/L		58	45 - 125
Benzo[b]fluoranthene	4.00	3.06		ug/L		77	70 - 129
Benzo[g,h,i]perylene	4.00	2.90		ug/L		73	65 - 153
Benzo[k]fluoranthene	4.00	2.93		ug/L		73	70 - 123
Chrysene	4.00	3.36		ug/L		84	70 - 125
Dibenz(a,h)anthracene	4.00	3.07		ug/L		77	69 - 154
Fluoranthene	4.00	3.34		ug/L		84	70 - 145
Fluorene	4.00	3.31		ug/L		83	69 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-185536/2-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indeno[1,2,3-cd]pyrene	4.00	3.12		ug/L		78	70 - 136
Naphthalene	4.00	3.22		ug/L		81	56 - 125
Phenanthrene	4.00	3.12		ug/L		78	70 - 125
Pyrene	4.00	3.42		ug/L		86	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	83		64 - 150

Lab Sample ID: LCSD 580-185536/3-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.00	3.41		ug/L		85	54 - 125	4	20
2-Methylnaphthalene	4.00	3.32		ug/L		83	56 - 125	4	20
Acenaphthene	4.00	3.17		ug/L		79	63 - 125	9	20
Acenaphthylene	4.00	2.84		ug/L		71	62 - 125	10	20
Anthracene	4.00	3.22		ug/L		80	50 - 125	2	20
Benzo[a]anthracene	4.00	3.42		ug/L		85	65 - 125	6	20
Benzo[a]pyrene	4.00	2.47		ug/L		62	45 - 125	6	20
Benzo[b]fluoranthene	4.00	3.33		ug/L		83	70 - 129	8	20
Benzo[g,h,i]perylene	4.00	3.05		ug/L		76	65 - 153	5	20
Benzo[k]fluoranthene	4.00	2.97		ug/L		74	70 - 123	2	20
Chrysene	4.00	3.61		ug/L		90	70 - 125	7	20
Dibenz(a,h)anthracene	4.00	3.23		ug/L		81	69 - 154	5	20
Fluoranthene	4.00	3.59		ug/L		90	70 - 145	7	20
Fluorene	4.00	2.83		ug/L		71	69 - 125	16	20
Indeno[1,2,3-cd]pyrene	4.00	3.12		ug/L		78	70 - 136	0	20
Naphthalene	4.00	3.31		ug/L		83	56 - 125	3	20
Phenanthrene	4.00	3.31		ug/L		83	70 - 125	6	20
Pyrene	4.00	3.63		ug/L		91	70 - 133	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	86		64 - 150

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-184847/1-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1221	ND		0.011		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1232	ND		0.011		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1242	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1248	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 580-184847/1-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1254	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1
PCB-1260	ND		0.010		mg/Kg		03/20/15 10:53	03/21/15 04:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	95		50 - 140	03/20/15 10:53	03/21/15 04:04	1
Tetrachloro-m-xylene	57		45 - 135	03/20/15 10:53	03/21/15 04:04	1

Lab Sample ID: LCS 580-184847/4-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.100	0.0765		mg/Kg		77	40 - 140
PCB-1260	0.100	0.101		mg/Kg		101	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	99		50 - 140
Tetrachloro-m-xylene	65		45 - 135

Lab Sample ID: LCSD 580-184847/5-A

Matrix: Solid

Analysis Batch: 184871

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184847

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	0.100	0.0733		mg/Kg		73	40 - 140	4	20
PCB-1260	0.100	0.101		mg/Kg		101	60 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	98		50 - 140
Tetrachloro-m-xylene	62		45 - 135

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184722/1-A

Matrix: Solid

Analysis Batch: 184721

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184722

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		03/19/15 08:05	03/19/15 14:52	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		03/19/15 08:05	03/19/15 14:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/19/15 08:05	03/19/15 14:52	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-184722/2-A

Matrix: Solid

Analysis Batch: 184721

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184722

			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
#2 Diesel (C10-C24)			500	410		mg/Kg		82	70 - 125		
Motor Oil (>C24-C36)			502	456		mg/Kg		91	64 - 127		
		LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits								
<i>o</i> -Terphenyl	79		50 - 150								

Lab Sample ID: LCSD 580-184722/3-A

Matrix: Solid

Analysis Batch: 184721

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184722

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)			500	390		mg/Kg		78	70 - 125	5	16
Motor Oil (>C24-C36)			502	425		mg/Kg		85	64 - 127	7	17
			LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits								
o-Terphenyl	74		50 - 150								

Lab Sample ID: MB 580-185136/1-A

Matrix: Water

Analysis Batch: 185187

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185136

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/24/15 21:40	03/25/15 11:49	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/24/15 21:40	03/25/15 11:49	1
	MB	MB							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	77		50 - 150				03/24/15 21:40	03/25/15 11:49	1

Lab Sample ID: LCS 580-185136/2-A

Matrix: Water

Analysis Batch: 185187

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185136

			Spike	LCS	LCS					%Rec.
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
#2 Diesel (C10-C24)			4.00	3.97		mg/L		99	59 - 120	
Motor Oil (>C24-C36)			4.02	4.38		mg/L		109	71 - 140	
			LCS	LCS						
Surrogate	%Recovery	Qualifier	Limits							
o-Terphenyl	87		50 - 150							

Lab Sample ID: LCSD 580-185136/3-A

Matrix: Water

Analysis Batch: 185187

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4.00	3.65		mg/L		91	59 - 120	9	27
Motor Oil (>C24-C36)	4.02	3.93		mg/L		98	71 - 140	11	27

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-185136/3-A

Matrix: Water

Analysis Batch: 185187

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185136

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	82		50 - 150

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA6-1-3

Date Collected: 03/17/15 12:15

Date Received: 03/17/15 16:45

Lab Sample ID: 580-48087-1

Matrix: Solid

Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/17/15 16:55	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 19:05	TL1	TAL SEA
Total/NA	Prep	3550B			184747	03/19/15 10:42	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185483	03/30/15 16:31	ERB	TAL SEA
Total/NA	Prep	3550B			184847	03/20/15 10:53	EKK	TAL SEA
Total/NA	Analysis	8082A		1	184871	03/21/15 05:45	ALC	TAL SEA
Total/NA	Prep	3546			184722	03/19/15 08:05	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184721	03/19/15 20:56	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:37	JMB	TAL SEA

Client Sample ID: HA2-1-3

Date Collected: 03/17/15 10:30

Date Received: 03/17/15 16:45

Lab Sample ID: 580-48087-2

Matrix: Solid

Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/17/15 16:55	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 19:31	TL1	TAL SEA
Total/NA	Prep	3550B			184747	03/19/15 10:42	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185483	03/30/15 17:50	ERB	TAL SEA
Total/NA	Prep	3546			184722	03/19/15 08:05	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184721	03/19/15 21:32	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:37	JMB	TAL SEA

Client Sample ID: HA4-1-3

Date Collected: 03/17/15 09:55

Date Received: 03/17/15 16:45

Lab Sample ID: 580-48087-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/17/15 16:55	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 17:50	TL1	TAL SEA

Client Sample ID: HA4-2-2.5

Date Collected: 03/17/15 08:55

Date Received: 03/17/15 16:45

Lab Sample ID: 580-48087-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/17/15 16:55	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 21:11	TL1	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Client Sample ID: HA2-1-3EB

Lab Sample ID: 580-48087-5

Date Collected: 03/17/15 11:30

Matrix: Water

Date Received: 03/17/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 19:38	A1C	TAL SEA
Total/NA	Prep	3520C			184868	03/20/15 12:03		TAL SEA
Total/NA	Analysis	8270D SIM		1	185041	03/24/15 13:20	AHP	TAL SEA
Total/NA	Prep	3520C	RE		185536	03/30/15 16:50	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM	RE	1	185761	04/01/15 17:22	AHP	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 13:02	EKK	TAL SEA

Client Sample ID: TB-031701-01

Lab Sample ID: 580-48087-6

Date Collected: 03/17/15 00:01

Matrix: Solid

Date Received: 03/17/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/17/15 16:55	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 14:40	TL1	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
8270D	3550B	Solid	1,2,4-Trichlorobenzene
8270D	3550B	Solid	bis(chloroisopropyl) ether
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Sample Summary

Client: ERM-West
Project/Site: K2 Facility

TestAmerica Job ID: 580-48087-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48087-1	HA6-1-3	Solid	03/17/15 12:15	03/17/15 16:45
580-48087-2	HA2-1-3	Solid	03/17/15 10:30	03/17/15 16:45
580-48087-3	HA4-1-3	Solid	03/17/15 09:55	03/17/15 16:45
580-48087-4	HA4-2-2.5	Solid	03/17/15 08:55	03/17/15 16:45
580-48087-5	HA2-1-3EB	Water	03/17/15 11:30	03/17/15 16:45
580-48087-6	TB-031701-01	Solid	03/17/15 00:01	03/17/15 16:45

Client **ERM**

Address

1218 3rd Ave Ste. 1412

Client Contact **Mike Arnold**

Telephone Number (Area Code)/Fax Number
425-462-8591

Date **3/17/2015**

Chain of Custody Number **26321**

4/2/2015

City

Seattle

State

WA 98101

Zip Code

98101

Project Name and Location (State)

K2 Facility

Sampler

M. Brune

Lab Contact

Dave

Contract/Purchase Order/Quote No.

266125

Sample I.D. and Location/Description
(Containers for each sample may be combined on one line)

Date

Time

Air

Aqueous

Sed.

Soil

Unpres.

H2SO4

HNO3

HCl

NaOH

ZnAc/NaOH

Containers & Preservatives

TPH-D/40

VOCs

SVOCs

PCBs

Analysis (Attach list if more space is needed)

Lab Number

Page

1

of

1

Special Instructions/
Conditions of Receipt

1 HA6-1-3
2 HA2-1-3
3 HA4-1-3
4 HA4-2-2.5
5 HA2-1-3EB
6 TB-031715-01

3/17/15 1215
3/17/15 1030
3/17/15 0955
3/17/15 0855
3/17/15 1130
3/17/15

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580-48087 Chain of Custody

Client d.o. w/o. C.S.
Cooler/TB DigIR cor 5.7 unc 5.2
Cooler Desc in 5m 18 @ Lab 1645
WetPacks Packing Bubble

Cooler ☒ Yes ☐ No Cooler Temp: _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal ☒ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☒ Other **Standard**

1. Relinquished By Sign/Print

2. Relinquished By Sign/Print

3. Relinquished By Sign/Print

Comments

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48087-1

Login Number: 48087

List Source: TestAmerica Seattle

List Number: 1

Creator: Vance, Diane R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

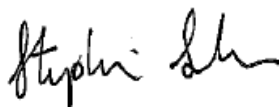
TestAmerica Job ID: 580-48106-1

Client Project/Site: K2 Facility Site Characterization
Revision: 1

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:
6/29/2015 2:32:41 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Job ID: 580-48106-1

Laboratory: TestAmerica Seattle

Narrative

Comments

This report has been revised to correct the sample IDs for samples B3-3-11 and B3-4-10.5 which were originally reported as B3-311 and B34-10.5.

Receipt

The samples were received on 3/16/2015 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.5° C and 6.0° C.

Except:

The following sample is named "B5-1-6" on the COC: B5-1-6 (580-48106-10). The sample label is named " B5-1-7." The job was logged in following the information on the COC.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184860 recovered above the upper control limit for Vinyl chloride, trans-1,3-Dichloropropene and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-184860/3).

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 184860 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated. A low level calibration verification (CCVL) was analyzed as per method recommendation.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184860 recovered outside acceptance criteria, low biased, for 1,2,3-Trichlorobenzene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch 184860 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, N-Propylbenzene and Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 184860 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, Isopropylbenzene and Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The following sample(s) was received with insufficient preservation and presented a pH between 5-8. Analysis was performed within 7 days per EPA recommendation: (580-48106-2), (580-48106-4), B3-3-G (580-48106-2), B3-4-G (580-48106-4) .

Method(s) 8260C: The following sample(s) was diluted due to the high volume of soil settled at the bottom of each VOA vial, which running without dilution could cause damage to the instrumentation: (580-48106-2), (580-48106-4), B3-3-G (580-48106-2), B3-4-G (580-48106-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184870 recovered outside control limits for the following analytes: Chloroform and Dichlorodifluoromethane.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 184870 recovered outside control limits for the following analyte: trans-1,3-Dichloropropene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185483 was outside criteria for the following analyte(s): 4-Chloro-3-methylphenol, Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the

Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Job ID: 580-48106-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

affected analyte(s) is considered estimated.

Method(s) 8270D SIM: All PAH analyte(s) recovered outside control limits for the LCS/LCSD associated with prep batch 184868. These analytes were outside the Marginal Exceedance Limits and were indicative of a systematic problem; therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported. Affected samples: (580-48106-5), (580-48106-8), (580-48106-12), (LCS 580-184868/2-A), (LCSD 580-184868/3-A), B1-1-G (580-48106-8), B5-2-3.5 RB (580-48106-12), B5-2-G (580-48106-5)

Method(s) 8270D SIM: Surrogate recovery for the following sample(s) was outside control limits: (580-48106-5), (580-48106-8), B1-1-G (580-48106-8), B5-2-G (580-48106-5). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D SIM: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184868 recovered outside control limits for multiple analytes.

Method(s) 8270D: The method blank for preparation batch 184889 contained Bis(2-ethylhexyl)phthalate above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, data have been reported.

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185025 was outside criteria for the following analyte(s): 4-Chloro-3-methylphenol, Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: In prep batch 184889, the LCS/LCSD recoveries and %RPD exceeded the acceptance criteria for multiple analytes. These analytes were outside the Marginal Exceedance Limits; therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported.

Method(s) 8270D: In analytical batch 185025, surrogate recovery for the following sample(s) was outside control limits: (580-48106-12), (MB 580-184889/1-A), B5-2-3.5 RB (580-48106-12). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 186217 recovered above the upper control limit for Indeno(1,2,3-cd)pyrene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: (580-48106-5), (580-48106-8), (580-48106-12), (CCVIS 580-186217/3), (LCS 580-185937/2-A), (LCSD 580-185937/3-A), (MB 580-185937/1-A), B1-1-G (580-48106-8), B5-2-3.5 RB (580-48106-12), B5-2-G (580-48106-5).

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 186217 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: In analytical batch 186217, Bis(2-ethylhexyl)phthalate was detected above the reporting limit (RL) in the method blank associated with prep batch 185937 as well as in the following re-extracted sample(s): (580-48106-12), (MB 580-185937/1-A), B5-2-3.5 RB (580-48106-12). This analyte was not detected in the sample from the original prep batch 184889. Both sets of data have been reported.

Method(s) 8270D: In analytical batch 186217, the following analyte(s) recovered outside control limits for the LCS/LCSD associated with prep batch 185937: Benzoic acid, Bis(2-ethylhexyl)phthalate and N-Nitrosodiphenylamine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 185937 recovered outside control limits for the following analytes: 2,4-Dinitrophenol and Benzoic acid.

Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Job ID: 580-48106-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: In analysis batch 185187, the following samples from preparation batch 185136 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: (580-48106-2), (580-48106-5), (580-48106-8), B1-1-G (580-48106-8), B3-3-G (580-48106-2), B5-2-G (580-48106-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
Z	The chromatographic response does not resemble a typical fuel pattern.
Y	The chromatographic response resembles a typical fuel pattern.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-11

Date Collected: 03/16/15 09:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-1

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			03/20/15 17:37	1
Percent Moisture	12		0.10		%			03/20/15 17:37	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-11

Date Collected: 03/16/15 09:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-1

Matrix: Solid

Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,1,1-Trichloroethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,1,2,2-Tetrachloroethane	ND		3.1		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,1,2-Trichloroethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,1-Dichloroethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,1-Dichloroethene	ND		3.9		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,1-Dichloropropene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2,3-Trichlorobenzene	ND		2.3		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2,3-Trichloropropane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2,4-Trichlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2,4-Trimethylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2-Dibromo-3-Chloropropane	ND		7.8		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2-Dibromoethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2-Dichloroethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,2-Dichloropropane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,3,5-Trimethylbenzene	ND		3.9		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,3-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,3-Dichloropropane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
1,4-Dichlorobenzene	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
2,2-Dichloropropane	ND		3.9		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
2-Chlorotoluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
4-Chlorotoluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
4-Isopropyltoluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Benzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Bromobenzene	ND		7.8		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Bromochloromethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Bromodichloromethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Bromoform	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Bromomethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Carbon tetrachloride	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Chlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Chloroethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Chloroform	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Chloromethane	ND *		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
cis-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
cis-1,3-Dichloropropene	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Dibromochloromethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Dibromomethane	ND		0.78		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Dichlorodifluoromethane	ND *		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Ethylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Hexachlorobutadiene	ND		2.3		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Isopropylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Methyl tert-butyl ether	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Methylene Chloride	ND		12		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
m-Xylene & p-Xylene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Naphthalene	ND		7.8		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
n-Butylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
N-Propylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-11

Date Collected: 03/16/15 09:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-1

Matrix: Solid

Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
sec-Butylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Styrene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
t-Butylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Tetrachloroethene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Toluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
trans-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
trans-1,3-Dichloropropene	ND	*	7.8		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Trichloroethene	1.8		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Trichlorofluoromethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1
Vinyl chloride	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 136	03/16/15 17:00	03/20/15 18:15	1
4-Bromofluorobenzene (Surr)	97		70 - 120	03/16/15 17:00	03/20/15 18:15	1
Dibromofluoromethane (Surr)	97		75 - 132	03/16/15 17:00	03/20/15 18:15	1
Toluene-d8 (Surr)	105		80 - 120	03/16/15 17:00	03/20/15 18:15	1
Trifluorotoluene (Surr)	102		65 - 140	03/16/15 17:00	03/20/15 18:15	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.7		mg/Kg	☼	03/20/15 14:12	03/20/15 20:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	03/20/15 14:12	03/20/15 20:03	1
Trifluorotoluene (Surr)				03/20/15 14:12	03/20/15 20:03	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		28		mg/Kg	☼	03/19/15 14:18	03/20/15 10:41	1
Motor Oil (>C24-C36)	ND		55		mg/Kg	☼	03/19/15 14:18	03/20/15 10:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	61		50 - 150	03/19/15 14:18	03/20/15 10:41	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.19		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Arsenic	2.7		0.47		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Beryllium	ND		0.19		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Cadmium	ND		0.19		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Chromium	29	F1	0.47		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Copper	14		0.37		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Lead	2.2		0.47		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Nickel	46	F1	0.47		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Selenium	ND		0.93		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Silver	ND		0.19		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Thallium	ND		0.37		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10
Zinc	30		4.7		mg/Kg	☼	03/30/15 20:25	03/31/15 13:14	10

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-11

Date Collected: 03/16/15 09:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-1

Matrix: Solid

Percent Solids: 88.0

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.023		0.018		mg/Kg	☼	03/31/15 11:29	03/31/15 13:41	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-G

Date Collected: 03/16/15 10:40

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.40		ug/L			03/20/15 22:16	2
1,1,1-Trichloroethane	3.9		0.40		ug/L			03/20/15 22:16	2
1,1,2,2-Tetrachloroethane	ND		0.40		ug/L			03/20/15 22:16	2
1,1,2-Trichloroethane	ND		0.40		ug/L			03/20/15 22:16	2
1,1-Dichloroethane	0.44		0.40		ug/L			03/20/15 22:16	2
1,1-Dichloroethene	1.8		0.20		ug/L			03/20/15 22:16	2
1,1-Dichloropropene	ND		0.20		ug/L			03/20/15 22:16	2
1,2,3-Trichlorobenzene	ND	^	1.0		ug/L			03/20/15 22:16	2
1,2,3-Trichloropropane	ND		0.40		ug/L			03/20/15 22:16	2
1,2,4-Trichlorobenzene	ND		0.40		ug/L			03/20/15 22:16	2
1,2,4-Trimethylbenzene	ND		0.40		ug/L			03/20/15 22:16	2
1,2-Dibromo-3-Chloropropane	ND		4.0		ug/L			03/20/15 22:16	2
1,2-Dichlorobenzene	ND		0.60		ug/L			03/20/15 22:16	2
1,2-Dichloroethane	ND		0.40		ug/L			03/20/15 22:16	2
1,2-Dichloropropane	ND		0.40		ug/L			03/20/15 22:16	2
1,3,5-Trimethylbenzene	ND		1.0		ug/L			03/20/15 22:16	2
1,3-Dichlorobenzene	ND		0.60		ug/L			03/20/15 22:16	2
1,3-Dichloropropane	ND		0.40		ug/L			03/20/15 22:16	2
1,4-Dichlorobenzene	ND		0.60		ug/L			03/20/15 22:16	2
2,2-Dichloropropane	ND		1.0		ug/L			03/20/15 22:16	2
2-Chlorotoluene	ND		1.0		ug/L			03/20/15 22:16	2
4-Chlorotoluene	ND		0.60		ug/L			03/20/15 22:16	2
4-Isopropyltoluene	ND		0.60		ug/L			03/20/15 22:16	2
Benzene	ND		0.40		ug/L			03/20/15 22:16	2
Bromobenzene	ND		0.40		ug/L			03/20/15 22:16	2
Bromoform	ND		1.0		ug/L			03/20/15 22:16	2
Bromomethane	ND	^	2.0		ug/L			03/20/15 22:16	2
Carbon tetrachloride	ND		0.40		ug/L			03/20/15 22:16	2
Chlorobenzene	ND		0.40		ug/L			03/20/15 22:16	2
Chlorobromomethane	ND		0.40		ug/L			03/20/15 22:16	2
Chlorodibromomethane	ND		0.40		ug/L			03/20/15 22:16	2
Chloroethane	ND		1.0		ug/L			03/20/15 22:16	2
Chloroform	ND		0.40		ug/L			03/20/15 22:16	2
Chloromethane	ND		0.60		ug/L			03/20/15 22:16	2
cis-1,2-Dichloroethene	1.7		0.40		ug/L			03/20/15 22:16	2
cis-1,3-Dichloropropene	ND	*	1.0		ug/L			03/20/15 22:16	2
Dibromomethane	ND		0.40		ug/L			03/20/15 22:16	2
Dichlorobromomethane	ND		0.40		ug/L			03/20/15 22:16	2
Dichlorodifluoromethane	ND		0.80		ug/L			03/20/15 22:16	2
Ethylbenzene	ND		0.40		ug/L			03/20/15 22:16	2
Ethylene Dibromide	ND		0.20		ug/L			03/20/15 22:16	2
Hexachlorobutadiene	ND		1.0		ug/L			03/20/15 22:16	2
Isopropylbenzene	ND	*	1.0		ug/L			03/20/15 22:16	2
Methyl tert-butyl ether	ND	*	0.40		ug/L			03/20/15 22:16	2
Methylene Chloride	ND		1.0		ug/L			03/20/15 22:16	2
m-Xylene & p-Xylene	ND		1.0		ug/L			03/20/15 22:16	2
Naphthalene	ND		1.0		ug/L			03/20/15 22:16	2
n-Butylbenzene	ND		1.0		ug/L			03/20/15 22:16	2
N-Propylbenzene	ND	*	0.40		ug/L			03/20/15 22:16	2

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-G

Date Collected: 03/16/15 10:40

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0		ug/L			03/20/15 22:16	2
sec-Butylbenzene	ND		1.0		ug/L			03/20/15 22:16	2
Styrene	ND		1.0		ug/L			03/20/15 22:16	2
tert-Butylbenzene	ND		1.0		ug/L			03/20/15 22:16	2
Tetrachloroethene	ND		1.0		ug/L			03/20/15 22:16	2
Toluene	ND		0.40		ug/L			03/20/15 22:16	2
trans-1,2-Dichloroethene	ND		0.40		ug/L			03/20/15 22:16	2
trans-1,3-Dichloropropene	ND	* ^	0.40		ug/L			03/20/15 22:16	2
Trichloroethene	9.1		0.40		ug/L			03/20/15 22:16	2
Trichlorofluoromethane	ND		1.0		ug/L			03/20/15 22:16	2
Vinyl chloride	ND	^	0.040		ug/L			03/20/15 22:16	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 128		03/20/15 22:16	2
4-Bromofluorobenzene (Surr)	101		75 - 120		03/20/15 22:16	2
Dibromofluoromethane (Surr)	103		85 - 115		03/20/15 22:16	2
Toluene-d8 (Surr)	101		75 - 125		03/20/15 22:16	2
Trifluorotoluene (Surr)	110		80 - 127		03/20/15 22:16	2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.18	Z	0.15		mg/L		03/24/15 21:40	03/25/15 13:20	1
Motor Oil (>C24-C36)	ND		0.30		mg/L		03/24/15 21:40	03/25/15 13:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/24/15 21:40	03/25/15 13:20	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:41	5
Arsenic	0.015		0.0050		mg/L		03/31/15 18:13	04/01/15 09:41	5
Beryllium	0.0096		0.0020		mg/L		03/31/15 18:13	04/01/15 09:41	5
Cadmium	0.0052		0.0020		mg/L		03/31/15 18:13	04/01/15 09:41	5
Chromium	0.056		0.0020		mg/L		03/31/15 18:13	04/01/15 09:41	5
Copper	0.12		0.010		mg/L		03/31/15 18:13	04/01/15 09:41	5
Lead	0.0032		0.0020		mg/L		03/31/15 18:13	04/01/15 09:41	5
Nickel	1.3		0.015		mg/L		03/31/15 18:13	04/01/15 09:41	5
Selenium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:41	5
Silver	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:41	5
Thallium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:41	5
Zinc	0.32		0.035		mg/L		03/31/15 18:13	04/01/15 09:41	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 16:21	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-10.5

Date Collected: 03/16/15 11:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-3

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			03/20/15 17:40	1
Percent Moisture	14		0.10		%			03/20/15 17:40	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-10.5

Date Collected: 03/16/15 11:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-3

Matrix: Solid

Percent Solids: 86.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,1,1-Trichloroethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,1,2,2-Tetrachloroethane	ND		3.2		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,1,2-Trichloroethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,1-Dichloroethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,1-Dichloroethene	ND		4.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,1-Dichloropropene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2,3-Trichlorobenzene	ND		2.4		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2,3-Trichloropropane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2,4-Trichlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2,4-Trimethylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2-Dibromo-3-Chloropropane	ND		8.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2-Dibromoethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2-Dichloroethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,2-Dichloropropane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,3,5-Trimethylbenzene	ND		4.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,3-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,3-Dichloropropane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
1,4-Dichlorobenzene	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
2,2-Dichloropropane	ND		4.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
2-Chlorotoluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
4-Chlorotoluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
4-Isopropyltoluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Benzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Bromobenzene	ND		8.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Bromochloromethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Bromodichloromethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Bromoform	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Bromomethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Carbon tetrachloride	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Chlorobenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Chloroethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Chloroform	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Chloromethane	ND *		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
cis-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
cis-1,3-Dichloropropene	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Dibromochloromethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Dibromomethane	ND		0.80		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Dichlorodifluoromethane	ND *		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Ethylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Hexachlorobutadiene	ND		2.4		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Isopropylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Methyl tert-butyl ether	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Methylene Chloride	ND		12		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
m-Xylene & p-Xylene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Naphthalene	ND		8.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
n-Butylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
N-Propylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-10.5

Date Collected: 03/16/15 11:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-3

Matrix: Solid

Percent Solids: 86.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
sec-Butylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Styrene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
t-Butylbenzene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Tetrachloroethene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Toluene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
trans-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
trans-1,3-Dichloropropene	ND *		8.0		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Trichloroethene	3.4		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Trichlorofluoromethane	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1
Vinyl chloride	ND		1.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		71 - 136	03/16/15 17:00	03/20/15 16:33	1
4-Bromofluorobenzene (Surr)	100		70 - 120	03/16/15 17:00	03/20/15 16:33	1
Dibromofluoromethane (Surr)	96		75 - 132	03/16/15 17:00	03/20/15 16:33	1
Toluene-d8 (Surr)	104		80 - 120	03/16/15 17:00	03/20/15 16:33	1
Trifluorotoluene (Surr)	102		65 - 140	03/16/15 17:00	03/20/15 16:33	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.9		mg/Kg	☼	03/20/15 14:12	03/20/15 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	03/20/15 14:12	03/20/15 20:35	1
Trifluorotoluene (Surr)				03/20/15 14:12	03/20/15 20:35	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		29		mg/Kg	☼	03/19/15 14:18	03/20/15 11:17	1
Motor Oil (>C24-C36)	ND		57		mg/Kg	☼	03/19/15 14:18	03/20/15 11:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/19/15 14:18	03/20/15 11:17	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.18		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Arsenic	3.1		0.43		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Beryllium	0.19		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Cadmium	0.17		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Chromium	34		0.43		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Copper	16		0.35		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Lead	2.5		0.43		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Nickel	53		0.43		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Selenium	ND		0.87		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Silver	ND		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Thallium	ND		0.35		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10
Zinc	33		4.3		mg/Kg	☼	03/30/15 20:25	03/31/15 14:16	10

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-10.5

Date Collected: 03/16/15 11:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-3

Matrix: Solid

Percent Solids: 86.3

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.021		0.019		mg/Kg	☼	03/31/15 11:29	03/31/15 13:44	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-G

Date Collected: 03/16/15 12:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,1,1-Trichloroethane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,1,2-Trichloroethane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,1-Dichloroethane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,1-Dichloroethene	ND		0.25		ug/L			03/20/15 22:42	2.5
1,1-Dichloropropene	ND		0.25		ug/L			03/20/15 22:42	2.5
1,2,3-Trichlorobenzene	ND	^	1.3		ug/L			03/20/15 22:42	2.5
1,2,3-Trichloropropane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,2,4-Trichlorobenzene	ND		0.50		ug/L			03/20/15 22:42	2.5
1,2,4-Trimethylbenzene	ND		0.50		ug/L			03/20/15 22:42	2.5
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			03/20/15 22:42	2.5
1,2-Dichlorobenzene	ND		0.75		ug/L			03/20/15 22:42	2.5
1,2-Dichloroethane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,2-Dichloropropane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,3,5-Trimethylbenzene	ND		1.3		ug/L			03/20/15 22:42	2.5
1,3-Dichlorobenzene	ND		0.75		ug/L			03/20/15 22:42	2.5
1,3-Dichloropropane	ND		0.50		ug/L			03/20/15 22:42	2.5
1,4-Dichlorobenzene	ND		0.75		ug/L			03/20/15 22:42	2.5
2,2-Dichloropropane	ND		1.3		ug/L			03/20/15 22:42	2.5
2-Chlorotoluene	ND		1.3		ug/L			03/20/15 22:42	2.5
4-Chlorotoluene	ND		0.75		ug/L			03/20/15 22:42	2.5
4-Isopropyltoluene	ND		0.75		ug/L			03/20/15 22:42	2.5
Benzene	ND		0.50		ug/L			03/20/15 22:42	2.5
Bromobenzene	ND		0.50		ug/L			03/20/15 22:42	2.5
Bromoform	ND		1.3		ug/L			03/20/15 22:42	2.5
Bromomethane	ND	^	2.5		ug/L			03/20/15 22:42	2.5
Carbon tetrachloride	ND		0.50		ug/L			03/20/15 22:42	2.5
Chlorobenzene	ND		0.50		ug/L			03/20/15 22:42	2.5
Chlorobromomethane	ND		0.50		ug/L			03/20/15 22:42	2.5
Chlorodibromomethane	ND		0.50		ug/L			03/20/15 22:42	2.5
Chloroethane	ND		1.3		ug/L			03/20/15 22:42	2.5
Chloroform	ND		0.50		ug/L			03/20/15 22:42	2.5
Chloromethane	ND		0.75		ug/L			03/20/15 22:42	2.5
cis-1,2-Dichloroethene	ND		0.50		ug/L			03/20/15 22:42	2.5
cis-1,3-Dichloropropene	ND	*	1.3		ug/L			03/20/15 22:42	2.5
Dibromomethane	ND		0.50		ug/L			03/20/15 22:42	2.5
Dichlorobromomethane	ND		0.50		ug/L			03/20/15 22:42	2.5
Dichlorodifluoromethane	ND		1.0		ug/L			03/20/15 22:42	2.5
Ethylbenzene	ND		0.50		ug/L			03/20/15 22:42	2.5
Ethylene Dibromide	ND		0.25		ug/L			03/20/15 22:42	2.5
Hexachlorobutadiene	ND		1.3		ug/L			03/20/15 22:42	2.5
Isopropylbenzene	ND	*	1.3		ug/L			03/20/15 22:42	2.5
Methyl tert-butyl ether	ND	*	0.50		ug/L			03/20/15 22:42	2.5
Methylene Chloride	ND		1.3		ug/L			03/20/15 22:42	2.5
m-Xylene & p-Xylene	ND		1.3		ug/L			03/20/15 22:42	2.5
Naphthalene	ND		1.3		ug/L			03/20/15 22:42	2.5
n-Butylbenzene	ND		1.3		ug/L			03/20/15 22:42	2.5
N-Propylbenzene	ND	*	0.50		ug/L			03/20/15 22:42	2.5

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-G

Date Collected: 03/16/15 12:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.3		ug/L			03/20/15 22:42	2.5
sec-Butylbenzene	ND		1.3		ug/L			03/20/15 22:42	2.5
Styrene	ND		1.3		ug/L			03/20/15 22:42	2.5
tert-Butylbenzene	ND		1.3		ug/L			03/20/15 22:42	2.5
Tetrachloroethene	ND		1.3		ug/L			03/20/15 22:42	2.5
Toluene	ND		0.50		ug/L			03/20/15 22:42	2.5
trans-1,2-Dichloroethene	ND		0.50		ug/L			03/20/15 22:42	2.5
trans-1,3-Dichloropropene	ND	* ^	0.50		ug/L			03/20/15 22:42	2.5
Trichloroethene	16		0.50		ug/L			03/20/15 22:42	2.5
Trichlorofluoromethane	ND		1.3		ug/L			03/20/15 22:42	2.5
Vinyl chloride	ND	^	0.050		ug/L			03/20/15 22:42	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 128		03/20/15 22:42	2.5
4-Bromofluorobenzene (Surr)	98		75 - 120		03/20/15 22:42	2.5
Dibromofluoromethane (Surr)	102		85 - 115		03/20/15 22:42	2.5
Toluene-d8 (Surr)	101		75 - 125		03/20/15 22:42	2.5
Trifluorotoluene (Surr)	113		80 - 127		03/20/15 22:42	2.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.15		mg/L		03/24/15 21:40	03/25/15 13:38	1
Motor Oil (>C24-C36)	ND		0.29		mg/L		03/24/15 21:40	03/25/15 13:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150	03/24/15 21:40	03/25/15 13:38	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:45	5
Arsenic	0.015		0.0050		mg/L		03/31/15 18:13	04/01/15 09:45	5
Beryllium	0.0098		0.0020		mg/L		03/31/15 18:13	04/01/15 09:45	5
Cadmium	0.0045		0.0020		mg/L		03/31/15 18:13	04/01/15 09:45	5
Chromium	0.033		0.0020		mg/L		03/31/15 18:13	04/01/15 09:45	5
Copper	0.075		0.010		mg/L		03/31/15 18:13	04/01/15 09:45	5
Lead	0.0024		0.0020		mg/L		03/31/15 18:13	04/01/15 09:45	5
Nickel	0.61		0.015		mg/L		03/31/15 18:13	04/01/15 09:45	5
Selenium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:45	5
Silver	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:45	5
Thallium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:45	5
Zinc	0.27		0.035		mg/L		03/31/15 18:13	04/01/15 09:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 16:23	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 21:23	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 21:23	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 21:23	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 21:23	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 21:23	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 21:23	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 21:23	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 21:23	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 21:23	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 21:23	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 21:23	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 21:23	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 21:23	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 21:23	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 21:23	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 21:23	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 21:23	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 21:23	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 21:23	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 21:23	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 21:23	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 21:23	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 21:23	1
Benzene	ND		0.20		ug/L			03/20/15 21:23	1
Bromobenzene	ND		0.20		ug/L			03/20/15 21:23	1
Bromoform	ND		0.50		ug/L			03/20/15 21:23	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 21:23	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 21:23	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 21:23	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 21:23	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 21:23	1
Chloroethane	ND		0.50		ug/L			03/20/15 21:23	1
Chloroform	ND		0.20		ug/L			03/20/15 21:23	1
Chloromethane	ND		0.30		ug/L			03/20/15 21:23	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 21:23	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 21:23	1
Dibromomethane	ND		0.20		ug/L			03/20/15 21:23	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 21:23	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 21:23	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 21:23	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 21:23	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 21:23	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 21:23	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 21:23	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 21:23	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 21:23	1
Naphthalene	ND		0.50		ug/L			03/20/15 21:23	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 21:23	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 21:23	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 21:23	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 21:23	1
Styrene	ND		0.50		ug/L			03/20/15 21:23	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 21:23	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 21:23	1
Toluene	ND		0.20		ug/L			03/20/15 21:23	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 21:23	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 21:23	1
Trichloroethene	3.6		0.20		ug/L			03/20/15 21:23	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 21:23	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 21:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 128		03/20/15 21:23	1
4-Bromofluorobenzene (Surr)	105		75 - 120		03/20/15 21:23	1
Dibromofluoromethane (Surr)	107		85 - 115		03/20/15 21:23	1
Toluene-d8 (Surr)	101		75 - 125		03/20/15 21:23	1
Trifluorotoluene (Surr)	107		80 - 127		03/20/15 21:23	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/20/15 12:03	03/24/15 13:41	1
Acenaphthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Acenaphthylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Benzo[a]anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Benzo[a]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Benzo[b]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Benzo[g,h,i]perylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Chrysene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Dibenz(a,h)anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Fluorene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Indeno[1,2,3-cd]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Naphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Phenanthrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1
Pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	42	X	64 - 150	03/20/15 12:03	03/24/15 13:41	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
2-Methylnaphthalene	ND	H	0.026		ug/L		03/30/15 16:50	04/01/15 17:44	1
Acenaphthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Acenaphthylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Benzo[a]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Benzo[b]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Benzo[g,h,i]perylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Benzo[k]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Chrysene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Dibenz(a,h)anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Fluorene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Indeno[1,2,3-cd]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Naphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Phenanthrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1
Pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	86		64 - 150	03/30/15 16:50	04/01/15 17:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
1,2-Dichlorobenzene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
1,3-Dichlorobenzene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
1,4-Dichlorobenzene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
1-Methylnaphthalene	ND		0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,4,5-Trichlorophenol	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,4,6-Trichlorophenol	ND		0.61		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,4-Dichlorophenol	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,4-Dimethylphenol	ND	*	2.0		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,4-Dinitrophenol	ND	*	5.1		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,4-Dinitrotoluene	ND	*	0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2,6-Dinitrotoluene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2-Chloronaphthalene	ND		0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
2-Chlorophenol	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2-Methylnaphthalene	ND		0.20		ug/L		03/20/15 14:30	03/23/15 21:45	1
2-Methylphenol	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2-Nitroaniline	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
2-Nitrophenol	ND	*	0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
3 & 4 Methylphenol	ND	*	0.82		ug/L		03/20/15 14:30	03/23/15 21:45	1
3,3'-Dichlorobenzidine	ND	*	2.0		ug/L		03/20/15 14:30	03/23/15 21:45	1
3-Nitroaniline	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
4,6-Dinitro-2-methylphenol	ND	*	4.1		ug/L		03/20/15 14:30	03/23/15 21:45	1
4-Bromophenyl phenyl ether	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
4-Chloro-3-methylphenol	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
4-Chloroaniline	ND	*	0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
4-Nitroaniline	ND		0.61		ug/L		03/20/15 14:30	03/23/15 21:45	1
4-Nitrophenol	ND		3.1		ug/L		03/20/15 14:30	03/23/15 21:45	1
Acenaphthene	ND		0.10		ug/L		03/20/15 14:30	03/23/15 21:45	1
Acenaphthylene	ND	*	0.082		ug/L		03/20/15 14:30	03/23/15 21:45	1
Anthracene	ND	*	0.041		ug/L		03/20/15 14:30	03/23/15 21:45	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
Benzo[a]pyrene	ND	*	0.041		ug/L		03/20/15 14:30	03/23/15 21:45	1
Benzo[b]fluoranthene	ND		0.082		ug/L		03/20/15 14:30	03/23/15 21:45	1
Benzo[g,h,i]perylene	ND		0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
Benzo[k]fluoranthene	ND		0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
Benzoic acid	ND		3.1		ug/L		03/20/15 14:30	03/23/15 21:45	1
Benzyl alcohol	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Bis(2-chloroethoxy)methane	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Bis(2-chloroethyl)ether	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Bis(2-ethylhexyl) phthalate	ND	*	3.1		ug/L		03/20/15 14:30	03/23/15 21:45	1
bis(chloroisopropyl) ether	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Butyl benzyl phthalate	ND		0.61		ug/L		03/20/15 14:30	03/23/15 21:45	1
Carbazole	ND	*	0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Chrysene	ND		0.041		ug/L		03/20/15 14:30	03/23/15 21:45	1
Dibenz(a,h)anthracene	ND	*	0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
Dibenzofuran	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Diethyl phthalate	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Dimethyl phthalate	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Di-n-butyl phthalate	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Di-n-octyl phthalate	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Fluoranthene	ND	*	0.051		ug/L		03/20/15 14:30	03/23/15 21:45	1
Fluorene	ND		0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
Hexachlorobenzene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Hexachlorobutadiene	ND		0.61		ug/L		03/20/15 14:30	03/23/15 21:45	1
Hexachlorocyclopentadiene	ND	*	2.0		ug/L		03/20/15 14:30	03/23/15 21:45	1
Hexachloroethane	ND		0.61		ug/L		03/20/15 14:30	03/23/15 21:45	1
Indeno[1,2,3-cd]pyrene	ND	*	0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1
Isophorone	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Naphthalene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Nitrobenzene	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
N-Nitrosodi-n-propylamine	ND	*	0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
N-Nitrosodiphenylamine	ND		0.41		ug/L		03/20/15 14:30	03/23/15 21:45	1
Pentachlorophenol	ND	*	0.72		ug/L		03/20/15 14:30	03/23/15 21:45	1
Phenanthrene	ND	*	0.082		ug/L		03/20/15 14:30	03/23/15 21:45	1
Phenol	ND		0.61		ug/L		03/20/15 14:30	03/23/15 21:45	1
Pyrene	ND	*	0.061		ug/L		03/20/15 14:30	03/23/15 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	78		44 - 125	03/20/15 14:30	03/23/15 21:45	1
2-Fluorobiphenyl	76		50 - 120	03/20/15 14:30	03/23/15 21:45	1
2-Fluorophenol (Surr)	76		30 - 134	03/20/15 14:30	03/23/15 21:45	1
Nitrobenzene-d5 (Surr)	74		59 - 120	03/20/15 14:30	03/23/15 21:45	1
Phenol-d5 (Surr)	83		52 - 120	03/20/15 14:30	03/23/15 21:45	1
Terphenyl-d14 (Surr)	65		64 - 150	03/20/15 14:30	03/23/15 21:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
1,2-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
1,3-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
1-Methylnaphthalene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,4,5-Trichlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,4,6-Trichlorophenol	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,4-Dichlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,4-Dimethylphenol	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,4-Dinitrophenol	ND	H *	4.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,4-Dinitrotoluene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2,6-Dinitrotoluene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2-Chloronaphthalene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
2-Chlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2-Methylnaphthalene	ND	H	0.19		ug/L		04/02/15 17:23	04/07/15 15:27	1
2-Methylphenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2-Nitroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
2-Nitrophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
3 & 4 Methylphenol	ND	H	0.78		ug/L		04/02/15 17:23	04/07/15 15:27	1
3,3'-Dichlorobenzidine	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
3-Nitroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
4,6-Dinitro-2-methylphenol	ND	H	3.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
4-Bromophenyl phenyl ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
4-Chloro-3-methylphenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
4-Chloroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
4-Chlorophenyl phenyl ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
4-Nitroaniline	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:27	1
4-Nitrophenol	ND	H	2.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
Acenaphthene	ND	H	0.097		ug/L		04/02/15 17:23	04/07/15 15:27	1
Acenaphthylene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 15:27	1
Anthracene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzo[a]anthracene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzo[a]pyrene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzo[b]fluoranthene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzo[g,h,i]perylene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzo[k]fluoranthene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzoic acid	ND	H *	2.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
Benzyl alcohol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Bis(2-chloroethoxy)methane	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Bis(2-chloroethyl)ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Bis(2-ethylhexyl) phthalate	ND	H	2.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
bis(chloroisopropyl) ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Butyl benzyl phthalate	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:27	1
Carbazole	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Chrysene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 15:27	1
Dibenz(a,h)anthracene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
Dibenzofuran	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Diethyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Dimethyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Di-n-butyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Di-n-octyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Fluoranthene	ND	H	0.049		ug/L		04/02/15 17:23	04/07/15 15:27	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
Hexachlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Hexachlorobutadiene	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:27	1
Hexachlorocyclopentadiene	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 15:27	1
Hexachloroethane	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:27	1
Indeno[1,2,3-cd]pyrene	ND	H ^	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1
Isophorone	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Naphthalene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Nitrobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
N-Nitrosodi-n-propylamine	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
N-Nitrosodiphenylamine	ND	* H	0.39		ug/L		04/02/15 17:23	04/07/15 15:27	1
Pentachlorophenol	ND	H	0.68		ug/L		04/02/15 17:23	04/07/15 15:27	1
Phenanthrene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 15:27	1
Phenol	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:27	1
Pyrene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	107		44 - 125	04/02/15 17:23	04/07/15 15:27	1
2-Fluorobiphenyl	81		50 - 120	04/02/15 17:23	04/07/15 15:27	1
2-Fluorophenol (Surr)	80		30 - 134	04/02/15 17:23	04/07/15 15:27	1
Nitrobenzene-d5 (Surr)	91		59 - 120	04/02/15 17:23	04/07/15 15:27	1
Phenol-d5 (Surr)	91		52 - 120	04/02/15 17:23	04/07/15 15:27	1
Terphenyl-d14 (Surr)	101		64 - 150	04/02/15 17:23	04/07/15 15:27	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.13	Y	0.13		mg/L		03/24/15 21:40	03/25/15 13:57	1
Motor Oil (>C24-C36)	ND		0.26		mg/L		03/24/15 21:40	03/25/15 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	64		50 - 150	03/24/15 21:40	03/25/15 13:57	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:49	5
Arsenic	0.0072		0.0050		mg/L		03/31/15 18:13	04/01/15 09:49	5
Beryllium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:49	5
Cadmium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:49	5
Chromium	0.064		0.0020		mg/L		03/31/15 18:13	04/01/15 09:49	5
Copper	0.12		0.010		mg/L		03/31/15 18:13	04/01/15 09:49	5
Lead	0.015		0.0020		mg/L		03/31/15 18:13	04/01/15 09:49	5
Nickel	0.11		0.015		mg/L		03/31/15 18:13	04/01/15 09:49	5
Selenium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:49	5
Silver	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:49	5
Thallium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:49	5
Zinc	0.21		0.035		mg/L		03/31/15 18:13	04/01/15 09:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00027		0.00020		mg/L		03/30/15 13:14	03/30/15 16:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: FB-03162015-01

Date Collected: 03/16/15 11:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-6

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10		%			03/20/15 17:40	1
Percent Moisture	0.92		0.10		%			03/20/15 17:40	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: FB-03162015-01

Lab Sample ID: 580-48106-6

Date Collected: 03/16/15 11:00

Matrix: Solid

Date Received: 03/16/15 16:45

Percent Solids: 99.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
1,2-Dichlorobenzene	ND		55		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
1,3-Dichlorobenzene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
1,4-Dichlorobenzene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
1-Methylnaphthalene	ND		30		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,4,5-Trichlorophenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,4,6-Trichlorophenol	ND		150		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,4-Dichlorophenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,4-Dimethylphenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,4-Dinitrophenol	ND		1000		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,4-Dinitrotoluene	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2,6-Dinitrotoluene	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2-Chloronaphthalene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2-Chlorophenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2-Methylnaphthalene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2-Methylphenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2-Nitroaniline	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
2-Nitrophenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
3 & 4 Methylphenol	ND		200		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
3,3'-Dichlorobenzidine	ND		200		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
3-Nitroaniline	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4,6-Dinitro-2-methylphenol	ND		1000		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4-Bromophenyl phenyl ether	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4-Chloro-3-methylphenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4-Chloroaniline	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4-Chlorophenyl phenyl ether	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4-Nitroaniline	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
4-Nitrophenol	ND		1000		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Acenaphthene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Acenaphthylene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Anthracene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzo[a]anthracene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzo[a]pyrene	ND		30		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzo[b]fluoranthene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzo[g,h,i]perylene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzo[k]fluoranthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzoic acid	ND		2500		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Benzyl alcohol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Bis(2-chloroethoxy)methane	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Bis(2-chloroethyl)ether	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
bis(chloroisopropyl) ether	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Butyl benzyl phthalate	ND		200		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Carbazole	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Chrysene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Dibenz(a,h)anthracene	ND		40		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Dibenzofuran	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Diethyl phthalate	ND		200		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Dimethyl phthalate	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: FB-03162015-01

Lab Sample ID: 580-48106-6

Date Collected: 03/16/15 11:00

Matrix: Solid

Date Received: 03/16/15 16:45

Percent Solids: 99.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		500		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Di-n-octyl phthalate	ND		500		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Fluoranthene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Fluorene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Hexachlorobenzene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Hexachlorobutadiene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Hexachlorocyclopentadiene	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Hexachloroethane	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Indeno[1,2,3-cd]pyrene	ND		40		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Isophorone	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Naphthalene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Nitrobenzene	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
N-Nitrosodi-n-propylamine	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
N-Nitrosodiphenylamine	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Pentachlorophenol	ND		200		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Phenanthrene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Phenol	ND		100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1
Pyrene	ND		20		ug/Kg	☼	03/19/15 10:42	03/30/15 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	55		28 - 143	03/19/15 10:42	03/30/15 19:08	1
2-Fluorobiphenyl	97		42 - 140	03/19/15 10:42	03/30/15 19:08	1
2-Fluorophenol (Surr)	99		36 - 145	03/19/15 10:42	03/30/15 19:08	1
Nitrobenzene-d5 (Surr)	90		38 - 141	03/19/15 10:42	03/30/15 19:08	1
Phenol-d5 (Surr)	99		38 - 149	03/19/15 10:42	03/30/15 19:08	1
Terphenyl-d14 (Surr)	92		42 - 151	03/19/15 10:42	03/30/15 19:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.9		mg/Kg	☼	03/20/15 14:12	03/20/15 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	03/20/15 14:12	03/20/15 21:37	1
Trifluorotoluene (Surr)				03/20/15 14:12	03/20/15 21:37	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg	☼	03/19/15 14:18	03/20/15 11:35	1
Motor Oil (>C24-C36)	ND		50		mg/Kg	☼	03/19/15 14:18	03/20/15 11:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	58		50 - 150	03/19/15 14:18	03/20/15 11:35	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.21		0.16		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Arsenic	2.6		0.41		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Beryllium	0.24		0.16		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Cadmium	0.18		0.16		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Chromium	15		0.41		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Copper	14		0.33		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: FB-03162015-01

Lab Sample ID: 580-48106-6

Date Collected: 03/16/15 11:00

Matrix: Solid

Date Received: 03/16/15 16:45

Percent Solids: 99.1

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.4		0.41		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Nickel	17		0.41		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Selenium	ND		0.82		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Silver	ND		0.16		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Thallium	ND		0.33		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10
Zinc	40		4.1		mg/Kg	☼	03/30/15 20:25	03/31/15 13:51	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.014		mg/Kg	☼	03/31/15 11:29	03/31/15 13:46	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: TB-031615-02

Date Collected: 03/16/15 12:01

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 15:44	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 15:44	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 15:44	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 15:44	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 15:44	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 15:44	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 15:44	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 15:44	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 15:44	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 15:44	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 15:44	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 15:44	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 15:44	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 15:44	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 15:44	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 15:44	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 15:44	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 15:44	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 15:44	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 15:44	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 15:44	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 15:44	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 15:44	1
Benzene	ND		0.20		ug/L			03/20/15 15:44	1
Bromobenzene	ND		0.20		ug/L			03/20/15 15:44	1
Bromoform	ND		0.50		ug/L			03/20/15 15:44	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 15:44	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 15:44	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 15:44	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 15:44	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 15:44	1
Chloroethane	ND		0.50		ug/L			03/20/15 15:44	1
Chloroform	ND		0.20		ug/L			03/20/15 15:44	1
Chloromethane	ND		0.30		ug/L			03/20/15 15:44	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 15:44	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 15:44	1
Dibromomethane	ND		0.20		ug/L			03/20/15 15:44	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 15:44	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 15:44	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 15:44	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 15:44	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 15:44	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 15:44	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 15:44	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 15:44	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 15:44	1
Naphthalene	ND		0.50		ug/L			03/20/15 15:44	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 15:44	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 15:44	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: TB-031615-02

Lab Sample ID: 580-48106-7

Date Collected: 03/16/15 12:01

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 15:44	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 15:44	1
Styrene	ND		0.50		ug/L			03/20/15 15:44	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 15:44	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 15:44	1
Toluene	ND		0.20		ug/L			03/20/15 15:44	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 15:44	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 15:44	1
Trichloroethene	ND		0.20		ug/L			03/20/15 15:44	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 15:44	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 128		03/20/15 15:44	1
4-Bromofluorobenzene (Surr)	97		75 - 120		03/20/15 15:44	1
Dibromofluoromethane (Surr)	99		85 - 115		03/20/15 15:44	1
Toluene-d8 (Surr)	103		75 - 125		03/20/15 15:44	1
Trifluorotoluene (Surr)	113		80 - 127		03/20/15 15:44	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 21:49	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 21:49	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 21:49	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 21:49	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 21:49	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 21:49	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 21:49	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 21:49	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 21:49	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 21:49	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 21:49	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 21:49	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 21:49	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 21:49	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 21:49	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 21:49	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 21:49	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 21:49	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 21:49	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 21:49	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 21:49	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 21:49	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 21:49	1
Benzene	ND		0.20		ug/L			03/20/15 21:49	1
Bromobenzene	ND		0.20		ug/L			03/20/15 21:49	1
Bromoform	ND		0.50		ug/L			03/20/15 21:49	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 21:49	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 21:49	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 21:49	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 21:49	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 21:49	1
Chloroethane	ND		0.50		ug/L			03/20/15 21:49	1
Chloroform	ND		0.20		ug/L			03/20/15 21:49	1
Chloromethane	ND		0.30		ug/L			03/20/15 21:49	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 21:49	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 21:49	1
Dibromomethane	ND		0.20		ug/L			03/20/15 21:49	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 21:49	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 21:49	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 21:49	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 21:49	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 21:49	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 21:49	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 21:49	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 21:49	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 21:49	1
Naphthalene	ND		0.50		ug/L			03/20/15 21:49	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 21:49	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 21:49	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 21:49	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 21:49	1
Styrene	ND		0.50		ug/L			03/20/15 21:49	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 21:49	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 21:49	1
Toluene	ND		0.20		ug/L			03/20/15 21:49	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 21:49	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 21:49	1
Trichloroethene	ND		0.20		ug/L			03/20/15 21:49	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 21:49	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 128		03/20/15 21:49	1
4-Bromofluorobenzene (Surr)	99		75 - 120		03/20/15 21:49	1
Dibromofluoromethane (Surr)	100		85 - 115		03/20/15 21:49	1
Toluene-d8 (Surr)	100		75 - 125		03/20/15 21:49	1
Trifluorotoluene (Surr)	112		80 - 127		03/20/15 21:49	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/20/15 12:03	03/24/15 14:03	1
Acenaphthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Acenaphthylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Benzo[a]anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Benzo[a]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Benzo[b]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Benzo[g,h,i]perylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Chrysene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Dibenz(a,h)anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Fluorene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Indeno[1,2,3-cd]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Naphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Phenanthrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1
Pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	11	X	64 - 150	03/20/15 12:03	03/24/15 14:03	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
2-Methylnaphthalene	ND	H	0.027		ug/L		03/30/15 16:50	04/01/15 18:06	1
Acenaphthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Acenaphthylene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Anthracene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Benzo[a]pyrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Benzo[b]fluoranthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Benzo[g,h,i]perylene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Benzo[k]fluoranthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Chrysene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Dibenz(a,h)anthracene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Fluoranthene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Fluorene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Indeno[1,2,3-cd]pyrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Naphthalene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Phenanthrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1
Pyrene	ND	H	0.021		ug/L		03/30/15 16:50	04/01/15 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		64 - 150	03/30/15 16:50	04/01/15 18:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
1,2-Dichlorobenzene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
1,3-Dichlorobenzene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
1,4-Dichlorobenzene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
1-Methylnaphthalene	ND		0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,4,5-Trichlorophenol	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,4,6-Trichlorophenol	ND		0.65		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,4-Dichlorophenol	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,4-Dimethylphenol	ND	*	2.2		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,4-Dinitrophenol	ND	*	5.4		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,4-Dinitrotoluene	ND	*	0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2,6-Dinitrotoluene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2-Chloronaphthalene	ND		0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
2-Chlorophenol	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2-Methylnaphthalene	ND		0.22		ug/L		03/20/15 14:30	03/23/15 22:11	1
2-Methylphenol	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2-Nitroaniline	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
2-Nitrophenol	ND	*	0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
3 & 4 Methylphenol	ND	*	0.86		ug/L		03/20/15 14:30	03/23/15 22:11	1
3,3'-Dichlorobenzidine	ND	*	2.2		ug/L		03/20/15 14:30	03/23/15 22:11	1
3-Nitroaniline	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
4,6-Dinitro-2-methylphenol	ND	*	4.3		ug/L		03/20/15 14:30	03/23/15 22:11	1
4-Bromophenyl phenyl ether	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
4-Chloro-3-methylphenol	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
4-Chloroaniline	ND	*	0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
4-Chlorophenyl phenyl ether	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
4-Nitroaniline	ND		0.65		ug/L		03/20/15 14:30	03/23/15 22:11	1
4-Nitrophenol	ND		3.2		ug/L		03/20/15 14:30	03/23/15 22:11	1
Acenaphthene	ND		0.11		ug/L		03/20/15 14:30	03/23/15 22:11	1
Acenaphthylene	ND	*	0.086		ug/L		03/20/15 14:30	03/23/15 22:11	1
Anthracene	ND	*	0.043		ug/L		03/20/15 14:30	03/23/15 22:11	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
Benzo[a]pyrene	ND	*	0.043		ug/L		03/20/15 14:30	03/23/15 22:11	1
Benzo[b]fluoranthene	ND		0.086		ug/L		03/20/15 14:30	03/23/15 22:11	1
Benzo[g,h,i]perylene	ND		0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
Benzo[k]fluoranthene	ND		0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
Benzoic acid	ND		3.2		ug/L		03/20/15 14:30	03/23/15 22:11	1
Benzyl alcohol	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Bis(2-chloroethoxy)methane	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Bis(2-chloroethyl)ether	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Bis(2-ethylhexyl) phthalate	ND	*	3.2		ug/L		03/20/15 14:30	03/23/15 22:11	1
bis(chloroisopropyl) ether	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Butyl benzyl phthalate	ND		0.65		ug/L		03/20/15 14:30	03/23/15 22:11	1
Carbazole	ND	*	0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Chrysene	ND		0.043		ug/L		03/20/15 14:30	03/23/15 22:11	1
Dibenz(a,h)anthracene	ND	*	0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
Dibenzofuran	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Diethyl phthalate	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Dimethyl phthalate	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Di-n-butyl phthalate	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Di-n-octyl phthalate	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Fluoranthene	ND	*	0.054		ug/L		03/20/15 14:30	03/23/15 22:11	1
Fluorene	ND		0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
Hexachlorobenzene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Hexachlorobutadiene	ND		0.65		ug/L		03/20/15 14:30	03/23/15 22:11	1
Hexachlorocyclopentadiene	ND	*	2.2		ug/L		03/20/15 14:30	03/23/15 22:11	1
Hexachloroethane	ND		0.65		ug/L		03/20/15 14:30	03/23/15 22:11	1
Indeno[1,2,3-cd]pyrene	ND	*	0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1
Isophorone	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Naphthalene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Nitrobenzene	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
N-Nitrosodi-n-propylamine	ND	*	0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
N-Nitrosodiphenylamine	ND		0.43		ug/L		03/20/15 14:30	03/23/15 22:11	1
Pentachlorophenol	ND	*	0.75		ug/L		03/20/15 14:30	03/23/15 22:11	1
Phenanthrene	ND	*	0.086		ug/L		03/20/15 14:30	03/23/15 22:11	1
Phenol	ND		0.65		ug/L		03/20/15 14:30	03/23/15 22:11	1
Pyrene	ND	*	0.065		ug/L		03/20/15 14:30	03/23/15 22:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	67		44 - 125	03/20/15 14:30	03/23/15 22:11	1
2-Fluorobiphenyl	68		50 - 120	03/20/15 14:30	03/23/15 22:11	1
2-Fluorophenol (Surr)	59		30 - 134	03/20/15 14:30	03/23/15 22:11	1
Nitrobenzene-d5 (Surr)	67		59 - 120	03/20/15 14:30	03/23/15 22:11	1
Phenol-d5 (Surr)	65		52 - 120	03/20/15 14:30	03/23/15 22:11	1
Terphenyl-d14 (Surr)	68		64 - 150	03/20/15 14:30	03/23/15 22:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
1,2-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
1,3-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
1-Methylnaphthalene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,4,5-Trichlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,4,6-Trichlorophenol	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,4-Dichlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,4-Dimethylphenol	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,4-Dinitrophenol	ND	H *	4.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,4-Dinitrotoluene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2,6-Dinitrotoluene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2-Chloronaphthalene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
2-Chlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2-Methylnaphthalene	ND	H	0.19		ug/L		04/02/15 17:23	04/07/15 15:52	1
2-Methylphenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2-Nitroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
2-Nitrophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
3 & 4 Methylphenol	ND	H	0.78		ug/L		04/02/15 17:23	04/07/15 15:52	1
3,3'-Dichlorobenzidine	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
3-Nitroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
4,6-Dinitro-2-methylphenol	ND	H	3.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
4-Bromophenyl phenyl ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
4-Chloro-3-methylphenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
4-Chloroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
4-Chlorophenyl phenyl ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
4-Nitroaniline	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:52	1
4-Nitrophenol	ND	H	2.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
Acenaphthene	ND	H	0.097		ug/L		04/02/15 17:23	04/07/15 15:52	1
Acenaphthylene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 15:52	1
Anthracene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzo[a]anthracene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzo[a]pyrene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzo[b]fluoranthene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzo[g,h,i]perylene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzo[k]fluoranthene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzoic acid	ND	H *	2.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
Benzyl alcohol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Bis(2-chloroethoxy)methane	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Bis(2-chloroethyl)ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Bis(2-ethylhexyl) phthalate	ND	H *	2.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
bis(chloroisopropyl) ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Butyl benzyl phthalate	0.75	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:52	1
Carbazole	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Chrysene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 15:52	1
Dibenz(a,h)anthracene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
Dibenzofuran	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Diethyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Dimethyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Di-n-butyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Di-n-octyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Fluoranthene	ND	H	0.049		ug/L		04/02/15 17:23	04/07/15 15:52	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
Hexachlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Hexachlorobutadiene	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:52	1
Hexachlorocyclopentadiene	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 15:52	1
Hexachloroethane	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:52	1
Indeno[1,2,3-cd]pyrene	ND	H ^	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1
Isophorone	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Naphthalene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Nitrobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
N-Nitrosodi-n-propylamine	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
N-Nitrosodiphenylamine	ND	H *	0.39		ug/L		04/02/15 17:23	04/07/15 15:52	1
Pentachlorophenol	ND	H	0.68		ug/L		04/02/15 17:23	04/07/15 15:52	1
Phenanthrene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 15:52	1
Phenol	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 15:52	1
Pyrene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	101		44 - 125	04/02/15 17:23	04/07/15 15:52	1
2-Fluorobiphenyl	78		50 - 120	04/02/15 17:23	04/07/15 15:52	1
2-Fluorophenol (Surr)	79		30 - 134	04/02/15 17:23	04/07/15 15:52	1
Nitrobenzene-d5 (Surr)	89		59 - 120	04/02/15 17:23	04/07/15 15:52	1
Phenol-d5 (Surr)	85		52 - 120	04/02/15 17:23	04/07/15 15:52	1
Terphenyl-d14 (Surr)	102		64 - 150	04/02/15 17:23	04/07/15 15:52	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.18	Y	0.13		mg/L		03/24/15 21:40	03/25/15 14:15	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/24/15 21:40	03/25/15 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	72		50 - 150	03/24/15 21:40	03/25/15 14:15	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:53	5
Arsenic	0.0056		0.0050		mg/L		03/31/15 18:13	04/01/15 09:53	5
Beryllium	0.0021		0.0020		mg/L		03/31/15 18:13	04/01/15 09:53	5
Cadmium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:53	5
Chromium	0.063		0.0020		mg/L		03/31/15 18:13	04/01/15 09:53	5
Copper	0.065		0.010		mg/L		03/31/15 18:13	04/01/15 09:53	5
Lead	0.0068		0.0020		mg/L		03/31/15 18:13	04/01/15 09:53	5
Nickel	0.090		0.015		mg/L		03/31/15 18:13	04/01/15 09:53	5
Selenium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:53	5
Silver	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:53	5
Thallium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:53	5
Zinc	0.080		0.035		mg/L		03/31/15 18:13	04/01/15 09:53	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 16:33	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: TB-031615-01

Lab Sample ID: 580-48106-9

Date Collected: 03/16/15 12:01

Matrix: Solid

Date Received: 03/16/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Benzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Bromobenzene	ND		10		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Bromochloromethane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Bromodichloromethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Bromoform	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Bromomethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Chlorobenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Chloroethane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Chloroform	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Chloromethane	ND *		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Dibromochloromethane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Dibromomethane	ND		1.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Dichlorodifluoromethane	ND *		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Ethylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Isopropylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Methylene Chloride	ND		15		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Naphthalene	ND		10		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
n-Butylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
N-Propylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: TB-031615-01

Lab Sample ID: 580-48106-9

Date Collected: 03/16/15 12:01

Matrix: Solid

Date Received: 03/16/15 16:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Styrene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
t-Butylbenzene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Tetrachloroethene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Toluene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
trans-1,3-Dichloropropene	ND	*	10		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Trichloroethene	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1
Vinyl chloride	ND		2.0		ug/Kg		03/16/15 17:00	03/20/15 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		71 - 136	03/16/15 17:00	03/20/15 15:05	1
4-Bromofluorobenzene (Surr)	94		70 - 120	03/16/15 17:00	03/20/15 15:05	1
Dibromofluoromethane (Surr)	89		75 - 132	03/16/15 17:00	03/20/15 15:05	1
Toluene-d8 (Surr)	110		80 - 120	03/16/15 17:00	03/20/15 15:05	1
Trifluorotoluene (Surr)	96		65 - 140	03/16/15 17:00	03/20/15 15:05	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/20/15 14:12	03/20/15 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150	03/20/15 14:12	03/20/15 19:01	1
Trifluorotoluene (Surr)				03/20/15 14:12	03/20/15 19:01	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-1-6

Date Collected: 03/16/15 09:21

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-10

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			03/20/15 17:40	1
Percent Moisture	16		0.10		%			03/20/15 17:40	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-1-6

Date Collected: 03/16/15 09:21

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-10

Matrix: Solid

Percent Solids: 84.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,1,1-Trichloroethane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,1,2,2-Tetrachloroethane	ND		4.3		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,1,2-Trichloroethane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,1-Dichloroethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,1-Dichloroethene	ND		5.3		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,1-Dichloropropene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2,3-Trichlorobenzene	ND		3.2		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2,3-Trichloropropane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2,4-Trichlorobenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2,4-Trimethylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2-Dibromo-3-Chloropropane	ND		11		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2-Dibromoethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2-Dichlorobenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2-Dichloroethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,2-Dichloropropane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,3,5-Trimethylbenzene	ND		5.3		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,3-Dichlorobenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,3-Dichloropropane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
1,4-Dichlorobenzene	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
2,2-Dichloropropane	ND		5.3		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
2-Chlorotoluene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
4-Chlorotoluene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
4-Isopropyltoluene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Benzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Bromobenzene	ND		11		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Bromochloromethane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Bromodichloromethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Bromoform	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Bromomethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Carbon tetrachloride	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Chlorobenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Chloroethane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Chloroform	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Chloromethane	ND *		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
cis-1,2-Dichloroethene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
cis-1,3-Dichloropropene	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Dibromochloromethane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Dibromomethane	ND		1.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Dichlorodifluoromethane	ND *		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Ethylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Hexachlorobutadiene	ND		3.2		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Isopropylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Methyl tert-butyl ether	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Methylene Chloride	ND		16		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
m-Xylene & p-Xylene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Naphthalene	ND		11		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
n-Butylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
N-Propylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-1-6

Date Collected: 03/16/15 09:21

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-10

Matrix: Solid

Percent Solids: 84.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
sec-Butylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Styrene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
t-Butylbenzene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Tetrachloroethene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Toluene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
trans-1,2-Dichloroethene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
trans-1,3-Dichloropropene	ND	*	11		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Trichloroethene	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Trichlorofluoromethane	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1
Vinyl chloride	ND		2.1		ug/Kg	☼	03/16/15 17:00	03/20/15 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 136	03/16/15 17:00	03/20/15 20:46	1
4-Bromofluorobenzene (Surr)	96		70 - 120	03/16/15 17:00	03/20/15 20:46	1
Dibromofluoromethane (Surr)	99		75 - 132	03/16/15 17:00	03/20/15 20:46	1
Toluene-d8 (Surr)	105		80 - 120	03/16/15 17:00	03/20/15 20:46	1
Trifluorotoluene (Surr)	99		65 - 140	03/16/15 17:00	03/20/15 20:46	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
1,2-Dichlorobenzene	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
1,3-Dichlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
1,4-Dichlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
1-Methylnaphthalene	ND		34		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,4,5-Trichlorophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,4,6-Trichlorophenol	ND		170		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,4-Dichlorophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,4-Dimethylphenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,4-Dinitrophenol	ND		1100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,4-Dinitrotoluene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2,6-Dinitrotoluene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2-Chloronaphthalene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2-Chlorophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2-Methylnaphthalene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2-Methylphenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2-Nitroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
2-Nitrophenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
3 & 4 Methylphenol	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
3,3'-Dichlorobenzidine	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
3-Nitroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4,6-Dinitro-2-methylphenol	ND		1100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4-Bromophenyl phenyl ether	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4-Chloro-3-methylphenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4-Chloroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4-Chlorophenyl phenyl ether	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4-Nitroaniline	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
4-Nitrophenol	ND		1100		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Acenaphthene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-1-6

Date Collected: 03/16/15 09:21

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-10

Matrix: Solid

Percent Solids: 84.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Anthracene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzo[a]anthracene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzo[a]pyrene	ND		34		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzo[b]fluoranthene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzo[g,h,i]perylene	ND		29		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzo[k]fluoranthene	ND		29		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzoic acid	ND		2900		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Benzyl alcohol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Bis(2-chloroethoxy)methane	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Bis(2-chloroethyl)ether	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Bis(2-ethylhexyl) phthalate	ND		690		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
bis(chloroisopropyl) ether	ND		290		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Butyl benzyl phthalate	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Carbazole	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Chrysene	ND		29		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Dibenz(a,h)anthracene	ND		46		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Dibenzofuran	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Diethyl phthalate	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Dimethyl phthalate	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Di-n-butyl phthalate	ND		570		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Di-n-octyl phthalate	ND		570		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Fluoranthene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Fluorene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Hexachlorobenzene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Hexachlorobutadiene	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Hexachlorocyclopentadiene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Hexachloroethane	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Indeno[1,2,3-cd]pyrene	ND		46		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Isophorone	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Naphthalene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Nitrobenzene	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
N-Nitrosodi-n-propylamine	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
N-Nitrosodiphenylamine	ND		57		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Pentachlorophenol	ND		230		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Phenanthrene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Phenol	ND		110		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1
Pyrene	ND		23		ug/Kg	☼	03/19/15 10:42	03/30/15 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	62		28 - 143	03/19/15 10:42	03/30/15 19:35	1
2-Fluorobiphenyl	90		42 - 140	03/19/15 10:42	03/30/15 19:35	1
2-Fluorophenol (Surr)	99		36 - 145	03/19/15 10:42	03/30/15 19:35	1
Nitrobenzene-d5 (Surr)	87		38 - 141	03/19/15 10:42	03/30/15 19:35	1
Phenol-d5 (Surr)	98		38 - 149	03/19/15 10:42	03/30/15 19:35	1
Terphenyl-d14 (Surr)	89		42 - 151	03/19/15 10:42	03/30/15 19:35	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		29		mg/Kg	☼	03/19/15 14:18	03/20/15 11:54	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-1-6

Date Collected: 03/16/15 09:21

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-10

Matrix: Solid

Percent Solids: 84.3

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	ND		59		mg/Kg	☼	03/19/15 14:18	03/20/15 11:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	69		50 - 150	03/19/15 14:18	03/20/15 11:54	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5

Date Collected: 03/16/15 09:55

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-11

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79		0.10		%			03/20/15 17:40	1
Percent Moisture	21		0.10		%			03/20/15 17:40	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5

Date Collected: 03/16/15 09:55

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-11

Matrix: Solid

Percent Solids: 79.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,1,1-Trichloroethane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,1,2,2-Tetrachloroethane	ND		3.6		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,1,2-Trichloroethane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,1-Dichloroethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,1-Dichloroethene	ND		4.4		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,1-Dichloropropene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2,3-Trichlorobenzene	ND		2.7		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2,3-Trichloropropane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2,4-Trichlorobenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2,4-Trimethylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2-Dibromo-3-Chloropropane	ND		8.9		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2-Dibromoethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2-Dichloroethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,2-Dichloropropane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,3,5-Trimethylbenzene	ND		4.4		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,3-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,3-Dichloropropane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
1,4-Dichlorobenzene	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
2,2-Dichloropropane	ND		4.4		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
2-Chlorotoluene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
4-Chlorotoluene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
4-Isopropyltoluene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Benzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Bromobenzene	ND		8.9		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Bromochloromethane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Bromodichloromethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Bromoform	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Bromomethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Carbon tetrachloride	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Chlorobenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Chloroethane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Chloroform	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Chloromethane	ND *		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
cis-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
cis-1,3-Dichloropropene	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Dibromochloromethane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Dibromomethane	ND		0.89		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Dichlorodifluoromethane	ND *		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Ethylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Hexachlorobutadiene	ND		2.7		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Isopropylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Methyl tert-butyl ether	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Methylene Chloride	ND		13		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
m-Xylene & p-Xylene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Naphthalene	ND		8.9		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
n-Butylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
N-Propylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5

Date Collected: 03/16/15 09:55

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-11

Matrix: Solid

Percent Solids: 79.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
sec-Butylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Styrene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
t-Butylbenzene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Tetrachloroethene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Toluene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
trans-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
trans-1,3-Dichloropropene	ND	*	8.9		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Trichloroethene	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Trichlorofluoromethane	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1
Vinyl chloride	ND		1.8		ug/Kg	☼	03/16/15 17:00	03/20/15 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		71 - 136	03/16/15 17:00	03/20/15 16:58	1
4-Bromofluorobenzene (Surr)	97		70 - 120	03/16/15 17:00	03/20/15 16:58	1
Dibromofluoromethane (Surr)	95		75 - 132	03/16/15 17:00	03/20/15 16:58	1
Toluene-d8 (Surr)	105		80 - 120	03/16/15 17:00	03/20/15 16:58	1
Trifluorotoluene (Surr)	104		65 - 140	03/16/15 17:00	03/20/15 16:58	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
1,2-Dichlorobenzene	ND		69		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
1,3-Dichlorobenzene	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
1,4-Dichlorobenzene	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
1-Methylnaphthalene	ND		38		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,4,5-Trichlorophenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,4,6-Trichlorophenol	ND		190		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,4-Dichlorophenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,4-Dimethylphenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,4-Dinitrophenol	ND		1300		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,4-Dinitrotoluene	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2,6-Dinitrotoluene	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2-Chloronaphthalene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2-Chlorophenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2-Methylnaphthalene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2-Methylphenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2-Nitroaniline	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
2-Nitrophenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
3 & 4 Methylphenol	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
3,3'-Dichlorobenzidine	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
3-Nitroaniline	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4,6-Dinitro-2-methylphenol	ND		1300		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4-Bromophenyl phenyl ether	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4-Chloro-3-methylphenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4-Chloroaniline	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4-Chlorophenyl phenyl ether	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4-Nitroaniline	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
4-Nitrophenol	ND		1300		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Acenaphthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5

Date Collected: 03/16/15 09:55

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-11

Matrix: Solid

Percent Solids: 79.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Anthracene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzo[a]anthracene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzo[a]pyrene	ND		38		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzo[b]fluoranthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzo[g,h,i]perylene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzo[k]fluoranthene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzoic acid	ND		3100		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Benzyl alcohol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Bis(2-chloroethoxy)methane	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Bis(2-chloroethyl)ether	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Bis(2-ethylhexyl) phthalate	ND		750		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
bis(chloroisopropyl) ether	ND		310		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Butyl benzyl phthalate	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Carbazole	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Chrysene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Dibenz(a,h)anthracene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Dibenzofuran	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Diethyl phthalate	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Dimethyl phthalate	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Di-n-butyl phthalate	ND		630		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Di-n-octyl phthalate	ND		630		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Fluoranthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Fluorene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Hexachlorobenzene	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Hexachlorobutadiene	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Hexachlorocyclopentadiene	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Hexachloroethane	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Indeno[1,2,3-cd]pyrene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Isophorone	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Naphthalene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Nitrobenzene	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
N-Nitrosodi-n-propylamine	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
N-Nitrosodiphenylamine	ND		63		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Pentachlorophenol	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Phenanthrene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Phenol	ND		130		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1
Pyrene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	54		28 - 143	03/19/15 10:42	03/30/15 20:01	1
2-Fluorobiphenyl	83		42 - 140	03/19/15 10:42	03/30/15 20:01	1
2-Fluorophenol (Surr)	87		36 - 145	03/19/15 10:42	03/30/15 20:01	1
Nitrobenzene-d5 (Surr)	73		38 - 141	03/19/15 10:42	03/30/15 20:01	1
Phenol-d5 (Surr)	86		38 - 149	03/19/15 10:42	03/30/15 20:01	1
Terphenyl-d14 (Surr)	81		42 - 151	03/19/15 10:42	03/30/15 20:01	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.2		mg/Kg	☼	03/20/15 14:12	03/20/15 22:08	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5

Date Collected: 03/16/15 09:55

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-11

Matrix: Solid

Percent Solids: 79.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	03/20/15 14:12	03/20/15 22:08	1
Trifluorotoluene (Surr)				03/20/15 14:12	03/20/15 22:08	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		31		mg/Kg	✱	03/19/15 14:18	03/20/15 12:12	1
Motor Oil (>C24-C36)	ND		63		mg/Kg	✱	03/19/15 14:18	03/20/15 12:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	63		50 - 150	03/19/15 14:18	03/20/15 12:12	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.26		0.21		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Arsenic	3.9		0.52		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Beryllium	0.24		0.21		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Cadmium	ND		0.21		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Chromium	43		0.52		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Copper	17		0.42		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Lead	3.0		0.52		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Nickel	45		0.52		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Selenium	ND		1.0		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Silver	ND		0.21		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Thallium	ND		0.42		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10
Zinc	34		5.2		mg/Kg	✱	03/30/15 20:25	03/31/15 13:55	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.034		0.020		mg/Kg	✱	03/31/15 11:29	03/31/15 14:05	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 20:05	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 20:05	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 20:05	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 20:05	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 20:05	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 20:05	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 20:05	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 20:05	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 20:05	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 20:05	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 20:05	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 20:05	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:05	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 20:05	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 20:05	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 20:05	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:05	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 20:05	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:05	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 20:05	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 20:05	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 20:05	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 20:05	1
Benzene	ND		0.20		ug/L			03/20/15 20:05	1
Bromobenzene	ND		0.20		ug/L			03/20/15 20:05	1
Bromoform	ND		0.50		ug/L			03/20/15 20:05	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 20:05	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 20:05	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 20:05	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 20:05	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 20:05	1
Chloroethane	ND		0.50		ug/L			03/20/15 20:05	1
Chloroform	ND		0.20		ug/L			03/20/15 20:05	1
Chloromethane	ND		0.30		ug/L			03/20/15 20:05	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 20:05	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 20:05	1
Dibromomethane	ND		0.20		ug/L			03/20/15 20:05	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 20:05	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 20:05	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 20:05	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 20:05	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 20:05	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 20:05	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 20:05	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 20:05	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 20:05	1
Naphthalene	ND		0.50		ug/L			03/20/15 20:05	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 20:05	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 20:05	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 20:05	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 20:05	1
Styrene	ND		0.50		ug/L			03/20/15 20:05	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 20:05	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 20:05	1
Toluene	ND		0.20		ug/L			03/20/15 20:05	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 20:05	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 20:05	1
Trichloroethene	ND		0.20		ug/L			03/20/15 20:05	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 20:05	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 128		03/20/15 20:05	1
4-Bromofluorobenzene (Surr)	98		75 - 120		03/20/15 20:05	1
Dibromofluoromethane (Surr)	101		85 - 115		03/20/15 20:05	1
Toluene-d8 (Surr)	101		75 - 125		03/20/15 20:05	1
Trifluorotoluene (Surr)	112		80 - 127		03/20/15 20:05	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/20/15 12:03	03/24/15 14:25	1
Acenaphthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Acenaphthylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Benzo[a]anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Benzo[a]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Benzo[b]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Benzo[g,h,i]perylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Chrysene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Dibenz(a,h)anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Fluorene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Indeno[1,2,3-cd]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Naphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Phenanthrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1
Pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		64 - 150	03/20/15 12:03	03/24/15 14:25	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
2-Methylnaphthalene	ND	H	0.026		ug/L		03/30/15 16:50	04/01/15 18:27	1
Acenaphthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Acenaphthylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Benzo[a]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Benzo[b]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Benzo[g,h,i]perylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Benzo[k]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Chrysene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Dibenz(a,h)anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Fluorene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Indeno[1,2,3-cd]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Naphthalene	0.040	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Phenanthrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1
Pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		64 - 150	03/30/15 16:50	04/01/15 18:27	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
1,2-Dichlorobenzene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
1,3-Dichlorobenzene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
1,4-Dichlorobenzene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
1-Methylnaphthalene	ND		0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,4,5-Trichlorophenol	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,4,6-Trichlorophenol	ND		0.58		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,4-Dichlorophenol	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,4-Dimethylphenol	ND	*	1.9		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,4-Dinitrophenol	ND	*	4.8		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,4-Dinitrotoluene	ND	*	0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2,6-Dinitrotoluene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2-Chloronaphthalene	ND		0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
2-Chlorophenol	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2-Methylnaphthalene	ND		0.19		ug/L		03/20/15 14:30	03/23/15 22:37	1
2-Methylphenol	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2-Nitroaniline	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
2-Nitrophenol	ND	*	0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
3 & 4 Methylphenol	ND	*	0.77		ug/L		03/20/15 14:30	03/23/15 22:37	1
3,3'-Dichlorobenzidine	ND	*	1.9		ug/L		03/20/15 14:30	03/23/15 22:37	1
3-Nitroaniline	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
4,6-Dinitro-2-methylphenol	ND	*	3.8		ug/L		03/20/15 14:30	03/23/15 22:37	1
4-Bromophenyl phenyl ether	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
4-Chloro-3-methylphenol	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
4-Chloroaniline	ND	*	0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
4-Chlorophenyl phenyl ether	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
4-Nitroaniline	ND		0.58		ug/L		03/20/15 14:30	03/23/15 22:37	1
4-Nitrophenol	ND		2.9		ug/L		03/20/15 14:30	03/23/15 22:37	1
Acenaphthene	ND		0.096		ug/L		03/20/15 14:30	03/23/15 22:37	1
Acenaphthylene	ND	*	0.077		ug/L		03/20/15 14:30	03/23/15 22:37	1
Anthracene	ND	*	0.038		ug/L		03/20/15 14:30	03/23/15 22:37	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
Benzo[a]pyrene	ND	*	0.038		ug/L		03/20/15 14:30	03/23/15 22:37	1
Benzo[b]fluoranthene	ND		0.077		ug/L		03/20/15 14:30	03/23/15 22:37	1
Benzo[g,h,i]perylene	ND		0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
Benzo[k]fluoranthene	ND		0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
Benzoic acid	ND		2.9		ug/L		03/20/15 14:30	03/23/15 22:37	1
Benzyl alcohol	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Bis(2-chloroethoxy)methane	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Bis(2-chloroethyl)ether	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Bis(2-ethylhexyl) phthalate	ND	*	2.9		ug/L		03/20/15 14:30	03/23/15 22:37	1
bis(chloroisopropyl) ether	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Butyl benzyl phthalate	ND		0.58		ug/L		03/20/15 14:30	03/23/15 22:37	1
Carbazole	ND	*	0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Chrysene	ND		0.038		ug/L		03/20/15 14:30	03/23/15 22:37	1
Dibenz(a,h)anthracene	ND	*	0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
Dibenzofuran	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Diethyl phthalate	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Dimethyl phthalate	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Di-n-butyl phthalate	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Di-n-octyl phthalate	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Fluoranthene	ND	*	0.048		ug/L		03/20/15 14:30	03/23/15 22:37	1
Fluorene	ND		0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
Hexachlorobenzene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Hexachlorobutadiene	ND		0.58		ug/L		03/20/15 14:30	03/23/15 22:37	1
Hexachlorocyclopentadiene	ND	*	1.9		ug/L		03/20/15 14:30	03/23/15 22:37	1
Hexachloroethane	ND		0.58		ug/L		03/20/15 14:30	03/23/15 22:37	1
Indeno[1,2,3-cd]pyrene	ND	*	0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1
Isophorone	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Naphthalene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Nitrobenzene	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
N-Nitrosodi-n-propylamine	ND	*	0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
N-Nitrosodiphenylamine	ND		0.38		ug/L		03/20/15 14:30	03/23/15 22:37	1
Pentachlorophenol	ND	*	0.67		ug/L		03/20/15 14:30	03/23/15 22:37	1
Phenanthrene	ND	*	0.077		ug/L		03/20/15 14:30	03/23/15 22:37	1
Phenol	ND		0.58		ug/L		03/20/15 14:30	03/23/15 22:37	1
Pyrene	ND	*	0.058		ug/L		03/20/15 14:30	03/23/15 22:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	68		44 - 125	03/20/15 14:30	03/23/15 22:37	1
2-Fluorobiphenyl	77		50 - 120	03/20/15 14:30	03/23/15 22:37	1
2-Fluorophenol (Surr)	72		30 - 134	03/20/15 14:30	03/23/15 22:37	1
Nitrobenzene-d5 (Surr)	47	X	59 - 120	03/20/15 14:30	03/23/15 22:37	1
Phenol-d5 (Surr)	79		52 - 120	03/20/15 14:30	03/23/15 22:37	1
Terphenyl-d14 (Surr)	89		64 - 150	03/20/15 14:30	03/23/15 22:37	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
1,2-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
1,3-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
1-Methylnaphthalene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,4,5-Trichlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,4,6-Trichlorophenol	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,4-Dichlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,4-Dimethylphenol	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,4-Dinitrophenol	ND	H *	4.8		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,4-Dinitrotoluene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2,6-Dinitrotoluene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2-Chloronaphthalene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
2-Chlorophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2-Methylnaphthalene	ND	H	0.19		ug/L		04/02/15 17:23	04/07/15 16:17	1
2-Methylphenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2-Nitroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
2-Nitrophenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
3 & 4 Methylphenol	ND	H	0.78		ug/L		04/02/15 17:23	04/07/15 16:17	1
3,3'-Dichlorobenzidine	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
3-Nitroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
4,6-Dinitro-2-methylphenol	ND	H	3.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
4-Bromophenyl phenyl ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
4-Chloro-3-methylphenol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
4-Chloroaniline	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
4-Chlorophenyl phenyl ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
4-Nitroaniline	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 16:17	1
4-Nitrophenol	ND	H	2.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
Acenaphthene	ND	H	0.097		ug/L		04/02/15 17:23	04/07/15 16:17	1
Acenaphthylene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 16:17	1
Anthracene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzo[a]anthracene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzo[a]pyrene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzo[b]fluoranthene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzo[g,h,i]perylene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzo[k]fluoranthene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzoic acid	ND	H *	2.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
Benzyl alcohol	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Bis(2-chloroethoxy)methane	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Bis(2-chloroethyl)ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Bis(2-ethylhexyl) phthalate	3.3	H B *	2.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
bis(chloroisopropyl) ether	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Butyl benzyl phthalate	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 16:17	1
Carbazole	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Chrysene	ND	H	0.039		ug/L		04/02/15 17:23	04/07/15 16:17	1
Dibenz(a,h)anthracene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
Dibenzofuran	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Diethyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Dimethyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Di-n-butyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Di-n-octyl phthalate	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Fluoranthene	ND	H	0.048		ug/L		04/02/15 17:23	04/07/15 16:17	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
Hexachlorobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Hexachlorobutadiene	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 16:17	1
Hexachlorocyclopentadiene	ND	H	1.9		ug/L		04/02/15 17:23	04/07/15 16:17	1
Hexachloroethane	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 16:17	1
Indeno[1,2,3-cd]pyrene	ND	H ^	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1
Isophorone	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Naphthalene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Nitrobenzene	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
N-Nitrosodi-n-propylamine	ND	H	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
N-Nitrosodiphenylamine	ND	H *	0.39		ug/L		04/02/15 17:23	04/07/15 16:17	1
Pentachlorophenol	ND	H	0.68		ug/L		04/02/15 17:23	04/07/15 16:17	1
Phenanthrene	ND	H	0.078		ug/L		04/02/15 17:23	04/07/15 16:17	1
Phenol	ND	H	0.58		ug/L		04/02/15 17:23	04/07/15 16:17	1
Pyrene	ND	H	0.058		ug/L		04/02/15 17:23	04/07/15 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	98		44 - 125	04/02/15 17:23	04/07/15 16:17	1
2-Fluorobiphenyl	82		50 - 120	04/02/15 17:23	04/07/15 16:17	1
2-Fluorophenol (Surr)	79		30 - 134	04/02/15 17:23	04/07/15 16:17	1
Nitrobenzene-d5 (Surr)	91		59 - 120	04/02/15 17:23	04/07/15 16:17	1
Phenol-d5 (Surr)	86		52 - 120	04/02/15 17:23	04/07/15 16:17	1
Terphenyl-d14 (Surr)	103		64 - 150	04/02/15 17:23	04/07/15 16:17	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/24/15 21:40	03/25/15 14:33	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/24/15 21:40	03/25/15 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/24/15 21:40	03/25/15 14:33	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:57	5
Arsenic	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:57	5
Beryllium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:57	5
Cadmium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:57	5
Chromium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:57	5
Copper	ND		0.010		mg/L		03/31/15 18:13	04/01/15 09:57	5
Lead	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:57	5
Nickel	ND		0.015		mg/L		03/31/15 18:13	04/01/15 09:57	5
Selenium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:57	5
Silver	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 09:57	5
Thallium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 09:57	5
Zinc	ND		0.035		mg/L		03/31/15 18:13	04/01/15 09:57	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 16:35	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-4

Date Collected: 03/16/15 14:10

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-13

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			03/24/15 08:09	1
Percent Moisture	20		0.10		%			03/24/15 08:09	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-4

Date Collected: 03/16/15 14:10

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-13

Matrix: Solid

Percent Solids: 79.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,1,1-Trichloroethane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,1,2,2-Tetrachloroethane	ND		3.4		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,1,2-Trichloroethane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,1-Dichloroethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,1-Dichloroethene	ND		4.3		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,1-Dichloropropene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2,3-Trichlorobenzene	ND		2.6		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2,3-Trichloropropane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2,4-Trichlorobenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2,4-Trimethylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2-Dibromo-3-Chloropropane	ND		8.6		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2-Dibromoethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2-Dichlorobenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2-Dichloroethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,2-Dichloropropane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,3,5-Trimethylbenzene	ND		4.3		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,3-Dichlorobenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,3-Dichloropropane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
1,4-Dichlorobenzene	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
2,2-Dichloropropane	ND		4.3		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
2-Chlorotoluene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
4-Chlorotoluene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
4-Isopropyltoluene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Benzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Bromobenzene	ND		8.6		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Bromochloromethane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Bromodichloromethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Bromoform	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Bromomethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Carbon tetrachloride	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Chlorobenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Chloroethane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Chloroform	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Chloromethane	ND *		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
cis-1,2-Dichloroethene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
cis-1,3-Dichloropropene	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Dibromochloromethane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Dibromomethane	ND		0.86		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Dichlorodifluoromethane	ND *		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Ethylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Hexachlorobutadiene	ND		2.6		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Isopropylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Methyl tert-butyl ether	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Methylene Chloride	ND		13		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
m-Xylene & p-Xylene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Naphthalene	ND		8.6		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
n-Butylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
N-Propylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-4

Date Collected: 03/16/15 14:10

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-13

Matrix: Solid

Percent Solids: 79.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
sec-Butylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Styrene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
t-Butylbenzene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Tetrachloroethene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Toluene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
trans-1,2-Dichloroethene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
trans-1,3-Dichloropropene	ND	*	8.6		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Trichloroethene	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Trichlorofluoromethane	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1
Vinyl chloride	ND		1.7		ug/Kg	☼	03/16/15 17:00	03/20/15 19:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 136	03/16/15 17:00	03/20/15 19:56	1
4-Bromofluorobenzene (Surr)	96		70 - 120	03/16/15 17:00	03/20/15 19:56	1
Dibromofluoromethane (Surr)	98		75 - 132	03/16/15 17:00	03/20/15 19:56	1
Toluene-d8 (Surr)	105		80 - 120	03/16/15 17:00	03/20/15 19:56	1
Trifluorotoluene (Surr)	102		65 - 140	03/16/15 17:00	03/20/15 19:56	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
1,2-Dichlorobenzene	ND		68		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
1,3-Dichlorobenzene	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
1,4-Dichlorobenzene	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
1-Methylnaphthalene	ND		37		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,4,5-Trichlorophenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,4,6-Trichlorophenol	ND		190		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,4-Dichlorophenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,4-Dimethylphenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,4-Dinitrophenol	ND		1200		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,4-Dinitrotoluene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2,6-Dinitrotoluene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2-Chloronaphthalene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2-Chlorophenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2-Methylnaphthalene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2-Methylphenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2-Nitroaniline	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
2-Nitrophenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
3 & 4 Methylphenol	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
3,3'-Dichlorobenzidine	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
3-Nitroaniline	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4,6-Dinitro-2-methylphenol	ND		1200		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4-Bromophenyl phenyl ether	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4-Chloro-3-methylphenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4-Chloroaniline	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4-Chlorophenyl phenyl ether	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4-Nitroaniline	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
4-Nitrophenol	ND		1200		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Acenaphthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-4

Date Collected: 03/16/15 14:10

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-13

Matrix: Solid

Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Anthracene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzo[a]anthracene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzo[a]pyrene	ND		37		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzo[b]fluoranthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzo[g,h,i]perylene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzo[k]fluoranthene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzoic acid	ND		3100		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Benzyl alcohol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Bis(2-chloroethoxy)methane	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Bis(2-chloroethyl)ether	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Bis(2-ethylhexyl) phthalate	ND		740		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
bis(chloroisopropyl) ether	ND		310		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Butyl benzyl phthalate	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Carbazole	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Chrysene	ND		31		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Dibenz(a,h)anthracene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Dibenzofuran	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Diethyl phthalate	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Dimethyl phthalate	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Di-n-butyl phthalate	ND		620		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Di-n-octyl phthalate	ND		620		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Fluoranthene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Fluorene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Hexachlorobenzene	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Hexachlorobutadiene	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Hexachlorocyclopentadiene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Hexachloroethane	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Indeno[1,2,3-cd]pyrene	ND		50		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Isophorone	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Naphthalene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Nitrobenzene	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
N-Nitrosodi-n-propylamine	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
N-Nitrosodiphenylamine	ND		62		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Pentachlorophenol	ND		250		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Phenanthrene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Phenol	ND		120		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1
Pyrene	ND		25		ug/Kg	☼	03/19/15 10:42	03/30/15 20:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	55		28 - 143	03/19/15 10:42	03/30/15 20:28	1
2-Fluorobiphenyl	75		42 - 140	03/19/15 10:42	03/30/15 20:28	1
2-Fluorophenol (Surr)	91		36 - 145	03/19/15 10:42	03/30/15 20:28	1
Nitrobenzene-d5 (Surr)	76		38 - 141	03/19/15 10:42	03/30/15 20:28	1
Phenol-d5 (Surr)	89		38 - 149	03/19/15 10:42	03/30/15 20:28	1
Terphenyl-d14 (Surr)	82		42 - 151	03/19/15 10:42	03/30/15 20:28	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.4		mg/Kg	☼	03/20/15 14:12	03/20/15 22:40	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B1-1-4

Date Collected: 03/16/15 14:10

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-13

Matrix: Solid

Percent Solids: 79.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	03/20/15 14:12	03/20/15 22:40	1
Trifluorotoluene (Surr)				03/20/15 14:12	03/20/15 22:40	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		31		mg/Kg	☼	03/19/15 14:18	03/20/15 12:30	1
Motor Oil (>C24-C36)	ND		63		mg/Kg	☼	03/19/15 14:18	03/20/15 12:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150	03/19/15 14:18	03/20/15 12:30	1

Method: 6020A - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.24		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Arsenic	4.7		0.42		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Beryllium	0.34		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Cadmium	ND		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Chromium	58		0.42		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Copper	18		0.34		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Lead	4.0		0.42		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Nickel	53		0.42		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Selenium	ND		0.84		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Silver	ND		0.17		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Thallium	ND		0.34		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10
Zinc	32		4.2		mg/Kg	☼	03/30/15 20:25	03/31/15 13:59	10

Method: 7471A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.032		0.021		mg/Kg	☼	03/31/15 11:29	03/31/15 14:08	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184860/6

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 13:34	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 13:34	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 13:34	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 13:34	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 13:34	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 13:34	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 13:34	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 13:34	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 13:34	1
Benzene	ND		0.20		ug/L			03/20/15 13:34	1
Bromobenzene	ND		0.20		ug/L			03/20/15 13:34	1
Bromoform	ND		0.50		ug/L			03/20/15 13:34	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 13:34	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 13:34	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 13:34	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Chloroethane	ND		0.50		ug/L			03/20/15 13:34	1
Chloroform	ND		0.20		ug/L			03/20/15 13:34	1
Chloromethane	ND		0.30		ug/L			03/20/15 13:34	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/20/15 13:34	1
Dibromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 13:34	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 13:34	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 13:34	1
Isopropylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/20/15 13:34	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 13:34	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 13:34	1
Naphthalene	ND		0.50		ug/L			03/20/15 13:34	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184860/6

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
o-Xylene	ND		0.50		ug/L			03/20/15 13:34	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Styrene	ND		0.50		ug/L			03/20/15 13:34	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 13:34	1
Toluene	ND		0.20		ug/L			03/20/15 13:34	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/20/15 13:34	1
Trichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 13:34	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 13:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 128		03/20/15 13:34	1
4-Bromofluorobenzene (Surr)	102		75 - 120		03/20/15 13:34	1
Dibromofluoromethane (Surr)	103		85 - 115		03/20/15 13:34	1
Toluene-d8 (Surr)	104		75 - 125		03/20/15 13:34	1
Trifluorotoluene (Surr)	113		80 - 127		03/20/15 13:34	1

Lab Sample ID: LCS 580-184860/7

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.57		ug/L		111	75 - 125
1,1,1-Trichloroethane	5.00	5.79		ug/L		116	80 - 140
1,1,1,2,2-Tetrachloroethane	5.00	5.27		ug/L		105	75 - 125
1,1,2-Trichloroethane	5.00	5.46		ug/L		109	80 - 130
1,1-Dichloroethane	5.00	5.54		ug/L		111	75 - 135
1,1-Dichloroethene	5.00	5.08		ug/L		102	70 - 150
1,1-Dichloropropene	5.00	6.27		ug/L		125	80 - 130
1,2,3-Trichlorobenzene	5.00	3.95	^	ug/L		79	60 - 125
1,2,3-Trichloropropane	5.00	6.01		ug/L		120	75 - 120
1,2,4-Trichlorobenzene	5.00	4.55		ug/L		91	60 - 125
1,2,4-Trimethylbenzene	5.00	5.99		ug/L		120	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	5.61		ug/L		112	55 - 120
1,2-Dichlorobenzene	5.00	5.22		ug/L		104	80 - 130
1,2-Dichloroethane	5.00	5.58		ug/L		112	80 - 140
1,2-Dichloropropane	5.00	5.50		ug/L		110	80 - 120
1,3,5-Trimethylbenzene	5.00	6.23		ug/L		125	80 - 125
1,3-Dichlorobenzene	5.00	5.31		ug/L		106	80 - 120
1,3-Dichloropropane	5.00	5.38		ug/L		108	80 - 130
1,4-Dichlorobenzene	5.00	5.17		ug/L		103	80 - 120
2,2-Dichloropropane	5.00	5.77		ug/L		115	60 - 150
2-Chlorotoluene	5.00	5.86		ug/L		117	75 - 130
4-Chlorotoluene	5.00	6.03		ug/L		121	75 - 130
4-Isopropyltoluene	5.00	5.39		ug/L		108	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184860/7

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.51		ug/L		110	80 - 120
Bromobenzene	5.00	5.64		ug/L		113	80 - 130
Bromoform	5.00	5.32		ug/L		106	65 - 130
Bromomethane	5.00	5.45	^	ug/L		109	70 - 135
Carbon tetrachloride	5.00	6.00		ug/L		120	75 - 140
Chlorobenzene	5.00	5.21		ug/L		104	80 - 120
Chlorobromomethane	5.00	5.60		ug/L		112	80 - 125
Chlorodibromomethane	5.00	6.02		ug/L		120	70 - 120
Chloroethane	5.00	5.00		ug/L		100	75 - 140
Chloroform	5.00	5.34		ug/L		107	80 - 130
Chloromethane	5.00	4.02		ug/L		80	50 - 140
cis-1,2-Dichloroethene	5.00	5.29		ug/L		106	80 - 130
cis-1,3-Dichloropropene	5.00	6.56	*	ug/L		131	70 - 120
Dibromomethane	5.00	5.79		ug/L		116	80 - 130
Dichlorobromomethane	5.00	5.87		ug/L		117	80 - 125
Dichlorodifluoromethane	5.00	2.57		ug/L		51	30 - 180
Ethylbenzene	5.00	5.46		ug/L		109	80 - 125
Ethylene Dibromide	5.00	5.76		ug/L		115	70 - 130
Hexachlorobutadiene	5.00	4.50		ug/L		90	75 - 135
Isopropylbenzene	5.00	5.84		ug/L		117	75 - 120
Methyl tert-butyl ether	5.00	6.23	*	ug/L		125	75 - 120
Methylene Chloride	5.00	5.68		ug/L		114	60 - 145
m-Xylene & p-Xylene	5.00	5.61		ug/L		112	80 - 130
Naphthalene	5.00	4.80		ug/L		96	45 - 130
n-Butylbenzene	5.00	5.62		ug/L		112	75 - 125
N-Propylbenzene	5.00	6.08	*	ug/L		122	80 - 120
o-Xylene	5.00	5.65		ug/L		113	80 - 120
sec-Butylbenzene	5.00	6.11		ug/L		122	80 - 125
Styrene	5.00	5.88		ug/L		118	75 - 130
tert-Butylbenzene	5.00	6.31		ug/L		126	80 - 130
Tetrachloroethene	5.00	7.18		ug/L		144	40 - 180
Toluene	5.00	5.43		ug/L		109	80 - 120
trans-1,2-Dichloroethene	5.00	5.57		ug/L		111	80 - 140
trans-1,3-Dichloropropene	5.00	7.07	* ^	ug/L		141	60 - 140
Trichloroethene	5.00	5.83		ug/L		117	80 - 130
Trichlorofluoromethane	5.00	4.60		ug/L		92	30 - 180
Vinyl chloride	5.00	4.70	^	ug/L		94	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 128
4-Bromofluorobenzene (Surr)	97		75 - 120
Dibromofluoromethane (Surr)	102		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	113		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184860/8

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.83		ug/L		117	75 - 125	5	20
1,1,1-Trichloroethane	5.00	5.87		ug/L		117	80 - 140	1	20
1,1,2,2-Tetrachloroethane	5.00	5.22		ug/L		104	75 - 125	1	20
1,1,2-Trichloroethane	5.00	5.11		ug/L		102	80 - 130	7	20
1,1-Dichloroethane	5.00	5.72		ug/L		114	75 - 135	3	20
1,1-Dichloroethene	5.00	4.99		ug/L		100	70 - 150	2	20
1,1-Dichloropropene	5.00	6.31		ug/L		126	80 - 130	1	20
1,2,3-Trichlorobenzene	5.00	3.76	^	ug/L		75	60 - 125	5	20
1,2,3-Trichloropropane	5.00	5.76		ug/L		115	75 - 120	4	20
1,2,4-Trichlorobenzene	5.00	4.33		ug/L		87	60 - 125	5	20
1,2,4-Trimethylbenzene	5.00	5.86		ug/L		117	80 - 125	2	20
1,2-Dibromo-3-Chloropropane	5.00	5.11		ug/L		102	55 - 120	9	20
1,2-Dichlorobenzene	5.00	5.11		ug/L		102	80 - 130	2	20
1,2-Dichloroethane	5.00	5.23		ug/L		105	80 - 140	6	20
1,2-Dichloropropane	5.00	5.25		ug/L		105	80 - 120	5	20
1,3,5-Trimethylbenzene	5.00	6.00		ug/L		120	80 - 125	4	20
1,3-Dichlorobenzene	5.00	5.15		ug/L		103	80 - 120	3	20
1,3-Dichloropropane	5.00	5.00		ug/L		100	80 - 130	7	20
1,4-Dichlorobenzene	5.00	5.09		ug/L		102	80 - 120	2	20
2,2-Dichloropropane	5.00	6.41		ug/L		128	60 - 150	11	20
2-Chlorotoluene	5.00	5.84		ug/L		117	75 - 130	0	20
4-Chlorotoluene	5.00	5.76		ug/L		115	75 - 130	5	20
4-Isopropyltoluene	5.00	5.22		ug/L		104	80 - 120	3	20
Benzene	5.00	5.43		ug/L		109	80 - 120	1	20
Bromobenzene	5.00	5.54		ug/L		111	80 - 130	2	20
Bromoform	5.00	5.25		ug/L		105	65 - 130	1	20
Bromomethane	5.00	5.08	^	ug/L		102	70 - 135	7	20
Carbon tetrachloride	5.00	6.04		ug/L		121	75 - 140	1	20
Chlorobenzene	5.00	5.12		ug/L		102	80 - 120	2	20
Chlorobromomethane	5.00	5.67		ug/L		113	80 - 125	1	20
Chlorodibromomethane	5.00	5.81		ug/L		116	70 - 120	3	20
Chloroethane	5.00	4.86		ug/L		97	75 - 140	3	20
Chloroform	5.00	5.43		ug/L		109	80 - 130	2	20
Chloromethane	5.00	4.02		ug/L		80	50 - 140	0	20
cis-1,2-Dichloroethene	5.00	5.43		ug/L		109	80 - 130	3	20
cis-1,3-Dichloropropene	5.00	6.15	*	ug/L		123	70 - 120	7	20
Dibromomethane	5.00	5.32		ug/L		106	80 - 130	9	20
Dichlorobromomethane	5.00	5.56		ug/L		111	80 - 125	5	20
Dichlorodifluoromethane	5.00	2.59		ug/L		52	30 - 180	1	20
Ethylbenzene	5.00	5.46		ug/L		109	80 - 125	0	20
Ethylene Dibromide	5.00	5.29		ug/L		106	70 - 130	9	20
Hexachlorobutadiene	5.00	4.49		ug/L		90	75 - 135	0	20
Isopropylbenzene	5.00	6.03	*	ug/L		121	75 - 120	3	20
Methyl tert-butyl ether	5.00	6.31	*	ug/L		126	75 - 120	1	20
Methylene Chloride	5.00	5.83		ug/L		117	60 - 145	3	20
m-Xylene & p-Xylene	5.00	5.70		ug/L		114	80 - 130	1	20
Naphthalene	5.00	4.52		ug/L		90	45 - 130	6	20
n-Butylbenzene	5.00	5.43		ug/L		109	75 - 125	3	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184860/8

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.86		ug/L		117	80 - 120	4	20
o-Xylene	5.00	5.82		ug/L		116	80 - 120	3	20
sec-Butylbenzene	5.00	5.88		ug/L		118	80 - 125	4	20
Styrene	5.00	5.83		ug/L		117	75 - 130	1	20
tert-Butylbenzene	5.00	6.12		ug/L		122	80 - 130	3	20
Tetrachloroethene	5.00	7.27		ug/L		145	40 - 180	1	20
Toluene	5.00	5.42		ug/L		108	80 - 120	0	20
trans-1,2-Dichloroethene	5.00	5.68		ug/L		114	80 - 140	2	20
trans-1,3-Dichloropropene	5.00	6.56	^	ug/L		131	60 - 140	8	20
Trichloroethene	5.00	5.68		ug/L		114	80 - 130	2	20
Trichlorofluoromethane	5.00	5.10		ug/L		102	30 - 180	10	20
Vinyl chloride	5.00	4.78	^	ug/L		95	65 - 140	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 128
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	105		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	114		80 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-184883/1-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184883/1-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Benzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromobenzene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromochloromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromodichloromethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromoform	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromomethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloroform	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloromethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dibromochloromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dibromomethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Ethylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Isopropylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Methylene Chloride	ND		15		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Naphthalene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
n-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
N-Propylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
o-Xylene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Styrene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
t-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Tetrachloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Toluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Trichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Vinyl chloride	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 136	03/20/15 12:00	03/20/15 12:34	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/20/15 12:00	03/20/15 12:34	1
Dibromofluoromethane (Surr)	97		75 - 132	03/20/15 12:00	03/20/15 12:34	1
Toluene-d8 (Surr)	102		80 - 120	03/20/15 12:00	03/20/15 12:34	1
Trifluorotoluene (Surr)	95		65 - 140	03/20/15 12:00	03/20/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184883/2-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1,1,2-Tetrachloroethane	40.0	42.1		ug/Kg		105	72 - 123
1,1,1-Trichloroethane	40.0	40.8		ug/Kg		102	63 - 135
1,1,2,2-Tetrachloroethane	40.0	43.0		ug/Kg		108	73 - 125
1,1,2-Trichloroethane	40.0	41.6		ug/Kg		104	77 - 124
1,1-Dichloroethane	40.0	43.3		ug/Kg		108	70 - 128
1,1-Dichloroethene	40.0	36.3		ug/Kg		91	70 - 133
1,1-Dichloropropene	40.0	44.3		ug/Kg		111	77 - 125
1,2,3-Trichlorobenzene	40.0	49.8		ug/Kg		124	61 - 130
1,2,3-Trichloropropane	40.0	43.6		ug/Kg		109	77 - 123
1,2,4-Trichlorobenzene	40.0	49.2		ug/Kg		123	61 - 130
1,2,4-Trimethylbenzene	40.0	42.0		ug/Kg		105	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	44.4		ug/Kg		111	53 - 132
1,2-Dibromoethane	40.0	44.5		ug/Kg		111	69 - 126
1,2-Dichlorobenzene	40.0	42.6		ug/Kg		107	79 - 117
1,2-Dichloroethane	40.0	41.7		ug/Kg		104	71 - 128
1,2-Dichloropropane	40.0	40.9		ug/Kg		102	76 - 161
1,3,5-Trimethylbenzene	40.0	43.6		ug/Kg		109	80 - 125
1,3-Dichlorobenzene	40.0	42.9		ug/Kg		107	79 - 119
1,3-Dichloropropane	40.0	41.9		ug/Kg		105	77 - 123
1,4-Dichlorobenzene	40.0	43.2		ug/Kg		108	79 - 117
2,2-Dichloropropane	40.0	40.5		ug/Kg		101	56 - 144
2-Chlorotoluene	40.0	42.8		ug/Kg		107	79 - 122
4-Chlorotoluene	40.0	43.7		ug/Kg		109	80 - 122
4-Isopropyltoluene	40.0	41.9		ug/Kg		105	78 - 126
Benzene	40.0	42.0		ug/Kg		105	70 - 128
Bromobenzene	40.0	44.5		ug/Kg		111	80 - 120
Bromochloromethane	40.0	42.4		ug/Kg		106	78 - 123
Bromodichloromethane	40.0	41.3		ug/Kg		103	58 - 133
Bromoform	40.0	41.2		ug/Kg		103	50 - 124
Bromomethane	40.0	30.3		ug/Kg		76	57 - 148
Carbon tetrachloride	40.0	42.3		ug/Kg		106	59 - 145
Chlorobenzene	40.0	42.6		ug/Kg		106	75 - 120
Chloroethane	40.0	31.9		ug/Kg		80	48 - 167
Chloroform	40.0	42.3		ug/Kg		106	78 - 125
Chloromethane	40.0	27.0		ug/Kg		67	55 - 136
cis-1,2-Dichloroethene	40.0	40.6		ug/Kg		102	70 - 130
cis-1,3-Dichloropropene	40.0	45.0		ug/Kg		113	69 - 129
Dibromochloromethane	40.0	43.6		ug/Kg		109	42 - 129
Dibromomethane	40.0	41.5		ug/Kg		104	78 - 126
Dichlorodifluoromethane	40.0	15.7		ug/Kg		39	38 - 150
Ethylbenzene	40.0	42.3		ug/Kg		106	78 - 126
Hexachlorobutadiene	40.0	44.0		ug/Kg		110	68 - 134
Isopropylbenzene	40.0	41.8		ug/Kg		104	79 - 127
Methyl tert-butyl ether	40.0	42.5		ug/Kg		106	65 - 125
Methylene Chloride	40.0	39.3		ug/Kg		98	57 - 146
m-Xylene & p-Xylene	40.0	41.6		ug/Kg		104	78 - 126
Naphthalene	40.0	53.1		ug/Kg		133	14 - 170
n-Butylbenzene	40.0	41.4		ug/Kg		104	78 - 128

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184883/2-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	40.0	43.1		ug/Kg		108	81 - 127
o-Xylene	40.0	41.4		ug/Kg		103	77 - 127
sec-Butylbenzene	40.0	43.0		ug/Kg		108	78 - 128
Styrene	40.0	41.3		ug/Kg		103	79 - 127
t-Butylbenzene	40.0	41.6		ug/Kg		104	71 - 136
Tetrachloroethene	40.0	44.1		ug/Kg		110	56 - 155
Toluene	40.0	42.6		ug/Kg		107	75 - 126
trans-1,2-Dichloroethene	40.0	40.0		ug/Kg		100	76 - 131
trans-1,3-Dichloropropene	40.0	48.8		ug/Kg		122	72 - 129
Trichloroethene	40.0	41.3		ug/Kg		103	83 - 124
Trichlorofluoromethane	40.0	32.0		ug/Kg		80	47 - 165
Vinyl chloride	40.0	29.3		ug/Kg		73	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	98		80 - 120
Trifluorotoluene (Surr)	92		65 - 140

Lab Sample ID: LCSD 580-184883/3-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	44.9		ug/Kg		112	72 - 123	6	20
1,1,1-Trichloroethane	40.0	38.3		ug/Kg		96	63 - 135	6	20
1,1,1,2,2-Tetrachloroethane	40.0	41.5		ug/Kg		104	73 - 125	4	22
1,1,1,2-Trichloroethane	40.0	45.0		ug/Kg		113	77 - 124	8	18
1,1-Dichloroethane	40.0	42.3		ug/Kg		106	70 - 128	2	21
1,1-Dichloroethene	40.0	34.0		ug/Kg		85	70 - 133	7	23
1,1-Dichloropropene	40.0	45.1		ug/Kg		113	77 - 125	2	16
1,2,3-Trichlorobenzene	40.0	50.8		ug/Kg		127	61 - 130	2	23
1,2,3-Trichloropropane	40.0	42.0		ug/Kg		105	77 - 123	4	23
1,2,4-Trichlorobenzene	40.0	51.0		ug/Kg		128	61 - 130	4	22
1,2,4-Trimethylbenzene	40.0	44.6		ug/Kg		111	79 - 124	6	18
1,2-Dibromo-3-Chloropropane	40.0	41.3		ug/Kg		103	53 - 132	7	27
1,2-Dibromoethane	40.0	45.6		ug/Kg		114	69 - 126	2	21
1,2-Dichlorobenzene	40.0	44.4		ug/Kg		111	79 - 117	4	17
1,2-Dichloroethane	40.0	44.0		ug/Kg		110	71 - 128	5	18
1,2-Dichloropropane	40.0	45.1		ug/Kg		113	76 - 161	10	15
1,3,5-Trimethylbenzene	40.0	45.3		ug/Kg		113	80 - 125	4	18
1,3-Dichlorobenzene	40.0	45.2		ug/Kg		113	79 - 119	5	17
1,3-Dichloropropane	40.0	44.4		ug/Kg		111	77 - 123	6	19
1,4-Dichlorobenzene	40.0	45.7		ug/Kg		114	79 - 117	6	18
2,2-Dichloropropane	40.0	37.8		ug/Kg		95	56 - 144	7	21
2-Chlorotoluene	40.0	43.3		ug/Kg		108	79 - 122	1	18
4-Chlorotoluene	40.0	45.4		ug/Kg		113	80 - 122	4	18

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184883/3-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Isopropyltoluene	40.0	43.0		ug/Kg		107	78 - 126	3	18
Benzene	40.0	44.8		ug/Kg		112	70 - 128	6	19
Bromobenzene	40.0	46.6		ug/Kg		116	80 - 120	5	19
Bromochloromethane	40.0	42.0		ug/Kg		105	78 - 123	1	19
Bromodichloromethane	40.0	44.8		ug/Kg		112	58 - 133	8	19
Bromoform	40.0	41.3		ug/Kg		103	50 - 124	0	25
Bromomethane	40.0	33.2		ug/Kg		83	57 - 148	9	29
Carbon tetrachloride	40.0	39.8		ug/Kg		99	59 - 145	6	19
Chlorobenzene	40.0	45.2		ug/Kg		113	75 - 120	6	21
Chloroethane	40.0	32.2		ug/Kg		80	48 - 167	1	53
Chloroform	40.0	42.2		ug/Kg		105	78 - 125	0	17
Chloromethane	40.0	35.4	*	ug/Kg		88	55 - 136	27	26
cis-1,2-Dichloroethene	40.0	39.6		ug/Kg		99	70 - 130	3	19
cis-1,3-Dichloropropene	40.0	50.5		ug/Kg		126	69 - 129	11	19
Dibromochloromethane	40.0	46.8		ug/Kg		117	42 - 129	7	23
Dibromomethane	40.0	43.9		ug/Kg		110	78 - 126	6	18
Dichlorodifluoromethane	40.0	30.2	*	ug/Kg		76	38 - 150	63	26
Ethylbenzene	40.0	44.5		ug/Kg		111	78 - 126	5	23
Hexachlorobutadiene	40.0	48.3		ug/Kg		121	68 - 134	9	21
Isopropylbenzene	40.0	43.2		ug/Kg		108	79 - 127	3	20
Methyl tert-butyl ether	40.0	39.4		ug/Kg		98	65 - 125	8	30
Methylene Chloride	40.0	38.5		ug/Kg		96	57 - 146	2	21
m-Xylene & p-Xylene	40.0	44.5		ug/Kg		111	78 - 126	7	23
Naphthalene	40.0	52.4		ug/Kg		131	14 - 170	1	50
n-Butylbenzene	40.0	43.0		ug/Kg		108	78 - 128	4	17
N-Propylbenzene	40.0	43.7		ug/Kg		109	81 - 127	1	20
o-Xylene	40.0	43.3		ug/Kg		108	77 - 127	5	22
sec-Butylbenzene	40.0	44.5		ug/Kg		111	78 - 128	3	17
Styrene	40.0	44.0		ug/Kg		110	79 - 127	6	21
t-Butylbenzene	40.0	44.8		ug/Kg		112	71 - 136	7	27
Tetrachloroethene	40.0	48.3		ug/Kg		121	56 - 155	9	27
Toluene	40.0	46.3		ug/Kg		116	75 - 126	8	19
trans-1,2-Dichloroethene	40.0	38.5		ug/Kg		96	76 - 131	4	18
trans-1,3-Dichloropropene	40.0	52.2	*	ug/Kg		131	72 - 129	7	20
Trichloroethene	40.0	43.4		ug/Kg		108	83 - 124	5	17
Trichlorofluoromethane	40.0	33.9		ug/Kg		85	47 - 165	6	54
Vinyl chloride	40.0	31.1		ug/Kg		78	67 - 131	6	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	97		75 - 132
Toluene-d8 (Surr)	103		80 - 120
Trifluorotoluene (Surr)	91		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184747/1-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184747

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1,2-Dichlorobenzene	ND		55		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1,3-Dichlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1,4-Dichlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
1-Methylnaphthalene	ND		30		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4,5-Trichlorophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4,6-Trichlorophenol	ND		150		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dichlorophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dimethylphenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dinitrophenol	ND		1000		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,4-Dinitrotoluene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2,6-Dinitrotoluene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Chloronaphthalene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Chlorophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Methylnaphthalene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Methylphenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Nitroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
2-Nitrophenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
3 & 4 Methylphenol	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
3,3'-Dichlorobenzidine	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
3-Nitroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4,6-Dinitro-2-methylphenol	ND		1000		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Bromophenyl phenyl ether	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Chloro-3-methylphenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Chloroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Chlorophenyl phenyl ether	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Nitroaniline	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
4-Nitrophenol	ND		1000		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Acenaphthene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Acenaphthylene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Anthracene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[a]anthracene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[a]pyrene	ND		30		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[b]fluoranthene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[g,h,i]perylene	ND		25		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzo[k]fluoranthene	ND		25		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzoic acid	ND		2500		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Benzyl alcohol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Bis(2-chloroethoxy)methane	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Bis(2-chloroethyl)ether	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
bis(chloroisopropyl) ether	ND		250		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Butyl benzyl phthalate	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Carbazole	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Chrysene	ND		25		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Dibenz(a,h)anthracene	ND		40		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Dibenzofuran	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Diethyl phthalate	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184747/1-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184747

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Di-n-butyl phthalate	ND		500		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Di-n-octyl phthalate	ND		500		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Fluoranthene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Fluorene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachlorobenzene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachlorobutadiene	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachlorocyclopentadiene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Hexachloroethane	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Indeno[1,2,3-cd]pyrene	ND		40		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Isophorone	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Naphthalene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Nitrobenzene	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
N-Nitrosodi-n-propylamine	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
N-Nitrosodiphenylamine	ND		50		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Pentachlorophenol	ND		200		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Phenanthrene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Phenol	ND		100		ug/Kg		03/19/15 10:42	03/30/15 12:34	1
Pyrene	ND		20		ug/Kg		03/19/15 10:42	03/30/15 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	64		28 - 143	03/19/15 10:42	03/30/15 12:34	1
2-Fluorobiphenyl	89		42 - 140	03/19/15 10:42	03/30/15 12:34	1
2-Fluorophenol (Surr)	98		36 - 145	03/19/15 10:42	03/30/15 12:34	1
Nitrobenzene-d5 (Surr)	85		38 - 141	03/19/15 10:42	03/30/15 12:34	1
Phenol-d5 (Surr)	94		38 - 149	03/19/15 10:42	03/30/15 12:34	1
Terphenyl-d14 (Surr)	88		42 - 151	03/19/15 10:42	03/30/15 12:34	1

Lab Sample ID: LCS 580-184747/2-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	1000	957		ug/Kg		96	66 - 115
1,2-Dichlorobenzene	1000	888		ug/Kg		89	64 - 112
1,3-Dichlorobenzene	1000	947		ug/Kg		95	64 - 111
1,4-Dichlorobenzene	1000	901		ug/Kg		90	65 - 110
1-Methylnaphthalene	1000	971		ug/Kg		97	62 - 118
2,4,5-Trichlorophenol	1000	995		ug/Kg		100	57 - 133
2,4,6-Trichlorophenol	1000	950		ug/Kg		95	62 - 133
2,4-Dichlorophenol	1000	969		ug/Kg		97	68 - 125
2,4-Dimethylphenol	1000	793		ug/Kg		79	54 - 139
2,4-Dinitrophenol	2000	1900		ug/Kg		95	20 - 141
2,4-Dinitrotoluene	1000	949		ug/Kg		95	68 - 121
2,6-Dinitrotoluene	1000	880		ug/Kg		88	66 - 123
2-Chloronaphthalene	1000	991		ug/Kg		99	68 - 112
2-Chlorophenol	1000	920		ug/Kg		92	68 - 117
2-Methylnaphthalene	1000	882		ug/Kg		88	64 - 119

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184747/2-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	1000	955		ug/Kg		96	71 - 116
2-Nitroaniline	1000	964		ug/Kg		96	64 - 112
2-Nitrophenol	1000	943		ug/Kg		94	67 - 127
3 & 4 Methylphenol	1000	931		ug/Kg		93	70 - 116
3,3'-Dichlorobenzidine	2000	1070		ug/Kg		53	20 - 103
3-Nitroaniline	1000	687		ug/Kg		69	27 - 103
4,6-Dinitro-2-methylphenol	2000	2100		ug/Kg		105	48 - 130
4-Bromophenyl phenyl ether	1000	891		ug/Kg		89	68 - 122
4-Chloro-3-methylphenol	1000	957		ug/Kg		96	69 - 121
4-Chloroaniline	1000	328		ug/Kg		33	20 - 103
4-Chlorophenyl phenyl ether	1000	874		ug/Kg		87	75 - 108
4-Nitroaniline	1000	811		ug/Kg		81	58 - 108
4-Nitrophenol	2000	1840		ug/Kg		92	20 - 165
Acenaphthene	1000	1000		ug/Kg		100	68 - 116
Acenaphthylene	1000	937		ug/Kg		94	68 - 120
Anthracene	1000	911		ug/Kg		91	73 - 116
Benzo[a]anthracene	1000	917		ug/Kg		92	76 - 119
Benzo[a]pyrene	1000	872		ug/Kg		87	72 - 117
Benzo[b]fluoranthene	1000	977		ug/Kg		98	63 - 132
Benzo[g,h,i]perylene	1000	921		ug/Kg		92	55 - 139
Benzo[k]fluoranthene	1000	1070		ug/Kg		107	63 - 119
Benzoic acid	2010	2220	J	ug/Kg		111	29 - 158
Benzyl alcohol	1000	873		ug/Kg		87	55 - 123
Bis(2-chloroethoxy)methane	1000	969		ug/Kg		97	69 - 107
Bis(2-chloroethyl)ether	1000	1010		ug/Kg		101	62 - 110
Bis(2-ethylhexyl) phthalate	1000	872		ug/Kg		87	62 - 144
bis(chloroisopropyl) ether	1000	768		ug/Kg		77	41 - 126
Butyl benzyl phthalate	1000	1110		ug/Kg		111	69 - 142
Carbazole	1000	914		ug/Kg		91	76 - 135
Chrysene	1000	1050		ug/Kg		105	75 - 114
Dibenz(a,h)anthracene	1000	808		ug/Kg		81	56 - 134
Dibenzofuran	1000	968		ug/Kg		97	72 - 109
Diethyl phthalate	1000	949		ug/Kg		95	73 - 116
Dimethyl phthalate	1000	931		ug/Kg		93	78 - 117
Di-n-butyl phthalate	1000	920		ug/Kg		92	66 - 140
Di-n-octyl phthalate	1000	845		ug/Kg		84	65 - 141
Fluoranthene	1000	862		ug/Kg		86	73 - 125
Fluorene	1000	992		ug/Kg		99	70 - 121
Hexachlorobenzene	1000	981		ug/Kg		98	66 - 117
Hexachlorobutadiene	1000	815		ug/Kg		82	65 - 116
Hexachlorocyclopentadiene	1000	845		ug/Kg		84	46 - 131
Hexachloroethane	1000	974		ug/Kg		97	62 - 120
Indeno[1,2,3-cd]pyrene	1000	819		ug/Kg		82	56 - 127
Isophorone	1000	931		ug/Kg		93	67 - 119
Naphthalene	1000	941		ug/Kg		94	62 - 112
Nitrobenzene	1000	930		ug/Kg		93	64 - 118
N-Nitrosodi-n-propylamine	1000	832		ug/Kg		83	62 - 116
N-Nitrosodiphenylamine	2010	1880		ug/Kg		94	73 - 115

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184747/2-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	2000	1780		ug/Kg		89	45 - 117
Phenanthrene	1000	933		ug/Kg		93	73 - 106
Phenol	1000	965		ug/Kg		97	63 - 111
Pyrene	1000	862		ug/Kg		86	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	88		28 - 143
2-Fluorobiphenyl	97		42 - 140
2-Fluorophenol (Surr)	103		36 - 145
Nitrobenzene-d5 (Surr)	91		38 - 141
Phenol-d5 (Surr)	99		38 - 149
Terphenyl-d14 (Surr)	94		42 - 151

Lab Sample ID: LCSD 580-184747/3-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	1000	873		ug/Kg		87	66 - 115	9	28
1,2-Dichlorobenzene	1000	871		ug/Kg		87	64 - 112	2	30
1,3-Dichlorobenzene	1000	873		ug/Kg		87	64 - 111	8	30
1,4-Dichlorobenzene	1000	906		ug/Kg		91	65 - 110	1	30
1-Methylnaphthalene	1000	938		ug/Kg		94	62 - 118	3	30
2,4,5-Trichlorophenol	1000	956		ug/Kg		96	57 - 133	4	30
2,4,6-Trichlorophenol	1000	937		ug/Kg		94	62 - 133	1	30
2,4-Dichlorophenol	1000	930		ug/Kg		93	68 - 125	4	30
2,4-Dimethylphenol	1000	724		ug/Kg		72	54 - 139	9	30
2,4-Dinitrophenol	2000	1770		ug/Kg		88	20 - 141	7	36
2,4-Dinitrotoluene	1000	962		ug/Kg		96	68 - 121	1	30
2,6-Dinitrotoluene	1000	975		ug/Kg		97	66 - 123	10	30
2-Chloronaphthalene	1000	1000		ug/Kg		100	68 - 112	1	25
2-Chlorophenol	1000	882		ug/Kg		88	68 - 117	4	27
2-Methylnaphthalene	1000	872		ug/Kg		87	64 - 119	1	27
2-Methylphenol	1000	937		ug/Kg		94	71 - 116	2	25
2-Nitroaniline	1000	913		ug/Kg		91	64 - 112	5	22
2-Nitrophenol	1000	931		ug/Kg		93	67 - 127	1	30
3 & 4 Methylphenol	1000	903		ug/Kg		90	70 - 116	3	27
3,3'-Dichlorobenzidine	2000	995		ug/Kg		50	20 - 103	7	60
3-Nitroaniline	1000	583		ug/Kg		58	27 - 103	16	33
4,6-Dinitro-2-methylphenol	2000	2070		ug/Kg		104	48 - 130	2	22
4-Bromophenyl phenyl ether	1000	920		ug/Kg		92	68 - 122	3	30
4-Chloro-3-methylphenol	1000	857		ug/Kg		86	69 - 121	11	27
4-Chloroaniline	1000	274		ug/Kg		27	20 - 103	18	60
4-Chlorophenyl phenyl ether	1000	866		ug/Kg		87	75 - 108	1	30
4-Nitroaniline	1000	738		ug/Kg		74	58 - 108	9	32
4-Nitrophenol	2000	1720		ug/Kg		86	20 - 165	7	30
Acenaphthene	1000	954		ug/Kg		95	68 - 116	5	27
Acenaphthylene	1000	917		ug/Kg		92	68 - 120	2	28

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184747/3-A

Matrix: Solid

Analysis Batch: 185483

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184747

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	1000	922		ug/Kg		92	73 - 116	1	27
Benzo[a]anthracene	1000	877		ug/Kg		88	76 - 119	4	27
Benzo[a]pyrene	1000	911		ug/Kg		91	72 - 117	4	30
Benzo[b]fluoranthene	1000	963		ug/Kg		96	63 - 132	1	30
Benzo[g,h,i]perylene	1000	963		ug/Kg		96	55 - 139	4	28
Benzo[k]fluoranthene	1000	1030		ug/Kg		103	63 - 119	5	30
Benzoic acid	2010	2150	J	ug/Kg		107	29 - 158	3	28
Benzyl alcohol	1000	826		ug/Kg		83	55 - 123	5	60
Bis(2-chloroethoxy)methane	1000	942		ug/Kg		94	69 - 107	3	30
Bis(2-chloroethyl)ether	1000	936		ug/Kg		94	62 - 110	7	22
Bis(2-ethylhexyl) phthalate	1000	851		ug/Kg		85	62 - 144	3	30
bis(chloroisopropyl) ether	1000	749		ug/Kg		75	41 - 126	3	57
Butyl benzyl phthalate	1000	1040		ug/Kg		104	69 - 142	6	30
Carbazole	1000	923		ug/Kg		92	76 - 135	1	30
Chrysene	1000	1020		ug/Kg		102	75 - 114	3	26
Dibenz(a,h)anthracene	1000	791		ug/Kg		79	56 - 134	2	30
Dibenzofuran	1000	920		ug/Kg		92	72 - 109	5	30
Diethyl phthalate	1000	945		ug/Kg		94	73 - 116	0	26
Dimethyl phthalate	1000	923		ug/Kg		92	78 - 117	1	30
Di-n-butyl phthalate	1000	903		ug/Kg		90	66 - 140	2	30
Di-n-octyl phthalate	1000	880		ug/Kg		88	65 - 141	4	30
Fluoranthene	1000	841		ug/Kg		84	73 - 125	2	30
Fluorene	1000	926		ug/Kg		93	70 - 121	7	30
Hexachlorobenzene	1000	904		ug/Kg		90	66 - 117	8	30
Hexachlorobutadiene	1000	835		ug/Kg		84	65 - 116	2	30
Hexachlorocyclopentadiene	1000	817		ug/Kg		82	46 - 131	3	29
Hexachloroethane	1000	945		ug/Kg		94	62 - 120	3	30
Indeno[1,2,3-cd]pyrene	1000	766		ug/Kg		77	56 - 127	7	29
Isophorone	1000	912		ug/Kg		91	67 - 119	2	30
Naphthalene	1000	907		ug/Kg		91	62 - 112	4	26
Nitrobenzene	1000	913		ug/Kg		91	64 - 118	2	30
N-Nitrosodi-n-propylamine	1000	803		ug/Kg		80	62 - 116	3	28
N-Nitrosodiphenylamine	2010	1780		ug/Kg		89	73 - 115	6	30
Pentachlorophenol	2000	1720		ug/Kg		86	45 - 117	4	23
Phenanthrene	1000	919		ug/Kg		92	73 - 106	2	28
Phenol	1000	914		ug/Kg		91	63 - 111	5	26
Pyrene	1000	866		ug/Kg		87	70 - 120	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	84		28 - 143
2-Fluorobiphenyl	92		42 - 140
2-Fluorophenol (Surr)	98		36 - 145
Nitrobenzene-d5 (Surr)	84		38 - 141
Phenol-d5 (Surr)	91		38 - 149
Terphenyl-d14 (Surr)	88		42 - 151

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184889/1-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184889

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
1,2-Dichlorobenzene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
1,3-Dichlorobenzene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
1,4-Dichlorobenzene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
1-Methylnaphthalene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,4-Dichlorophenol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,4-Dinitrophenol	ND		5.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,4-Dinitrotoluene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2,6-Dinitrotoluene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2-Chloronaphthalene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
2-Chlorophenol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2-Methylnaphthalene	ND		0.20		ug/L		03/20/15 14:30	03/23/15 19:09	1
2-Methylphenol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2-Nitroaniline	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
2-Nitrophenol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
3 & 4 Methylphenol	ND		0.80		ug/L		03/20/15 14:30	03/23/15 19:09	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
3-Nitroaniline	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
4,6-Dinitro-2-methylphenol	ND		4.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
4-Chloroaniline	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
4-Nitroaniline	ND		0.60		ug/L		03/20/15 14:30	03/23/15 19:09	1
4-Nitrophenol	ND		3.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
Acenaphthene	ND		0.10		ug/L		03/20/15 14:30	03/23/15 19:09	1
Acenaphthylene	ND		0.080		ug/L		03/20/15 14:30	03/23/15 19:09	1
Anthracene	ND		0.040		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzo[a]anthracene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzo[a]pyrene	ND		0.040		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzo[b]fluoranthene	ND		0.080		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzo[k]fluoranthene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzoic acid	ND		3.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
Benzyl alcohol	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Bis(2-ethylhexyl) phthalate	4.75		3.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Butyl benzyl phthalate	ND		0.60		ug/L		03/20/15 14:30	03/23/15 19:09	1
Carbazole	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Chrysene	ND		0.040		ug/L		03/20/15 14:30	03/23/15 19:09	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
Dibenzofuran	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Diethyl phthalate	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184889/1-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184889

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Di-n-butyl phthalate	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Di-n-octyl phthalate	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Fluoranthene	ND		0.050		ug/L		03/20/15 14:30	03/23/15 19:09	1
Fluorene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
Hexachlorobenzene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Hexachlorobutadiene	ND		0.60		ug/L		03/20/15 14:30	03/23/15 19:09	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		03/20/15 14:30	03/23/15 19:09	1
Hexachloroethane	ND		0.60		ug/L		03/20/15 14:30	03/23/15 19:09	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1
Isophorone	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Naphthalene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Nitrobenzene	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		03/20/15 14:30	03/23/15 19:09	1
Pentachlorophenol	ND		0.70		ug/L		03/20/15 14:30	03/23/15 19:09	1
Phenanthrene	ND		0.080		ug/L		03/20/15 14:30	03/23/15 19:09	1
Phenol	ND		0.60		ug/L		03/20/15 14:30	03/23/15 19:09	1
Pyrene	ND		0.060		ug/L		03/20/15 14:30	03/23/15 19:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	48		44 - 125	03/20/15 14:30	03/23/15 19:09	1
2-Fluorobiphenyl	63		50 - 120	03/20/15 14:30	03/23/15 19:09	1
2-Fluorophenol (Surr)	50		30 - 134	03/20/15 14:30	03/23/15 19:09	1
Nitrobenzene-d5 (Surr)	47	X	59 - 120	03/20/15 14:30	03/23/15 19:09	1
Phenol-d5 (Surr)	60		52 - 120	03/20/15 14:30	03/23/15 19:09	1
Terphenyl-d14 (Surr)	73		64 - 150	03/20/15 14:30	03/23/15 19:09	1

Lab Sample ID: LCS 580-184889/2-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	2.00	1.32		ug/L		66	40 - 125
1,2-Dichlorobenzene	2.00	1.32		ug/L		66	44 - 125
1,3-Dichlorobenzene	2.00	1.31		ug/L		65	40 - 125
1,4-Dichlorobenzene	2.00	1.28		ug/L		64	40 - 125
1-Methylnaphthalene	2.00	1.44		ug/L		72	54 - 125
2,4,5-Trichlorophenol	2.00	1.40		ug/L		70	66 - 130
2,4,6-Trichlorophenol	2.00	1.51		ug/L		75	55 - 140
2,4-Dichlorophenol	2.00	1.37		ug/L		68	50 - 140
2,4-Dimethylphenol	2.00	0.457	J *	ug/L		23	30 - 135
2,4-Dinitrophenol	4.00	ND	*	ug/L		15	24 - 146
2,4-Dinitrotoluene	2.00	1.36	*	ug/L		68	73 - 126
2,6-Dinitrotoluene	2.00	1.36		ug/L		68	67 - 134
2-Chloronaphthalene	2.00	1.52		ug/L		76	55 - 125
2-Chlorophenol	2.00	1.21		ug/L		60	57 - 125
2-Methylnaphthalene	2.00	1.36		ug/L		68	56 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184889/2-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	2.00	1.27		ug/L		64	60 - 130
2-Nitroaniline	2.00	1.40		ug/L		70	52 - 140
2-Nitrophenol	2.00	0.987	*	ug/L		49	55 - 140
3 & 4 Methylphenol	2.00	1.29		ug/L		65	60 - 130
3,3'-Dichlorobenzidine	4.00	0.229	J *	ug/L		6	20 - 175
3-Nitroaniline	2.00	0.979		ug/L		49	22 - 124
4,6-Dinitro-2-methylphenol	4.00	ND	*	ug/L		23	50 - 136
4-Bromophenyl phenyl ether	2.00	1.48		ug/L		74	62 - 132
4-Chloro-3-methylphenol	2.00	1.31		ug/L		66	65 - 145
4-Chloroaniline	2.00	0.752		ug/L		38	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.46		ug/L		73	59 - 125
4-Nitroaniline	2.00	1.04		ug/L		52	49 - 125
4-Nitrophenol	4.00	2.08	J	ug/L		52	35 - 153
Acenaphthene	2.00	1.37		ug/L		69	63 - 125
Acenaphthylene	2.00	1.03	*	ug/L		51	62 - 125
Anthracene	2.00	0.932	*	ug/L		47	50 - 125
Benzo[a]anthracene	2.00	1.40		ug/L		70	65 - 125
Benzo[a]pyrene	2.00	0.801	*	ug/L		40	45 - 125
Benzo[b]fluoranthene	2.00	1.57		ug/L		79	70 - 129
Benzo[g,h,i]perylene	2.00	1.49		ug/L		74	65 - 153
Benzo[k]fluoranthene	2.00	1.46		ug/L		73	70 - 123
Benzoic acid	4.00	1.64	J	ug/L		41	20 - 144
Benzyl alcohol	2.00	1.42		ug/L		71	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.46		ug/L		73	59 - 125
Bis(2-chloroethyl)ether	2.00	1.54		ug/L		77	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	1.67	J	ug/L		83	70 - 185
bis(chloroisopropyl) ether	2.00	1.31		ug/L		65	44 - 130
Butyl benzyl phthalate	2.00	2.30		ug/L		115	60 - 167
Carbazole	2.00	1.33	*	ug/L		67	75 - 142
Chrysene	2.00	1.61		ug/L		80	70 - 125
Dibenz(a,h)anthracene	2.00	1.32	*	ug/L		66	69 - 154
Dibenzofuran	2.00	1.46		ug/L		73	60 - 125
Diethyl phthalate	2.00	1.53		ug/L		76	60 - 150
Dimethyl phthalate	2.00	1.47		ug/L		73	65 - 155
Di-n-butyl phthalate	2.00	1.50		ug/L		75	55 - 167
Di-n-octyl phthalate	2.00	1.38		ug/L		69	55 - 150
Fluoranthene	2.00	1.42		ug/L		71	70 - 145
Fluorene	2.00	1.51		ug/L		75	69 - 125
Hexachlorobenzene	2.00	1.51		ug/L		75	61 - 125
Hexachlorobutadiene	2.00	1.10		ug/L		55	25 - 125
Hexachlorocyclopentadiene	2.00	ND	*	ug/L		4	20 - 125
Hexachloroethane	2.00	1.24		ug/L		62	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.29	*	ug/L		65	70 - 136
Isophorone	2.00	1.53		ug/L		77	64 - 125
Naphthalene	2.00	1.43		ug/L		72	56 - 125
Nitrobenzene	2.00	1.53		ug/L		76	62 - 125
N-Nitrosodi-n-propylamine	2.00	1.15	*	ug/L		58	60 - 120
N-Nitrosodiphenylamine	2.00	1.41		ug/L		71	40 - 135

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184889/2-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	4.00	0.776	*	ug/L		19	20 - 145
Phenanthrene	2.00	1.36	*	ug/L		68	70 - 125
Phenol	2.00	1.26		ug/L		63	53 - 130
Pyrene	2.00	1.33	*	ug/L		67	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	61		44 - 125
2-Fluorobiphenyl	72		50 - 120
2-Fluorophenol (Surr)	58		30 - 134
Nitrobenzene-d5 (Surr)	71		59 - 120
Phenol-d5 (Surr)	66		52 - 120
Terphenyl-d14 (Surr)	81		64 - 150

Lab Sample ID: LCSD 580-184889/3-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184889

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	2.00	1.37		ug/L		68	40 - 125	4	20
1,2-Dichlorobenzene	2.00	1.31		ug/L		65	44 - 125	1	20
1,3-Dichlorobenzene	2.00	1.22		ug/L		61	40 - 125	7	20
1,4-Dichlorobenzene	2.00	1.28		ug/L		64	40 - 125	1	20
1-Methylnaphthalene	2.00	1.43		ug/L		71	54 - 125	1	20
2,4,5-Trichlorophenol	2.00	1.48		ug/L		74	66 - 130	6	20
2,4,6-Trichlorophenol	2.00	1.44		ug/L		72	55 - 140	4	20
2,4-Dichlorophenol	2.00	1.38		ug/L		69	50 - 140	1	20
2,4-Dimethylphenol	2.00	ND	*	ug/L		11	30 - 135	66	20
2,4-Dinitrophenol	4.00	1.14	J *	ug/L		28	24 - 146	64	20
2,4-Dinitrotoluene	2.00	1.33	*	ug/L		66	73 - 126	3	20
2,6-Dinitrotoluene	2.00	1.40		ug/L		70	67 - 134	3	20
2-Chloronaphthalene	2.00	1.45		ug/L		72	55 - 125	5	20
2-Chlorophenol	2.00	1.27		ug/L		64	57 - 125	5	20
2-Methylnaphthalene	2.00	1.35		ug/L		68	56 - 125	0	20
2-Methylphenol	2.00	1.20		ug/L		60	60 - 130	6	20
2-Nitroaniline	2.00	1.50		ug/L		75	52 - 140	7	20
2-Nitrophenol	2.00	1.10		ug/L		55	55 - 140	11	20
3 & 4 Methylphenol	2.00	1.19	*	ug/L		59	60 - 130	8	20
3,3'-Dichlorobenzidine	4.00	0.424	J *	ug/L		11	20 - 175	60	20
3-Nitroaniline	2.00	1.03		ug/L		51	22 - 124	5	20
4,6-Dinitro-2-methylphenol	4.00	1.45	J *	ug/L		36	50 - 136	46	20
4-Bromophenyl phenyl ether	2.00	1.40		ug/L		70	62 - 132	6	20
4-Chloro-3-methylphenol	2.00	1.33		ug/L		67	65 - 145	1	20
4-Chloroaniline	2.00	0.246	J *	ug/L		12	20 - 150	101	20
4-Chlorophenyl phenyl ether	2.00	1.48		ug/L		74	59 - 125	1	20
4-Nitroaniline	2.00	1.08		ug/L		54	49 - 125	3	20
4-Nitrophenol	4.00	2.37	J	ug/L		59	35 - 153	13	20
Acenaphthene	2.00	1.35		ug/L		67	63 - 125	2	20
Acenaphthylene	2.00	1.00	*	ug/L		50	62 - 125	2	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184889/3-A

Matrix: Water

Analysis Batch: 185025

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184889

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	2.00	0.907	*	ug/L		45	50 - 125	3	20
Benzo[a]anthracene	2.00	1.30		ug/L		65	65 - 125	8	20
Benzo[a]pyrene	2.00	0.789	*	ug/L		39	45 - 125	1	20
Benzo[b]fluoranthene	2.00	1.52		ug/L		76	70 - 129	3	20
Benzo[g,h,i]perylene	2.00	1.54		ug/L		77	65 - 153	3	20
Benzo[k]fluoranthene	2.00	1.62		ug/L		81	70 - 123	10	20
Benzoic acid	4.00	1.95	J	ug/L		49	20 - 144	17	20
Benzyl alcohol	2.00	1.36		ug/L		68	41 - 144	4	20
Bis(2-chloroethoxy)methane	2.00	1.51		ug/L		75	59 - 125	3	20
Bis(2-chloroethyl)ether	2.00	1.45		ug/L		72	55 - 125	6	20
Bis(2-ethylhexyl) phthalate	2.00	3.42	*	ug/L		171	70 - 185	69	20
bis(chloroisopropyl) ether	2.00	1.28		ug/L		64	44 - 130	3	20
Butyl benzyl phthalate	2.00	2.27		ug/L		114	60 - 167	1	20
Carbazole	2.00	1.36	*	ug/L		68	75 - 142	2	20
Chrysene	2.00	1.57		ug/L		78	70 - 125	3	20
Dibenz(a,h)anthracene	2.00	1.28	*	ug/L		64	69 - 154	3	20
Dibenzofuran	2.00	1.43		ug/L		72	60 - 125	2	20
Diethyl phthalate	2.00	1.47		ug/L		73	60 - 150	4	20
Dimethyl phthalate	2.00	1.47		ug/L		74	65 - 155	0	20
Di-n-butyl phthalate	2.00	1.55		ug/L		78	55 - 167	3	20
Di-n-octyl phthalate	2.00	1.43		ug/L		72	55 - 150	4	20
Fluoranthene	2.00	1.39	*	ug/L		69	70 - 145	2	20
Fluorene	2.00	1.53		ug/L		77	69 - 125	2	20
Hexachlorobenzene	2.00	1.42		ug/L		71	61 - 125	6	20
Hexachlorobutadiene	2.00	1.03		ug/L		52	25 - 125	7	20
Hexachlorocyclopentadiene	2.00	ND	*	ug/L		2	20 - 125	86	20
Hexachloroethane	2.00	1.14		ug/L		57	30 - 125	9	20
Indeno[1,2,3-cd]pyrene	2.00	1.40		ug/L		70	70 - 136	8	20
Isophorone	2.00	1.49		ug/L		75	64 - 125	3	20
Naphthalene	2.00	1.43		ug/L		72	56 - 125	0	20
Nitrobenzene	2.00	1.38		ug/L		69	62 - 125	10	20
N-Nitrosodi-n-propylamine	2.00	1.15	*	ug/L		58	60 - 120	0	20
N-Nitrosodiphenylamine	2.00	1.48		ug/L		74	40 - 135	5	20
Pentachlorophenol	4.00	1.41	*	ug/L		35	20 - 145	58	20
Phenanthrene	2.00	1.37	*	ug/L		68	70 - 125	1	20
Phenol	2.00	1.22		ug/L		61	53 - 130	3	20
Pyrene	2.00	1.32	*	ug/L		66	70 - 133	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	65		44 - 125
2-Fluorobiphenyl	69		50 - 120
2-Fluorophenol (Surr)	59		30 - 134
Nitrobenzene-d5 (Surr)	73		59 - 120
Phenol-d5 (Surr)	69		52 - 120
Terphenyl-d14 (Surr)	80		64 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185937/1-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185937

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
1,2-Dichlorobenzene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
1,3-Dichlorobenzene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
1,4-Dichlorobenzene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
1-Methylnaphthalene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,4-Dichlorophenol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,4-Dimethylphenol	ND		2.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,4-Dinitrophenol	ND		5.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,4-Dinitrotoluene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2,6-Dinitrotoluene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2-Chloronaphthalene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
2-Chlorophenol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2-Methylnaphthalene	ND		0.20		ug/L		04/02/15 17:23	04/07/15 12:56	1
2-Methylphenol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2-Nitroaniline	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
2-Nitrophenol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
3 & 4 Methylphenol	ND		0.80		ug/L		04/02/15 17:23	04/07/15 12:56	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
3-Nitroaniline	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
4,6-Dinitro-2-methylphenol	ND		4.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
4-Chloroaniline	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
4-Nitroaniline	ND		0.60		ug/L		04/02/15 17:23	04/07/15 12:56	1
4-Nitrophenol	ND		3.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
Acenaphthene	ND		0.10		ug/L		04/02/15 17:23	04/07/15 12:56	1
Acenaphthylene	ND		0.080		ug/L		04/02/15 17:23	04/07/15 12:56	1
Anthracene	ND		0.040		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzo[a]anthracene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzo[a]pyrene	ND		0.040		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzo[b]fluoranthene	ND		0.080		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzo[k]fluoranthene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzoic acid	ND		3.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
Benzyl alcohol	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Bis(2-ethylhexyl) phthalate	3.52		3.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Butyl benzyl phthalate	ND		0.60		ug/L		04/02/15 17:23	04/07/15 12:56	1
Carbazole	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Chrysene	ND		0.040		ug/L		04/02/15 17:23	04/07/15 12:56	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
Dibenzofuran	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Diethyl phthalate	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185937/1-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185937

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Di-n-butyl phthalate	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Di-n-octyl phthalate	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Fluoranthene	ND		0.050		ug/L		04/02/15 17:23	04/07/15 12:56	1
Fluorene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
Hexachlorobenzene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Hexachlorobutadiene	ND		0.60		ug/L		04/02/15 17:23	04/07/15 12:56	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		04/02/15 17:23	04/07/15 12:56	1
Hexachloroethane	ND		0.60		ug/L		04/02/15 17:23	04/07/15 12:56	1
Indeno[1,2,3-cd]pyrene	ND	^	0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1
Isophorone	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Naphthalene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Nitrobenzene	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		04/02/15 17:23	04/07/15 12:56	1
Pentachlorophenol	ND		0.70		ug/L		04/02/15 17:23	04/07/15 12:56	1
Phenanthrene	ND		0.080		ug/L		04/02/15 17:23	04/07/15 12:56	1
Phenol	ND		0.60		ug/L		04/02/15 17:23	04/07/15 12:56	1
Pyrene	ND		0.060		ug/L		04/02/15 17:23	04/07/15 12:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	86		44 - 125	04/02/15 17:23	04/07/15 12:56	1
2-Fluorobiphenyl	77		50 - 120	04/02/15 17:23	04/07/15 12:56	1
2-Fluorophenol (Surr)	74		30 - 134	04/02/15 17:23	04/07/15 12:56	1
Nitrobenzene-d5 (Surr)	86		59 - 120	04/02/15 17:23	04/07/15 12:56	1
Phenol-d5 (Surr)	83		52 - 120	04/02/15 17:23	04/07/15 12:56	1
Terphenyl-d14 (Surr)	87		64 - 150	04/02/15 17:23	04/07/15 12:56	1

Lab Sample ID: LCS 580-185937/2-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185937

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	2.00	1.41		ug/L		70	40 - 125
1,2-Dichlorobenzene	2.00	1.35		ug/L		67	44 - 125
1,3-Dichlorobenzene	2.00	1.33		ug/L		66	40 - 125
1,4-Dichlorobenzene	2.00	1.39		ug/L		69	40 - 125
1-Methylnaphthalene	2.00	1.59		ug/L		79	54 - 125
2,4,5-Trichlorophenol	2.00	1.75		ug/L		88	66 - 130
2,4,6-Trichlorophenol	2.00	1.79		ug/L		90	55 - 140
2,4-Dichlorophenol	2.00	1.55		ug/L		77	50 - 140
2,4-Dimethylphenol	2.00	1.36	J	ug/L		68	30 - 135
2,4-Dinitrophenol	4.00	1.34	J	ug/L		34	24 - 146
2,4-Dinitrotoluene	2.00	1.87		ug/L		94	73 - 126
2,6-Dinitrotoluene	2.00	1.84		ug/L		92	67 - 134
2-Chloronaphthalene	2.00	1.63		ug/L		81	55 - 125
2-Chlorophenol	2.00	1.68		ug/L		84	57 - 125
2-Methylnaphthalene	2.00	1.50		ug/L		75	56 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185937/2-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185937

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	2.00	1.65		ug/L		82	60 - 130
2-Nitroaniline	2.00	2.03		ug/L		102	52 - 140
2-Nitrophenol	2.00	1.70		ug/L		85	55 - 140
3 & 4 Methylphenol	2.00	1.71		ug/L		86	60 - 130
3,3'-Dichlorobenzidine	4.00	3.31		ug/L		83	20 - 175
3-Nitroaniline	2.00	1.78		ug/L		89	22 - 124
4,6-Dinitro-2-methylphenol	4.00	3.36	J	ug/L		84	50 - 136
4-Bromophenyl phenyl ether	2.00	1.97		ug/L		99	62 - 132
4-Chloro-3-methylphenol	2.00	1.95		ug/L		98	65 - 145
4-Chloroaniline	2.00	1.48		ug/L		74	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.67		ug/L		83	59 - 125
4-Nitroaniline	2.00	1.76		ug/L		88	49 - 125
4-Nitrophenol	4.00	3.83		ug/L		96	35 - 153
Acenaphthene	2.00	1.72		ug/L		86	63 - 125
Acenaphthylene	2.00	1.78		ug/L		89	62 - 125
Anthracene	2.00	1.83		ug/L		91	50 - 125
Benzo[a]anthracene	2.00	1.99		ug/L		99	65 - 125
Benzo[a]pyrene	2.00	1.90		ug/L		95	45 - 125
Benzo[b]fluoranthene	2.00	1.97		ug/L		99	70 - 129
Benzo[g,h,i]perylene	2.00	2.20		ug/L		110	65 - 153
Benzo[k]fluoranthene	2.00	2.09		ug/L		105	70 - 123
Benzoic acid	4.00	0.615	J *	ug/L		15	20 - 144
Benzyl alcohol	2.00	1.82		ug/L		91	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.61		ug/L		80	59 - 125
Bis(2-chloroethyl)ether	2.00	1.55		ug/L		77	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	4.49	*	ug/L		224	70 - 185
bis(chloroisopropyl) ether	2.00	1.80		ug/L		90	44 - 130
Butyl benzyl phthalate	2.00	2.52		ug/L		126	60 - 167
Carbazole	2.00	1.89		ug/L		94	75 - 142
Chrysene	2.00	1.76		ug/L		88	70 - 125
Dibenz(a,h)anthracene	2.00	2.17		ug/L		108	69 - 154
Dibenzofuran	2.00	1.64		ug/L		82	60 - 125
Diethyl phthalate	2.00	2.05		ug/L		103	60 - 150
Dimethyl phthalate	2.00	1.86		ug/L		93	65 - 155
Di-n-butyl phthalate	2.00	2.36		ug/L		118	55 - 167
Di-n-octyl phthalate	2.00	2.28		ug/L		114	55 - 150
Fluoranthene	2.00	1.90		ug/L		95	70 - 145
Fluorene	2.00	1.76		ug/L		88	69 - 125
Hexachlorobenzene	2.00	1.98		ug/L		99	61 - 125
Hexachlorobutadiene	2.00	1.29		ug/L		64	25 - 125
Hexachlorocyclopentadiene	2.00	0.827	J	ug/L		41	20 - 125
Hexachloroethane	2.00	1.35		ug/L		67	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	2.37	^	ug/L		119	70 - 136
Isophorone	2.00	1.93		ug/L		97	64 - 125
Naphthalene	2.00	1.57		ug/L		78	56 - 125
Nitrobenzene	2.00	1.81		ug/L		90	62 - 125
N-Nitrosodi-n-propylamine	2.00	1.79		ug/L		90	60 - 120
N-Nitrosodiphenylamine	2.00	3.11	*	ug/L		156	40 - 135

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185937/2-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185937

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	4.00	2.76		ug/L		69	20 - 145
Phenanthrene	2.00	1.67		ug/L		83	70 - 125
Phenol	2.00	1.46		ug/L		73	53 - 130
Pyrene	2.00	1.82		ug/L		91	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	99		44 - 125
2-Fluorobiphenyl	79		50 - 120
2-Fluorophenol (Surr)	68		30 - 134
Nitrobenzene-d5 (Surr)	88		59 - 120
Phenol-d5 (Surr)	77		52 - 120
Terphenyl-d14 (Surr)	94		64 - 150

Lab Sample ID: LCSD 580-185937/3-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185937

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	2.00	1.40		ug/L		70	40 - 125	1	20
1,2-Dichlorobenzene	2.00	1.44		ug/L		72	44 - 125	6	20
1,3-Dichlorobenzene	2.00	1.40		ug/L		70	40 - 125	6	20
1,4-Dichlorobenzene	2.00	1.45		ug/L		73	40 - 125	5	20
1-Methylnaphthalene	2.00	1.62		ug/L		81	54 - 125	2	20
2,4,5-Trichlorophenol	2.00	1.65		ug/L		82	66 - 130	6	20
2,4,6-Trichlorophenol	2.00	1.74		ug/L		87	55 - 140	3	20
2,4-Dichlorophenol	2.00	1.74		ug/L		87	50 - 140	12	20
2,4-Dimethylphenol	2.00	1.50	J	ug/L		75	30 - 135	10	20
2,4-Dinitrophenol	4.00	2.57	J *	ug/L		64	24 - 146	63	20
2,4-Dinitrotoluene	2.00	1.81		ug/L		90	73 - 126	4	20
2,6-Dinitrotoluene	2.00	1.80		ug/L		90	67 - 134	2	20
2-Chloronaphthalene	2.00	1.55		ug/L		78	55 - 125	5	20
2-Chlorophenol	2.00	1.83		ug/L		92	57 - 125	9	20
2-Methylnaphthalene	2.00	1.51		ug/L		75	56 - 125	1	20
2-Methylphenol	2.00	1.83		ug/L		92	60 - 130	11	20
2-Nitroaniline	2.00	2.03		ug/L		101	52 - 140	0	20
2-Nitrophenol	2.00	1.80		ug/L		90	55 - 140	6	20
3 & 4 Methylphenol	2.00	1.85		ug/L		92	60 - 130	7	20
3,3'-Dichlorobenzidine	4.00	3.60		ug/L		90	20 - 175	8	20
3-Nitroaniline	2.00	1.66		ug/L		83	22 - 124	7	20
4,6-Dinitro-2-methylphenol	4.00	3.33	J	ug/L		83	50 - 136	1	20
4-Bromophenyl phenyl ether	2.00	1.83		ug/L		92	62 - 132	7	20
4-Chloro-3-methylphenol	2.00	2.03		ug/L		101	65 - 145	4	20
4-Chloroaniline	2.00	1.46		ug/L		73	20 - 150	2	20
4-Chlorophenyl phenyl ether	2.00	1.59		ug/L		79	59 - 125	5	20
4-Nitroaniline	2.00	1.69		ug/L		85	49 - 125	4	20
4-Nitrophenol	4.00	3.67		ug/L		92	35 - 153	4	20
Acenaphthene	2.00	1.65		ug/L		83	63 - 125	4	20
Acenaphthylene	2.00	1.69		ug/L		84	62 - 125	5	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185937/3-A

Matrix: Water

Analysis Batch: 186217

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185937

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	2.00	1.70		ug/L		85	50 - 125	7	20
Benzo[a]anthracene	2.00	1.84		ug/L		92	65 - 125	7	20
Benzo[a]pyrene	2.00	1.87		ug/L		94	45 - 125	2	20
Benzo[b]fluoranthene	2.00	1.80		ug/L		90	70 - 129	9	20
Benzo[g,h,i]perylene	2.00	2.11		ug/L		106	65 - 153	4	20
Benzo[k]fluoranthene	2.00	1.93		ug/L		96	70 - 123	8	20
Benzoic acid	4.00	1.08	J *	ug/L		27	20 - 144	54	20
Benzyl alcohol	2.00	1.79		ug/L		89	41 - 144	2	20
Bis(2-chloroethoxy)methane	2.00	1.65		ug/L		83	59 - 125	3	20
Bis(2-chloroethyl)ether	2.00	1.64		ug/L		82	55 - 125	6	20
Bis(2-ethylhexyl) phthalate	2.00	3.85	*	ug/L		192	70 - 185	15	20
bis(chloroisopropyl) ether	2.00	1.82		ug/L		91	44 - 130	1	20
Butyl benzyl phthalate	2.00	2.29		ug/L		114	60 - 167	10	20
Carbazole	2.00	1.74		ug/L		87	75 - 142	8	20
Chrysene	2.00	1.67		ug/L		84	70 - 125	5	20
Dibenz(a,h)anthracene	2.00	1.93		ug/L		96	69 - 154	12	20
Dibenzofuran	2.00	1.59		ug/L		80	60 - 125	3	20
Diethyl phthalate	2.00	1.96		ug/L		98	60 - 150	5	20
Dimethyl phthalate	2.00	1.79		ug/L		90	65 - 155	4	20
Di-n-butyl phthalate	2.00	2.14		ug/L		107	55 - 167	10	20
Di-n-octyl phthalate	2.00	2.11		ug/L		105	55 - 150	8	20
Fluoranthene	2.00	1.72		ug/L		86	70 - 145	10	20
Fluorene	2.00	1.68		ug/L		84	69 - 125	5	20
Hexachlorobenzene	2.00	1.90		ug/L		95	61 - 125	4	20
Hexachlorobutadiene	2.00	1.32		ug/L		66	25 - 125	3	20
Hexachlorocyclopentadiene	2.00	0.750	J	ug/L		38	20 - 125	10	20
Hexachloroethane	2.00	1.44		ug/L		72	30 - 125	6	20
Indeno[1,2,3-cd]pyrene	2.00	2.20	^	ug/L		110	70 - 136	7	20
Isophorone	2.00	1.95		ug/L		97	64 - 125	1	20
Naphthalene	2.00	1.65		ug/L		82	56 - 125	5	20
Nitrobenzene	2.00	1.87		ug/L		93	62 - 125	3	20
N-Nitrosodi-n-propylamine	2.00	1.88		ug/L		94	60 - 120	5	20
N-Nitrosodiphenylamine	2.00	3.28	*	ug/L		164	40 - 135	5	20
Pentachlorophenol	4.00	2.62		ug/L		65	20 - 145	5	20
Phenanthrene	2.00	1.55		ug/L		77	70 - 125	8	20
Phenol	2.00	1.70		ug/L		85	53 - 130	15	20
Pyrene	2.00	1.70		ug/L		85	70 - 133	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	94		44 - 125
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol (Surr)	85		30 - 134
Nitrobenzene-d5 (Surr)	92		59 - 120
Phenol-d5 (Surr)	92		52 - 120
Terphenyl-d14 (Surr)	88		64 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-184868/1-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184868

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
2-Methylnaphthalene	ND		0.026		ug/L		03/20/15 12:03	03/24/15 10:04	1
Acenaphthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Acenaphthylene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[a]anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[a]pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Chrysene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Fluorene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Naphthalene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Phenanthrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		64 - 150	03/20/15 12:03	03/24/15 10:04	1

Lab Sample ID: LCS 580-184868/2-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184868

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	2.23		ug/L		56	54 - 125
2-Methylnaphthalene	4.00	2.14	*	ug/L		54	56 - 125
Acenaphthene	4.00	2.29	*	ug/L		57	63 - 125
Acenaphthylene	4.00	1.09	*	ug/L		27	62 - 125
Anthracene	4.00	1.15	*	ug/L		29	50 - 125
Benzo[a]anthracene	4.00	1.85	*	ug/L		46	65 - 125
Benzo[a]pyrene	4.00	0.757	*	ug/L		19	45 - 125
Benzo[b]fluoranthene	4.00	1.99	*	ug/L		50	70 - 129
Benzo[g,h,i]perylene	4.00	1.90	*	ug/L		47	65 - 153
Benzo[k]fluoranthene	4.00	1.89	*	ug/L		47	70 - 123
Chrysene	4.00	2.27	*	ug/L		57	70 - 125
Dibenz(a,h)anthracene	4.00	2.12	*	ug/L		53	69 - 154
Fluoranthene	4.00	2.45	*	ug/L		61	70 - 145
Fluorene	4.00	2.05	*	ug/L		51	69 - 125
Indeno[1,2,3-cd]pyrene	4.00	1.95	*	ug/L		49	70 - 136
Naphthalene	4.00	2.19	*	ug/L		55	56 - 125
Phenanthrene	4.00	2.18	*	ug/L		54	70 - 125
Pyrene	4.00	2.33	*	ug/L		58	70 - 133

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-184868/2-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184868

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	64		64 - 150

Lab Sample ID: LCSD 580-184868/3-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184868

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.00	2.77	*	ug/L		69	54 - 125	21	20
2-Methylnaphthalene	4.00	2.73	*	ug/L		68	56 - 125	24	20
Acenaphthene	4.00	2.97	*	ug/L		74	63 - 125	26	20
Acenaphthylene	4.00	1.79	*	ug/L		45	62 - 125	48	20
Anthracene	4.00	1.65	*	ug/L		41	50 - 125	36	20
Benzo[a]anthracene	4.00	2.30	*	ug/L		57	65 - 125	21	20
Benzo[a]pyrene	4.00	1.27	*	ug/L		32	45 - 125	50	20
Benzo[b]fluoranthene	4.00	2.60	*	ug/L		65	70 - 129	26	20
Benzo[g,h,i]perylene	4.00	2.51	*	ug/L		63	65 - 153	28	20
Benzo[k]fluoranthene	4.00	2.29	*	ug/L		57	70 - 123	19	20
Chrysene	4.00	2.88	*	ug/L		72	70 - 125	24	20
Dibenz(a,h)anthracene	4.00	2.66	*	ug/L		67	69 - 154	23	20
Fluoranthene	4.00	2.93	*	ug/L		73	70 - 145	18	20
Fluorene	4.00	3.43	*	ug/L		86	69 - 125	50	20
Indeno[1,2,3-cd]pyrene	4.00	2.57	*	ug/L		64	70 - 136	27	20
Naphthalene	4.00	2.75	*	ug/L		69	56 - 125	23	20
Phenanthrene	4.00	2.67	*	ug/L		67	70 - 125	20	20
Pyrene	4.00	2.89	*	ug/L		72	70 - 133	21	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	74		64 - 150

Lab Sample ID: MB 580-185536/1-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
2-Methylnaphthalene	ND		0.026		ug/L		03/30/15 12:41	04/01/15 13:02	1
Acenaphthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Acenaphthylene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[a]anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[a]pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Chrysene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Fluorene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-185536/1-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Naphthalene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Phenanthrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	88		64 - 150	03/30/15 12:41	04/01/15 13:02	1

Lab Sample ID: LCS 580-185536/2-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	3.29		ug/L		82	54 - 125
2-Methylnaphthalene	4.00	3.20		ug/L		80	56 - 125
Acenaphthene	4.00	2.91		ug/L		73	63 - 125
Acenaphthylene	4.00	2.56		ug/L		64	62 - 125
Anthracene	4.00	3.16		ug/L		79	50 - 125
Benzo[a]anthracene	4.00	3.22		ug/L		80	65 - 125
Benzo[a]pyrene	4.00	2.34		ug/L		58	45 - 125
Benzo[b]fluoranthene	4.00	3.06		ug/L		77	70 - 129
Benzo[g,h,i]perylene	4.00	2.90		ug/L		73	65 - 153
Benzo[k]fluoranthene	4.00	2.93		ug/L		73	70 - 123
Chrysene	4.00	3.36		ug/L		84	70 - 125
Dibenz(a,h)anthracene	4.00	3.07		ug/L		77	69 - 154
Fluoranthene	4.00	3.34		ug/L		84	70 - 145
Fluorene	4.00	3.31		ug/L		83	69 - 125
Indeno[1,2,3-cd]pyrene	4.00	3.12		ug/L		78	70 - 136
Naphthalene	4.00	3.22		ug/L		81	56 - 125
Phenanthrene	4.00	3.12		ug/L		78	70 - 125
Pyrene	4.00	3.42		ug/L		86	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	83		64 - 150

Lab Sample ID: LCSD 580-185536/3-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1-Methylnaphthalene	4.00	3.41		ug/L		85	54 - 125	4	20
2-Methylnaphthalene	4.00	3.32		ug/L		83	56 - 125	4	20
Acenaphthene	4.00	3.17		ug/L		79	63 - 125	9	20
Acenaphthylene	4.00	2.84		ug/L		71	62 - 125	10	20
Anthracene	4.00	3.22		ug/L		80	50 - 125	2	20
Benzo[a]anthracene	4.00	3.42		ug/L		85	65 - 125	6	20
Benzo[a]pyrene	4.00	2.47		ug/L		62	45 - 125	6	20
Benzo[b]fluoranthene	4.00	3.33		ug/L		83	70 - 129	8	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-185536/3-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene	4.00	3.05		ug/L		76	65 - 153	5	20
Benzo[k]fluoranthene	4.00	2.97		ug/L		74	70 - 123	2	20
Chrysene	4.00	3.61		ug/L		90	70 - 125	7	20
Dibenz(a,h)anthracene	4.00	3.23		ug/L		81	69 - 154	5	20
Fluoranthene	4.00	3.59		ug/L		90	70 - 145	7	20
Fluorene	4.00	2.83		ug/L		71	69 - 125	16	20
Indeno[1,2,3-cd]pyrene	4.00	3.12		ug/L		78	70 - 136	0	20
Naphthalene	4.00	3.31		ug/L		83	56 - 125	3	20
Phenanthrene	4.00	3.31		ug/L		83	70 - 125	6	20
Pyrene	4.00	3.63		ug/L		91	70 - 133	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	86		64 - 150

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184885/1-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184885

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/20/15 14:11	03/20/15 17:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150				03/20/15 14:11	03/20/15 17:27	1
Trifluorotoluene (Surr)	112		50 - 150				03/20/15 14:11	03/20/15 17:27	1

Lab Sample ID: LCS 580-184885/2-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184885

			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline			40.0	40.9		mg/Kg	-	102	68 - 120		
Surrogate	LCS	LCS									
	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	100		50 - 150								
Trifluorotoluene (Surr)	110		50 - 150								

Lab Sample ID: LCSD 580-184885/3-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184885

			Spike	LCSD	LCSD				%Rec.	RPD	RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline			40.0	41.3		mg/Kg	-	103	68 - 120	1	25
Surrogate	LCSD	LCSD									
	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	101		50 - 150								

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-184885/3-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184885

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	109		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184776/1-A

Matrix: Solid

Analysis Batch: 184820

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184776

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		03/19/15 14:17	03/20/15 09:47	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		03/19/15 14:17	03/20/15 09:47	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150				03/19/15 14:17	03/20/15 09:47	1

Lab Sample ID: LCS 580-184776/2-A

Matrix: Solid

Analysis Batch: 184820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	373		mg/Kg		74	70 - 125
Motor Oil (>C24-C36)	502	383		mg/Kg		76	64 - 127
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
o-Terphenyl	71		50 - 150				

Lab Sample ID: LCSD 580-184776/3-A

Matrix: Solid

Analysis Batch: 184820

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184776

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	500	415		mg/Kg		83	70 - 125	11	16
Motor Oil (>C24-C36)	502	427		mg/Kg		85	64 - 127	11	17
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
o-Terphenyl	86		50 - 150						

Lab Sample ID: 580-48106-1 DU

Matrix: Solid

Analysis Batch: 184820

Client Sample ID: B3-3-11

Prep Type: Total/NA

Prep Batch: 184776

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
#2 Diesel (C10-C24)	ND		ND		mg/Kg	✖	NC	35
Motor Oil (>C24-C36)	ND		ND		mg/Kg	✖	NC	35

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-48106-1 DU
Matrix: Solid
Analysis Batch: 184820

Client Sample ID: B3-3-11
Prep Type: Total/NA
Prep Batch: 184776

Surrogate	DU	DU	Qualifier	Limits
o-Terphenyl	60			50 - 150

Lab Sample ID: MB 580-185136/1-A
Matrix: Water
Analysis Batch: 185187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185136

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND				0.13		mg/L		03/24/15 21:40	03/25/15 11:49	1
Motor Oil (>C24-C36)	ND				0.25		mg/L		03/24/15 21:40	03/25/15 11:49	1
Surrogate	MB	MB	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	77				50 - 150				03/24/15 21:40	03/25/15 11:49	1

Lab Sample ID: LCS 580-185136/2-A
Matrix: Water
Analysis Batch: 185187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185136

Analyte	Spike Added	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.
#2 Diesel (C10-C24)	4.00			3.97		mg/L		99	59 - 120	
Motor Oil (>C24-C36)	4.02			4.38		mg/L		109	71 - 140	
Surrogate	LCS	LCS	%Recovery	Qualifier	Limits					
o-Terphenyl	87				50 - 150					

Lab Sample ID: LCSD 580-185136/3-A
Matrix: Water
Analysis Batch: 185187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185136

Analyte	Spike Added	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	Limits	RPD	RPD	Limit
#2 Diesel (C10-C24)	4.00			3.65		mg/L		91	59 - 120	9		27
Motor Oil (>C24-C36)	4.02			3.93		mg/L		98	71 - 140	11		27
Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits							
o-Terphenyl	82				50 - 150							

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-185600/19-A
Matrix: Solid
Analysis Batch: 185697

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185600

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND				0.20		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Arsenic	ND				0.50		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Beryllium	ND				0.20		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Cadmium	ND				0.20		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Chromium	ND				0.50		mg/Kg		03/30/15 20:25	03/31/15 12:57	10

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-185600/19-A

Matrix: Solid

Analysis Batch: 185697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185600

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		0.40		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Lead	ND		0.50		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Nickel	ND		0.50		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Selenium	ND		1.0		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Silver	ND		0.20		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Thallium	ND		0.40		mg/Kg		03/30/15 20:25	03/31/15 12:57	10
Zinc	ND		5.0		mg/Kg		03/30/15 20:25	03/31/15 12:57	10

Lab Sample ID: LCS 580-185600/20-A

Matrix: Solid

Analysis Batch: 185697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	150	154		mg/Kg		102	80 - 120
Arsenic	200	204		mg/Kg		102	80 - 120
Beryllium	5.00	5.56		mg/Kg		111	80 - 120
Cadmium	5.00	5.08		mg/Kg		102	80 - 120
Chromium	20.0	20.3		mg/Kg		102	80 - 120
Copper	25.0	25.8		mg/Kg		103	80 - 120
Lead	50.0	51.9		mg/Kg		104	80 - 120
Nickel	50.0	50.7		mg/Kg		101	80 - 120
Selenium	200	203		mg/Kg		101	80 - 120
Silver	30.0	33.8		mg/Kg		113	80 - 120
Thallium	200	205		mg/Kg		102	80 - 120
Zinc	200	202		mg/Kg		101	80 - 120

Lab Sample ID: LCSD 580-185600/21-A

Matrix: Solid

Analysis Batch: 185697

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185600

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	150	154		mg/Kg		103	80 - 120	0	20
Arsenic	200	205		mg/Kg		102	80 - 120	0	20
Beryllium	5.00	5.25		mg/Kg		105	80 - 120	6	20
Cadmium	5.00	5.22		mg/Kg		104	80 - 120	3	20
Chromium	20.0	20.0		mg/Kg		100	80 - 120	1	20
Copper	25.0	26.2		mg/Kg		105	80 - 120	2	20
Lead	50.0	52.6		mg/Kg		105	80 - 120	1	20
Nickel	50.0	50.5		mg/Kg		101	80 - 120	0	20
Selenium	200	204		mg/Kg		102	80 - 120	1	20
Silver	30.0	34.1		mg/Kg		114	80 - 120	1	20
Thallium	200	207		mg/Kg		103	80 - 120	1	20
Zinc	200	206		mg/Kg		103	80 - 120	2	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-48106-1 MS

Matrix: Solid

Analysis Batch: 185697

Client Sample ID: B3-3-11

Prep Type: Total/NA

Prep Batch: 185600

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		129	126		mg/Kg	☼	97	80 - 120
Arsenic	2.7		172	178		mg/Kg	☼	102	80 - 120
Beryllium	ND		4.31	4.45		mg/Kg	☼	100	80 - 120
Cadmium	ND		4.31	4.42		mg/Kg	☼	100	80 - 120
Chromium	29	F1	17.2	55.1	F1	mg/Kg	☼	152	80 - 120
Copper	14		21.5	38.9		mg/Kg	☼	115	80 - 120
Lead	2.2		43.1	47.0		mg/Kg	☼	104	80 - 120
Nickel	46	F1	43.1	100	F1	mg/Kg	☼	125	80 - 120
Selenium	ND		172	174		mg/Kg	☼	101	80 - 120
Silver	ND		25.8	28.8		mg/Kg	☼	111	80 - 120
Thallium	ND		172	177		mg/Kg	☼	103	80 - 120
Zinc	30		172	208		mg/Kg	☼	103	80 - 120

Lab Sample ID: 580-48106-1 MSD

Matrix: Solid

Analysis Batch: 185697

Client Sample ID: B3-3-11

Prep Type: Total/NA

Prep Batch: 185600

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		140	128		mg/Kg	☼	92	80 - 120	2	20
Arsenic	2.7		187	181		mg/Kg	☼	95	80 - 120	1	20
Beryllium	ND		4.67	4.59		mg/Kg	☼	95	80 - 120	3	20
Cadmium	ND		4.67	4.71		mg/Kg	☼	98	80 - 120	6	20
Chromium	29	F1	18.7	51.5		mg/Kg	☼	120	80 - 120	7	20
Copper	14		23.4	37.3		mg/Kg	☼	99	80 - 120	4	20
Lead	2.2		46.7	47.3		mg/Kg	☼	97	80 - 120	1	20
Nickel	46	F1	46.7	93.2		mg/Kg	☼	100	80 - 120	7	20
Selenium	ND		187	176		mg/Kg	☼	94	80 - 120	1	20
Silver	ND		28.0	29.1		mg/Kg	☼	104	80 - 120	1	20
Thallium	ND		187	180		mg/Kg	☼	96	80 - 120	1	20
Zinc	30		187	207		mg/Kg	☼	94	80 - 120	1	20

Lab Sample ID: 580-48106-1 DU

Matrix: Solid

Analysis Batch: 185697

Client Sample ID: B3-3-11

Prep Type: Total/NA

Prep Batch: 185600

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Antimony	ND		0.174		mg/Kg	☼	NC	20
Arsenic	2.7		3.01		mg/Kg	☼	12	20
Beryllium	ND		0.184		mg/Kg	☼	NC	20
Cadmium	ND		ND		mg/Kg	☼	NC	20
Chromium	29	F1	33.4		mg/Kg	☼	14	20
Copper	14		15.3		mg/Kg	☼	8	20
Lead	2.2		2.38		mg/Kg	☼	9	20
Nickel	46	F1	50.9		mg/Kg	☼	9	20
Selenium	ND		ND		mg/Kg	☼	NC	20
Silver	ND		ND		mg/Kg	☼	NC	20
Thallium	ND		ND		mg/Kg	☼	NC	20
Zinc	30		32.8		mg/Kg	☼	8	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-185727/22-A
Matrix: Water
Analysis Batch: 185802

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 185727

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 08:46	5
Arsenic	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 08:46	5
Beryllium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 08:46	5
Cadmium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 08:46	5
Chromium	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 08:46	5
Copper	ND		0.010		mg/L		03/31/15 18:13	04/01/15 08:46	5
Lead	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 08:46	5
Nickel	ND		0.015		mg/L		03/31/15 18:13	04/01/15 08:46	5
Selenium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 08:46	5
Silver	ND		0.0020		mg/L		03/31/15 18:13	04/01/15 08:46	5
Thallium	ND		0.0050		mg/L		03/31/15 18:13	04/01/15 08:46	5
Zinc	ND		0.035		mg/L		03/31/15 18:13	04/01/15 08:46	5

Lab Sample ID: LCS 580-185727/23-A
Matrix: Water
Analysis Batch: 185802

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 185727

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	3.00		mg/L		100	80 - 120
Arsenic	4.00	4.00		mg/L		100	80 - 120
Beryllium	0.100	0.103		mg/L		103	80 - 120
Cadmium	0.100	0.104		mg/L		104	80 - 120
Chromium	0.400	0.400		mg/L		100	80 - 120
Copper	0.500	0.532		mg/L		106	80 - 120
Lead	1.00	1.04		mg/L		104	80 - 120
Nickel	1.00	1.02		mg/L		102	80 - 120
Selenium	4.00	3.95		mg/L		99	80 - 120
Silver	0.600	0.676		mg/L		113	80 - 120
Thallium	4.00	4.09		mg/L		102	80 - 120
Zinc	4.00	4.11		mg/L		103	80 - 120

Lab Sample ID: LCSD 580-185727/24-A
Matrix: Water
Analysis Batch: 185802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 185727

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.00	2.97		mg/L		99	80 - 120	1	20
Arsenic	4.00	4.02		mg/L		100	80 - 120	0	20
Beryllium	0.100	0.102		mg/L		102	80 - 120	1	20
Cadmium	0.100	0.103		mg/L		103	80 - 120	2	20
Chromium	0.400	0.409		mg/L		102	80 - 120	2	20
Copper	0.500	0.523		mg/L		105	80 - 120	2	20
Lead	1.00	1.04		mg/L		104	80 - 120	0	20
Nickel	1.00	1.02		mg/L		102	80 - 120	0	20
Selenium	4.00	4.01		mg/L		100	80 - 120	1	20
Silver	0.600	0.681		mg/L		114	80 - 120	1	20
Thallium	4.00	4.11		mg/L		103	80 - 120	0	20
Zinc	4.00	4.09		mg/L		102	80 - 120	1	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-185546/21-A
Matrix: Water
Analysis Batch: 185583

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 15:33	1

Lab Sample ID: LCS 580-185546/22-A
Matrix: Water
Analysis Batch: 185583

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185546

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00182		mg/L		91	80 - 120

Lab Sample ID: LCSD 580-185546/23-A
Matrix: Water
Analysis Batch: 185583

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185546

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.00200	0.00183		mg/L		92	80 - 120	1	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-185652/22-A
Matrix: Solid
Analysis Batch: 185680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185652

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		03/31/15 11:29	03/31/15 13:24	1

Lab Sample ID: LCS 580-185652/23-A
Matrix: Solid
Analysis Batch: 185680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.165		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 580-185652/24-A
Matrix: Solid
Analysis Batch: 185680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.167	0.161		mg/Kg		97	80 - 120	2	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-48106-1 DU
Matrix: Solid
Analysis Batch: 184907

Client Sample ID: B3-3-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	88		88		%		0	20
Percent Moisture	12		12		%		0.07	20

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-3-11

Date Collected: 03/16/15 09:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-1

Matrix: Solid

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/16/15 17:00	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 18:15	TL1	TAL SEA
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 20:03	CJ	TAL SEA
Total/NA	Prep	3546			184776	03/19/15 14:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184820	03/20/15 10:41	EKK	TAL SEA
Total/NA	Prep	3050B			185600	03/30/15 20:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185697	03/31/15 13:14	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 13:41	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:37	JMB	TAL SEA

Client Sample ID: B3-3-G

Date Collected: 03/16/15 10:40

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	184860	03/20/15 22:16	A1C	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 13:20	EKK	TAL SEA
Total Recoverable	Prep	3005A			185727	03/31/15 18:13	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185802	04/01/15 09:41	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 16:21	FCW	TAL SEA

Client Sample ID: B3-4-10.5

Date Collected: 03/16/15 11:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-3

Matrix: Solid

Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/16/15 17:00	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 16:33	TL1	TAL SEA
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 20:35	CJ	TAL SEA
Total/NA	Prep	3546			184776	03/19/15 14:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184820	03/20/15 11:17	EKK	TAL SEA
Total/NA	Prep	3050B			185600	03/30/15 20:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185697	03/31/15 14:16	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 13:44	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:40	JMB	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B3-4-G

Date Collected: 03/16/15 12:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2.5	184860	03/20/15 22:42	A1C	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 13:38	EKK	TAL SEA
Total Recoverable	Prep	3005A			185727	03/31/15 18:13	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185802	04/01/15 09:45	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 16:23	FCW	TAL SEA

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 21:23	A1C	TAL SEA
Total/NA	Prep	3520C			184889	03/20/15 14:30		TAL SEA
Total/NA	Analysis	8270D		1	185025	03/23/15 21:45	CGM	TAL SEA
Total/NA	Prep	3520C	RE		185937	04/02/15 17:23		TAL SEA
Total/NA	Analysis	8270D	RE	1	186217	04/07/15 15:27	AHP	TAL SEA
Total/NA	Prep	3520C			184868	03/20/15 12:03		TAL SEA
Total/NA	Analysis	8270D SIM		1	185041	03/24/15 13:41	AHP	TAL SEA
Total/NA	Prep	3520C	RE		185536	03/30/15 16:50	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM	RE	1	185761	04/01/15 17:44	AHP	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 13:57	EKK	TAL SEA
Total Recoverable	Prep	3005A			185727	03/31/15 18:13	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185802	04/01/15 09:49	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 16:31	FCW	TAL SEA

Client Sample ID: FB-03162015-01

Date Collected: 03/16/15 11:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-6

Matrix: Solid

Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			184747	03/19/15 10:42	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185483	03/30/15 19:08	ERB	TAL SEA
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 21:37	CJ	TAL SEA
Total/NA	Prep	3546			184776	03/19/15 14:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184820	03/20/15 11:35	EKK	TAL SEA
Total/NA	Prep	3050B			185600	03/30/15 20:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185697	03/31/15 13:51	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: FB-03162015-01

Lab Sample ID: 580-48106-6

Date Collected: 03/16/15 11:00

Matrix: Solid

Date Received: 03/16/15 16:45

Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7471A		1	185680	03/31/15 13:46	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:40	JMB	TAL SEA

Client Sample ID: TB-031615-02

Lab Sample ID: 580-48106-7

Date Collected: 03/16/15 12:01

Matrix: Water

Date Received: 03/16/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 15:44	A1C	TAL SEA

Client Sample ID: B1-1-G

Lab Sample ID: 580-48106-8

Date Collected: 03/16/15 15:30

Matrix: Water

Date Received: 03/16/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 21:49	A1C	TAL SEA
Total/NA	Prep	3520C			184889	03/20/15 14:30		TAL SEA
Total/NA	Analysis	8270D		1	185025	03/23/15 22:11	CGM	TAL SEA
Total/NA	Prep	3520C	RE		185937	04/02/15 17:23		TAL SEA
Total/NA	Analysis	8270D	RE	1	186217	04/07/15 15:52	AHP	TAL SEA
Total/NA	Prep	3520C			184868	03/20/15 12:03		TAL SEA
Total/NA	Analysis	8270D SIM		1	185041	03/24/15 14:03	AHP	TAL SEA
Total/NA	Prep	3520C	RE		185536	03/30/15 16:50	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM	RE	1	185761	04/01/15 18:06	AHP	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 14:15	EKK	TAL SEA
Total Recoverable	Prep	3005A			185727	03/31/15 18:13	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185802	04/01/15 09:53	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 16:33	FCW	TAL SEA

Client Sample ID: TB-031615-01

Lab Sample ID: 580-48106-9

Date Collected: 03/16/15 12:01

Matrix: Solid

Date Received: 03/16/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/16/15 17:00	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 15:05	TL1	TAL SEA
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 19:01	CJ	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-1-6

Date Collected: 03/16/15 09:21

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-10

Matrix: Solid

Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/16/15 17:00	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 20:46	TL1	TAL SEA
Total/NA	Prep	3550B			184747	03/19/15 10:42	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185483	03/30/15 19:35	ERB	TAL SEA
Total/NA	Prep	3546			184776	03/19/15 14:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184820	03/20/15 11:54	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:40	JMB	TAL SEA

Client Sample ID: B5-2-3.5

Date Collected: 03/16/15 09:55

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-11

Matrix: Solid

Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/16/15 17:00	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 16:58	TL1	TAL SEA
Total/NA	Prep	3550B			184747	03/19/15 10:42	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185483	03/30/15 20:01	ERB	TAL SEA
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 22:08	CJ	TAL SEA
Total/NA	Prep	3546			184776	03/19/15 14:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184820	03/20/15 12:12	EKK	TAL SEA
Total/NA	Prep	3050B			185600	03/30/15 20:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185697	03/31/15 13:55	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 14:05	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	184907	03/20/15 17:40	JMB	TAL SEA

Client Sample ID: B5-2-3.5 RB

Date Collected: 03/16/15 10:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 20:05	A1C	TAL SEA
Total/NA	Prep	3520C			184889	03/20/15 14:30		TAL SEA
Total/NA	Analysis	8270D		1	185025	03/23/15 22:37	CGM	TAL SEA
Total/NA	Prep	3520C	RE		185937	04/02/15 17:23		TAL SEA
Total/NA	Analysis	8270D	RE	1	186217	04/07/15 16:17	AHP	TAL SEA
Total/NA	Prep	3520C			184868	03/20/15 12:03		TAL SEA
Total/NA	Analysis	8270D SIM		1	185041	03/24/15 14:25	AHP	TAL SEA
Total/NA	Prep	3520C	RE		185536	03/30/15 16:50	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM	RE	1	185761	04/01/15 18:27	AHP	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 14:33	EKK	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Client Sample ID: B5-2-3.5 RB

Lab Sample ID: 580-48106-12

Date Collected: 03/16/15 10:00

Matrix: Water

Date Received: 03/16/15 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			185727	03/31/15 18:13	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	185802	04/01/15 09:57	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 16:35	FCW	TAL SEA

Client Sample ID: B1-1-4

Lab Sample ID: 580-48106-13

Date Collected: 03/16/15 14:10

Matrix: Solid

Date Received: 03/16/15 16:45

Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/16/15 17:00	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 19:56	TL1	TAL SEA
Total/NA	Prep	3550B			184747	03/19/15 10:42	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185483	03/30/15 20:28	ERB	TAL SEA
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 22:40	CJ	TAL SEA
Total/NA	Prep	3546			184776	03/19/15 14:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184820	03/20/15 12:30	EKK	TAL SEA
Total/NA	Prep	3050B			185600	03/30/15 20:25	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185697	03/31/15 13:59	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 14:08	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	185050	03/24/15 08:09	ERZ	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	3 & 4 Methylphenol

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	bis(chloroisopropyl) ether
8270D	3550B	Solid	1,2,4-Trichlorobenzene
8270D	3550B	Solid	bis(chloroisopropyl) ether
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Sample Summary

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48106-1	B3-3-11	Solid	03/16/15 09:30	03/16/15 16:45
580-48106-2	B3-3-G	Water	03/16/15 10:40	03/16/15 16:45
580-48106-3	B3-4-10.5	Solid	03/16/15 11:20	03/16/15 16:45
580-48106-4	B3-4-G	Water	03/16/15 12:00	03/16/15 16:45
580-48106-5	B5-2-G	Water	03/16/15 13:20	03/16/15 16:45
580-48106-6	FB-03162015-01	Solid	03/16/15 11:00	03/16/15 16:45
580-48106-7	TB-031615-02	Water	03/16/15 12:01	03/16/15 16:45
580-48106-8	B1-1-G	Water	03/16/15 15:30	03/16/15 16:45
580-48106-9	TB-031615-01	Solid	03/16/15 12:01	03/16/15 16:45
580-48106-10	B5-1-6	Solid	03/16/15 09:21	03/16/15 16:45
580-48106-11	B5-2-3.5	Solid	03/16/15 09:55	03/16/15 16:45
580-48106-12	B5-2-3.5 RB	Water	03/16/15 10:00	03/16/15 16:45
580-48106-13	B1-1-4	Solid	03/16/15 14:10	03/16/15 16:45

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush

☐ Short Hold

**Chain of
Custody Record**

6/29/2015

Client **ERM**

Client Contact **Mike Arnold**

Date **3/16/2015**

Chain of Custody Number **26319**

Address **1218 3rd Ave Ste. 1412**

Telephone Number (Area Code/Fax Number) **425-462-8591**

Lab Number

Page **1** of **2**

City **Seattle**

State **WA** Zip Code **98101**

Sampler **M. Levine**

Lab Contact **David Burk**

Analysis (Attach list if more space is needed)

Project Name and Location (State) **K2 Facility Site Characterization**

Billing Contact

Containers & Preservatives

**IPH-G*
IPH-D/HO
Vocs (8260)
PP (Metals)
SVOCs**

Special Instructions/
Conditions of Receipt

Contract/Purchase Order/Quote No. **266125**

Sample ID, and Location/Description
(Containers for each sample may be combined on one line)

Date

Time

Air

Aqueous

Sed.

Soil

Unpres.

H2SO4

HNO3

HCl

NaOH

ZnAc/
NaOH

MnOH

Matrix

Containers & Preservatives

Analysis (Attach list if more space is needed)

Special Instructions/
Conditions of Receipt

Sample ID, and Location/Description
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NaOH

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ZnAc/
NaOH

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Analysis (Attach list if more space is needed)

Special Instructions/
Conditions of Receipt

Sample ID, and Location/Description
(Containers for each sample may be combined on one line)

Date

Time

Air

Aqueous

Sed.

Soil

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48106-1

Login Number: 48106

List Source: TestAmerica Seattle

List Number: 1

Creator: Vance, Diane R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-48106-2

Client Project/Site: K2 Facility Site Characterization

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:

3/23/2015 4:40:33 PM

Cathy Gamble, Project Management Assistant I
(253)922-2310

cathy.gamble@testamericainc.com

Designee for

David Burk, Project Manager I
(253)248-4972

david.burk@testamericainc.com

LINKS

Review your project
results through

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Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Job ID: 580-48106-2

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/16/2015 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.5° C and 6.0° C.

Except:

The following sample is named "B5-1-6" on the COC: B5-1-7 (580-48106-10). The sample label is named " B5-1-7." The job was logged in following the information on the sample label.

GC/MS VOA

Method NWTPH-Gx: The following samples were diluted due to the nature of the sample matrix: B3-3-G (580-48106-2), B3-4-G (580-48106-4) The sample vials contained large amounts of sediment and were therefore run at a 2X dilution to remove the non-aqueous solids. Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West

TestAmerica Job ID: 580-48106-2

Project/Site: K2 Facility Site Characterization

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Client Sample ID: B3-3-G

Date Collected: 03/16/15 10:40

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-2

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.20		mg/L			03/20/15 16:36	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					03/20/15 16:36	2
Trifluorotoluene (Surr)	107		50 - 150					03/20/15 16:36	2

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Client Sample ID: B3-4-G

Date Collected: 03/16/15 12:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-4

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.20		mg/L			03/20/15 17:09	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/20/15 17:09	2
Trifluorotoluene (Surr)	108		50 - 150					03/20/15 17:09	2

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/20/15 17:42	1
Trifluorotoluene (Surr)	103		50 - 150					03/20/15 17:42	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Client Sample ID: TB-031615-02

Lab Sample ID: 580-48106-7

Date Collected: 03/16/15 12:01

Matrix: Water

Date Received: 03/16/15 16:45

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 15:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					03/20/15 15:30	1
Trifluorotoluene (Surr)	110		50 - 150					03/20/15 15:30	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Client Sample ID: B1-1-G

Lab Sample ID: 580-48106-8

Date Collected: 03/16/15 15:30

Matrix: Water

Date Received: 03/16/15 16:45

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 18:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					03/20/15 18:15	1
Trifluorotoluene (Surr)	108		50 - 150					03/20/15 18:15	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184878/4

Matrix: Water

Analysis Batch: 184878

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 13:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					03/20/15 13:18	1
Trifluorotoluene (Surr)	111		50 - 150					03/20/15 13:18	1

Lab Sample ID: LCS 580-184878/5

Matrix: Water

Analysis Batch: 184878

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.832		mg/L		83	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	101		50 - 150				
Trifluorotoluene (Surr)	99		50 - 150				

Lab Sample ID: LCSD 580-184878/6

Matrix: Water

Analysis Batch: 184878

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.813		mg/L		81	79 - 110	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		50 - 150						
Trifluorotoluene (Surr)	96		50 - 150						

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility Site Characterization

TestAmerica Job ID: 580-48106-2

Client Sample ID: B3-3-G

Date Collected: 03/16/15 10:40

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		2	184878	03/20/15 16:36	TL1	TAL SEA

Client Sample ID: B3-4-G

Date Collected: 03/16/15 12:00

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		2	184878	03/20/15 17:09	TL1	TAL SEA

Client Sample ID: B5-2-G

Date Collected: 03/16/15 13:20

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184878	03/20/15 17:42	TL1	TAL SEA

Client Sample ID: TB-031615-02

Date Collected: 03/16/15 12:01

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184878	03/20/15 15:30	TL1	TAL SEA

Client Sample ID: B1-1-G

Date Collected: 03/16/15 15:30

Date Received: 03/16/15 16:45

Lab Sample ID: 580-48106-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184878	03/20/15 18:15	TL1	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West

TestAmerica Job ID: 580-48106-2

Project/Site: K2 Facility Site Characterization

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

Analysis Method	Prep Method	Matrix	Analyte

Sample Summary

Client: ERM-West

TestAmerica Job ID: 580-48106-2

Project/Site: K2 Facility Site Characterization

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48106-2	B3-3-G	Water	03/16/15 10:40	03/16/15 16:45
580-48106-4	B3-4-G	Water	03/16/15 12:00	03/16/15 16:45
580-48106-5	B5-2-G	Water	03/16/15 13:20	03/16/15 16:45
580-48106-7	TB-031615-02	Water	03/16/15 12:01	03/16/15 16:45
580-48106-8	B1-1-G	Water	03/16/15 15:30	03/16/15 16:45

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client: **ERM** Client Contact: **Mike Arnold** Date: **3/16/2015** Chain of Custody Number: **26319**

Address: **1218 3rd Ave Ste. 1412** Telephone Number (Area Code/Fax Number): **425-462-8591** Lab Number: **46106** Page **1** of **2**

City: **Seattle** State: **WA** Zip Code: **98101** Sampler: **M. Levine** Lab Contact: **David Burk**

Project Name and Location (State): **K2 Facility Site Characterization** Billing Contact: **David Burk**

Contract/Purchase Order/Quote No.: **266125**

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	MnOH	TPH	Voc	PPC	SV		
B3-3-11	3/16/15	0930				X	4		18				1	X	X	X	X		* 5-day turnaround for TPH-G, on water
B3-3-6	3/16/15	1040	X										1	X	X	X	X		
B3-4-10.5	3/16/15	1120			X		4						1	X	X	X	X		
B3-4-6	3/16/15	1200	X					18					1	X	X	X	X		
B5-2-6	3/16/15	1320	X				4	18					1	X	X	X	X		
FB-03162015-01	3/16/15	1100			X		4						1	X	X	X	X		Cooler/TPB Dig/IR cor 6.0 °C unc 5.5 °C Cooler Dsc by Bhs/H/H/Lab Wet/Packs Packing Bhs/H/H/Lab
FB-031615-02	3/16/15								2					X	X	X	X		w/o client drop
B1-1-6	3/16/15	1530	X				4	18						X	X	X	X		Cooler/TPB Dig/IR cor 3.5 °C unc 4.0 °C Cooler Dsc by Bhs/H/H/Lab Wet/Packs Packing Bhs/H/H/Lab
																			w/o client drop

Page 14 of 16

Cooler: ☒ Yes ☐ No Cooler Temp: _____ Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Return To Client ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☒ Other: **Standard**

1. Relinquished By: **Sign/Print** Date: **3/16/15** Time: **1645** 1. Received By: **Sign/Print** Date: **3/16/15** Time: **1645**

2. Relinquished By: **Sign/Print** Date: _____ Time: _____ 2. Received By: **Sign/Print** Date: _____ Time: _____

3. Relinquished By: **Sign/Print** Date: _____ Time: _____ 3. Received By: **Sign/Print** Date: _____ Time: _____

Comments: _____



580-43106 Chain of Custody

☐ Short Hold

Custody Record

Address	Telephone Number (Area Code)/Fax Number	Lab Number

City	State	Zip Code	Sampler	Lab Contact	Analysis (Attach list if more space is needed)
Seattle	WA	98101			

Project Name and Location (State)	Billing Contact

Contract/Purchase Order/Quote No. _____

Containers & _____

Conditions of Receipt _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time
Air		
Aqueous		
Sed.		
Soil		
Unpres.		
H2SO4		
HNO3		
HCl		
NaOH		
ZnAc/ NaOH		
MeOH		
TPH		
VO		
SVC		
TPH		
PP		

[illegible][illegible][illegible]

B5-2-3.5		X	4	1	X	X			
ERB	1000			5	X				

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

☐ Yes
☐ No
 Cooler Temp: _____
☐ Non-Hazard ☐ Flammable
☐ Toxic/Irritant/Corrosive ☐ Skin Irritant
☐ Poison B ☐ Unknown
☐ Return to Client ☐ Archive For _____ Months
 (Are they the assessor's 11 samples retained longer than 1 month)

Turn Around Time Required (business days)	QC Requirements (Specify)
1-2	
3-4	
5-6	
7-8	
9-10	
11-12	
13-14	
15-16	
17-18	
19-20	
21-22	
23-24	
25-26	
27-28	
29-30	
31-32	
33-34	
35-36	
37-38	
39-40	
41-42	
43-44	
45-46	
47-48	
49-50	
51-52	
53-54	
55-56	
57-58	
59-60	
61-62	
63-64	
65-66	
67-68	
69-70	
71-72	
73-74	
75-76	
77-78	
79-80	
81-82	
83-84	
85-86	
87-88	
89-90	
91-92	
93-94	
95-96	
97-98	
99-100	

	Date	Time		Date	Time
1. Received By Signl/P-Unit	/ /	: :		/ /	: :
2. Relinquished By Signl/P-Unit	/ /	: :		/ /	: :

Ref.	Time	Date	Time
1	1645	11/6/15	1645
2	1645	11/6/15	1645

[illegible]

3. Relinquished By Sign/Print	Date	Time
3. Received By Sign/Print	Date	Time

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PMK – Field Copy

TAL-8274-580 (0210)

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48106-2

Login Number: 48106

List Source: TestAmerica Seattle

List Number: 1

Creator: Vance, Diane R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

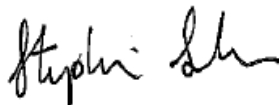
TestAmerica Job ID: 580-48155-1

Client Project/Site: K2 Site Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:
4/6/2015 10:24:27 AM

Stephanie Sanders, Project Manager I
(303)736-0196
stephanie.sanders@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Job ID: 580-48155-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/19/2015 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.3° C.

Except:

The sample IDs on the following samples are smudged to the point of illegibility: HA7-1-1.5 (580-48155-3), SS7-1-0.5 (580-48155-2). The sample collection times were used to verify the sample ID.

The following samples were received at the laboratory outside the required temperature criteria: B4-1-G (580-48155-7), HA1-1-4.5 (580-48155-4), HA7-1-1.5 (580-48155-3), MW1-2-031915 (580-48155-1), SS7-1-0.5 (580-48155-2), TB-031915-01 (580-48155-5), TB-031915-02 (580-48155-6). The samples are considered acceptable since they were collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184860 recovered above the upper control limit for Vinyl chloride, trans-1,3-Dichloropropene and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-184860/3).

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 184860 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated. A low level calibration verification (CCVL) was analyzed as per method recommendation.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 184860 recovered outside acceptance criteria, low biased, for 1,2,3-Trichlorobenzene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch 184860 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, N-Propylbenzene and Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 184860 recovered outside control limits for the following analytes: cis-1,3-Dichloropropene, Isopropylbenzene and Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184870 recovered outside control limits for the following analytes: Chloromethane and Dichlorodifluoromethane.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 184870 recovered outside control limits for the following analyte: trans-1,3-Dichloropropene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185375 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS/LCSD associated with prep batch 184969: 4-Chloroaniline, Bis(2-ethylhexyl)phthalate, Benzoic acid and N-Nitrosodiphenylamine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Affected samples: (580-48155-1),

Case Narrative

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Job ID: 580-48155-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

(580-48155-7), (LCS 580-184969/2-A), (LCSD 580-184969/3-A), B4-1-G (580-48155-7), MW1-2-031915 (580-48155-1)

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184969 recovered outside control limits for the following analytes: Bis(2-ethylhexyl)phthalate, Hexachlorocyclopentadiene, 4-Chloroaniline and Hexachlorobutadiene.

Method(s) 8270D SIM: All PAH analyte(s) recovered outside control limits for the LCS/LCSD associated with prep batch 184868. These analytes were outside the Marginal Exceedance Limits and were indicative of a systematic problem; therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported. Affected samples: (580-48155-1), (580-48155-7), (LCS 580-184868/2-A), (LCSD 580-184868/3-A), B4-1-G (580-48155-7), MW1-2-031915 (580-48155-1)

Method(s) 8270D SIM: Surrogate recovery for the following sample(s) was outside control limits: (580-48155-7), B4-1-G (580-48155-7). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D SIM: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184868 recovered outside control limits for multiple analytes.

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 185981 recovered above the upper control limit for Indeno(1,2,3-cd)pyrene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: (580-48155-2), (580-48155-3), (580-48155-4), (CCVIS 580-185981/3), HA1-1-4.5 (580-48155-4), HA7-1-1.5 (580-48155-3), SS7-1-0.5 (580-48155-2).

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185981 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The MSD (580-48155-4 MSD) associated with prep batch 185881 was spilled during the extraction process. As such, all surrogate and MSD spike recoveries were failing low and are not reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: In analysis batch 184937, the following samples from preparation batch 184888 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: (580-48155-3), (580-48155-4), HA1-1-4.5 (580-48155-4), HA7-1-1.5 (580-48155-3).

Method(s) NWTPH-Dx: In analysis batch 185187, the following samples from preparation batch 185136 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: (580-48155-1), (580-48155-7), B4-1-G (580-48155-7), MW1-2-031915 (580-48155-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
*	LCS or LCSD exceeds the control limits
*	RPD of the LCS and LCSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD exceeds the control limits
H	Sample was prepped or analyzed beyond the specified holding time
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: MW1-2-031915

Lab Sample ID: 580-48155-1

Date Collected: 03/19/15 13:58

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 20:31	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 20:31	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 20:31	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 20:31	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 20:31	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 20:31	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 20:31	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 20:31	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 20:31	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 20:31	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 20:31	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 20:31	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:31	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 20:31	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 20:31	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 20:31	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:31	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 20:31	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:31	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 20:31	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 20:31	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 20:31	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 20:31	1
Benzene	ND		0.20		ug/L			03/20/15 20:31	1
Bromobenzene	ND		0.20		ug/L			03/20/15 20:31	1
Bromoform	ND		0.50		ug/L			03/20/15 20:31	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 20:31	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 20:31	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 20:31	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 20:31	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 20:31	1
Chloroethane	ND		0.50		ug/L			03/20/15 20:31	1
Chloroform	ND		0.20		ug/L			03/20/15 20:31	1
Chloromethane	ND		0.30		ug/L			03/20/15 20:31	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 20:31	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 20:31	1
Dibromomethane	ND		0.20		ug/L			03/20/15 20:31	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 20:31	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 20:31	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 20:31	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 20:31	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 20:31	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 20:31	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 20:31	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 20:31	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 20:31	1
Naphthalene	ND		0.50		ug/L			03/20/15 20:31	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 20:31	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 20:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: MW1-2-031915

Lab Sample ID: 580-48155-1

Date Collected: 03/19/15 13:58

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 20:31	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 20:31	1
Styrene	ND		0.50		ug/L			03/20/15 20:31	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 20:31	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 20:31	1
Toluene	ND		0.20		ug/L			03/20/15 20:31	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 20:31	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 20:31	1
Trichloroethene	0.60		0.20		ug/L			03/20/15 20:31	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 20:31	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 128		03/20/15 20:31	1
4-Bromofluorobenzene (Surr)	104		75 - 120		03/20/15 20:31	1
Dibromofluoromethane (Surr)	107		85 - 115		03/20/15 20:31	1
Toluene-d8 (Surr)	100		75 - 125		03/20/15 20:31	1
Trifluorotoluene (Surr)	103		80 - 127		03/20/15 20:31	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
2-Methylnaphthalene	ND	*	0.027		ug/L		03/20/15 12:03	03/24/15 14:46	1
Acenaphthene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Acenaphthylene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Anthracene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Benzo[a]anthracene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Benzo[a]pyrene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Benzo[b]fluoranthene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Benzo[g,h,i]perylene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Benzo[k]fluoranthene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Chrysene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Dibenz(a,h)anthracene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Fluoranthene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Fluorene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Indeno[1,2,3-cd]pyrene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Naphthalene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Phenanthrene	0.025	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1
Pyrene	ND	*	0.021		ug/L		03/20/15 12:03	03/24/15 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	67		64 - 150	03/20/15 12:03	03/24/15 14:46	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
2-Methylnaphthalene	ND	H	0.026		ug/L		03/30/15 16:50	04/01/15 18:49	1
Acenaphthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Acenaphthylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: MW1-2-031915

Lab Sample ID: 580-48155-1

Date Collected: 03/19/15 13:58

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Benzo[a]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Benzo[b]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Benzo[g,h,i]perylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Benzo[k]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Chrysene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Dibenz(a,h)anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Fluorene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Indeno[1,2,3-cd]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Naphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Phenanthrene	0.028	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1
Pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	99		64 - 150	03/30/15 16:50	04/01/15 18:49	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
1,2-Dichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
1,3-Dichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
1,4-Dichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
1-Methylnaphthalene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,4,5-Trichlorophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,4,6-Trichlorophenol	ND		0.61		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,4-Dichlorophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,4-Dinitrophenol	ND		5.1		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,4-Dinitrotoluene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2,6-Dinitrotoluene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2-Chloronaphthalene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
2-Chlorophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2-Methylnaphthalene	ND		0.20		ug/L		03/23/15 10:38	03/27/15 20:13	1
2-Methylphenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2-Nitroaniline	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
2-Nitrophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
3 & 4 Methylphenol	ND		0.82		ug/L		03/23/15 10:38	03/27/15 20:13	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/23/15 10:38	03/27/15 20:13	1
3-Nitroaniline	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
4,6-Dinitro-2-methylphenol	ND		4.1		ug/L		03/23/15 10:38	03/27/15 20:13	1
4-Bromophenyl phenyl ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
4-Chloro-3-methylphenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
4-Chloroaniline	ND	*	0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
4-Nitroaniline	ND		0.61		ug/L		03/23/15 10:38	03/27/15 20:13	1
4-Nitrophenol	ND		3.1		ug/L		03/23/15 10:38	03/27/15 20:13	1
Acenaphthene	ND		0.10		ug/L		03/23/15 10:38	03/27/15 20:13	1
Acenaphthylene	ND		0.082		ug/L		03/23/15 10:38	03/27/15 20:13	1
Anthracene	ND		0.041		ug/L		03/23/15 10:38	03/27/15 20:13	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: MW1-2-031915

Lab Sample ID: 580-48155-1

Date Collected: 03/19/15 13:58

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
Benzo[a]pyrene	ND		0.041		ug/L		03/23/15 10:38	03/27/15 20:13	1
Benzo[b]fluoranthene	ND		0.082		ug/L		03/23/15 10:38	03/27/15 20:13	1
Benzo[g,h,i]perylene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
Benzo[k]fluoranthene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
Benzoic acid	ND	*	3.1		ug/L		03/23/15 10:38	03/27/15 20:13	1
Benzyl alcohol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Bis(2-chloroethoxy)methane	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Bis(2-chloroethyl)ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Bis(2-ethylhexyl) phthalate	ND	*	3.1		ug/L		03/23/15 10:38	03/27/15 20:13	1
bis(chloroisopropyl) ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Butyl benzyl phthalate	ND		0.61		ug/L		03/23/15 10:38	03/27/15 20:13	1
Carbazole	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Chrysene	ND		0.041		ug/L		03/23/15 10:38	03/27/15 20:13	1
Dibenz(a,h)anthracene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
Dibenzofuran	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Diethyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Dimethyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Di-n-butyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Di-n-octyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Fluoranthene	ND		0.051		ug/L		03/23/15 10:38	03/27/15 20:13	1
Fluorene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
Hexachlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Hexachlorobutadiene	ND	*	0.61		ug/L		03/23/15 10:38	03/27/15 20:13	1
Hexachlorocyclopentadiene	ND	*	2.0		ug/L		03/23/15 10:38	03/27/15 20:13	1
Hexachloroethane	ND		0.61		ug/L		03/23/15 10:38	03/27/15 20:13	1
Indeno[1,2,3-cd]pyrene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1
Isophorone	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Naphthalene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Nitrobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
N-Nitrosodi-n-propylamine	ND		0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
N-Nitrosodiphenylamine	ND	*	0.41		ug/L		03/23/15 10:38	03/27/15 20:13	1
Pentachlorophenol	ND		0.72		ug/L		03/23/15 10:38	03/27/15 20:13	1
Phenanthrene	ND		0.082		ug/L		03/23/15 10:38	03/27/15 20:13	1
Phenol	ND		0.61		ug/L		03/23/15 10:38	03/27/15 20:13	1
Pyrene	ND		0.061		ug/L		03/23/15 10:38	03/27/15 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	97		44 - 125	03/23/15 10:38	03/27/15 20:13	1
2-Fluorobiphenyl	69		50 - 120	03/23/15 10:38	03/27/15 20:13	1
2-Fluorophenol (Surr)	63		30 - 134	03/23/15 10:38	03/27/15 20:13	1
Nitrobenzene-d5 (Surr)	77		59 - 120	03/23/15 10:38	03/27/15 20:13	1
Phenol-d5 (Surr)	73		52 - 120	03/23/15 10:38	03/27/15 20:13	1
Terphenyl-d14 (Surr)	100		64 - 150	03/23/15 10:38	03/27/15 20:13	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.19	Y	0.12		mg/L		03/24/15 21:40	03/25/15 15:09	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/24/15 21:40	03/25/15 15:09	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: MW1-2-031915

Lab Sample ID: 580-48155-1

Date Collected: 03/19/15 13:58

Matrix: Water

Date Received: 03/19/15 15:50

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	73		50 - 150				03/24/15 21:40	03/25/15 15:09	1
Method: 6020A - Metals (ICP/MS) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:11	5
Arsenic	0.0085		0.0050		mg/L		04/02/15 16:33	04/03/15 13:11	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:11	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:11	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:11	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 13:11	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:11	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 13:11	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:11	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:11	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:11	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 13:11	5
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 15:40	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: SS7-1-0.5

Lab Sample ID: 580-48155-2

Date Collected: 03/19/15 11:20

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,1,1-Trichloroethane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,1,2,2-Tetrachloroethane	ND		3.7		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,1,2-Trichloroethane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,1-Dichloroethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,1-Dichloroethene	ND		4.6		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,1-Dichloropropene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2,3-Trichlorobenzene	ND		2.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2,3-Trichloropropane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2,4-Trichlorobenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2,4-Trimethylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2-Dibromo-3-Chloropropane	ND		9.2		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2-Dibromoethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2-Dichloroethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,2-Dichloropropane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,3,5-Trimethylbenzene	ND		4.6		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,3-Dichlorobenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,3-Dichloropropane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
1,4-Dichlorobenzene	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
2,2-Dichloropropane	ND		4.6		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
2-Chlorotoluene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
4-Chlorotoluene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
4-Isopropyltoluene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Benzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Bromobenzene	ND		9.2		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Bromochloromethane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Bromodichloromethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Bromoform	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Bromomethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Carbon tetrachloride	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Chlorobenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Chloroethane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Chloroform	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Chloromethane	ND *		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
cis-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
cis-1,3-Dichloropropene	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Dibromochloromethane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Dibromomethane	ND		0.92		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Dichlorodifluoromethane	ND *		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Ethylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Hexachlorobutadiene	ND		2.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Isopropylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Methyl tert-butyl ether	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Methylene Chloride	ND		14		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
m-Xylene & p-Xylene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Naphthalene	ND		9.2		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
n-Butylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
N-Propylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: SS7-1-0.5

Lab Sample ID: 580-48155-2

Date Collected: 03/19/15 11:20

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
sec-Butylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Styrene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
t-Butylbenzene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Tetrachloroethene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Toluene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
trans-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
trans-1,3-Dichloropropene	ND	*	9.2		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Trichloroethene	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Trichlorofluoromethane	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1
Vinyl chloride	ND		1.8		ug/Kg	☼	03/19/15 09:15	03/20/15 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		71 - 136	03/19/15 09:15	03/20/15 20:21	1
4-Bromofluorobenzene (Surr)	99		70 - 120	03/19/15 09:15	03/20/15 20:21	1
Dibromofluoromethane (Surr)	97		75 - 132	03/19/15 09:15	03/20/15 20:21	1
Toluene-d8 (Surr)	109		80 - 120	03/19/15 09:15	03/20/15 20:21	1
Trifluorotoluene (Surr)	95		65 - 140	03/19/15 09:15	03/20/15 20:21	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		57		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
1,2-Dichlorobenzene	ND		63		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
1,3-Dichlorobenzene	ND		57		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
1,4-Dichlorobenzene	ND		57		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
1-Methylnaphthalene	ND		34		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,4,5-Trichlorophenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,4,6-Trichlorophenol	ND		170		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,4-Dichlorophenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,4-Dimethylphenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,4-Dinitrophenol	ND		1100		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,4-Dinitrotoluene	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2,6-Dinitrotoluene	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2-Chloronaphthalene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2-Chlorophenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2-Methylnaphthalene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2-Methylphenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2-Nitroaniline	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
2-Nitrophenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
3 & 4 Methylphenol	ND		230		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
3,3'-Dichlorobenzidine	ND		230		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
3-Nitroaniline	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4,6-Dinitro-2-methylphenol	ND		1100		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4-Bromophenyl phenyl ether	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4-Chloro-3-methylphenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4-Chloroaniline	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4-Chlorophenyl phenyl ether	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4-Nitroaniline	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
4-Nitrophenol	ND		1100		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Acenaphthene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: SS7-1-0.5

Lab Sample ID: 580-48155-2

Date Collected: 03/19/15 11:20

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Anthracene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzo[a]anthracene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzo[a]pyrene	ND		34		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzo[b]fluoranthene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzo[g,h,i]perylene	ND		29		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzo[k]fluoranthene	ND		29		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzoic acid	ND		2900		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Benzyl alcohol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Bis(2-chloroethoxy)methane	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Bis(2-chloroethyl)ether	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Bis(2-ethylhexyl) phthalate	ND		690		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
bis(chloroisopropyl) ether	ND		290		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Butyl benzyl phthalate	ND		230		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Carbazole	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Chrysene	ND		29		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Dibenz(a,h)anthracene	ND		46		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Dibenzofuran	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Diethyl phthalate	ND		230		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Dimethyl phthalate	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Di-n-butyl phthalate	ND		570		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Di-n-octyl phthalate	ND		570		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Fluoranthene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Fluorene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Hexachlorobenzene	ND		57		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Hexachlorobutadiene	ND		57		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Hexachlorocyclopentadiene	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Hexachloroethane	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Indeno[1,2,3-cd]pyrene	ND ^		46		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Isophorone	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Naphthalene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Nitrobenzene	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
N-Nitrosodi-n-propylamine	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
N-Nitrosodiphenylamine	ND		57		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Pentachlorophenol	ND		230		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Phenanthrene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Phenol	ND		110		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1
Pyrene	ND		23		ug/Kg	☼	04/02/15 11:39	04/03/15 12:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	83		28 - 143	04/02/15 11:39	04/03/15 12:50	1
2-Fluorobiphenyl	74		42 - 140	04/02/15 11:39	04/03/15 12:50	1
2-Fluorophenol (Surr)	88		36 - 145	04/02/15 11:39	04/03/15 12:50	1
Nitrobenzene-d5 (Surr)	80		38 - 141	04/02/15 11:39	04/03/15 12:50	1
Phenol-d5 (Surr)	89		38 - 149	04/02/15 11:39	04/03/15 12:50	1
Terphenyl-d14 (Surr)	80		42 - 151	04/02/15 11:39	04/03/15 12:50	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.011		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: SS7-1-0.5

Lab Sample ID: 580-48155-2

Date Collected: 03/19/15 11:20

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1
PCB-1232	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1
PCB-1242	ND		0.011		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1
PCB-1248	ND		0.011		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1
PCB-1254	ND		0.011		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1
PCB-1260	ND		0.011		mg/Kg	☼	03/26/15 08:15	03/26/15 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	84		50 - 140	03/26/15 08:15	03/26/15 19:25	1
Tetrachloro-m-xylene	78		45 - 135	03/26/15 08:15	03/26/15 19:25	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		29		mg/Kg	☼	03/20/15 14:35	03/23/15 14:34	1
Motor Oil (>C24-C36)	ND		57		mg/Kg	☼	03/20/15 14:35	03/23/15 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	03/20/15 14:35	03/23/15 14:34	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.59		0.18		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Arsenic	3.8		0.46		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Beryllium	0.18		0.18		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Cadmium	ND		0.18		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Chromium	50		0.46		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Copper	12		0.37		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Lead	6.1		0.46		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Nickel	36		0.46		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Selenium	ND		0.92		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Silver	ND		0.18		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Thallium	ND		0.37		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10
Zinc	53		4.6		mg/Kg	☼	04/01/15 14:56	04/02/15 11:19	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.030		0.021		mg/Kg	☼	03/31/15 11:29	03/31/15 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			03/23/15 16:10	1
Percent Moisture	16		0.10		%			03/23/15 16:10	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA7-1-1.5

Lab Sample ID: 580-48155-3

Date Collected: 03/19/15 10:40

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,1,1-Trichloroethane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,1,2,2-Tetrachloroethane	ND		3.2		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,1,2-Trichloroethane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,1-Dichloroethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,1-Dichloroethene	ND		4.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,1-Dichloropropene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2,3-Trichlorobenzene	ND		2.4		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2,3-Trichloropropane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2,4-Trichlorobenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2,4-Trimethylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2-Dibromo-3-Chloropropane	ND		8.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2-Dibromoethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2-Dichloroethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,2-Dichloropropane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,3,5-Trimethylbenzene	ND		4.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,3-Dichlorobenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,3-Dichloropropane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
1,4-Dichlorobenzene	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
2,2-Dichloropropane	ND		4.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
2-Chlorotoluene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
4-Chlorotoluene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
4-Isopropyltoluene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Benzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Bromobenzene	ND		8.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Bromochloromethane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Bromodichloromethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Bromoform	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Bromomethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Carbon tetrachloride	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Chlorobenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Chloroethane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Chloroform	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Chloromethane	ND *		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
cis-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
cis-1,3-Dichloropropene	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Dibromochloromethane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Dibromomethane	ND		0.80		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Dichlorodifluoromethane	ND *		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Ethylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Hexachlorobutadiene	ND		2.4		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Isopropylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Methyl tert-butyl ether	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Methylene Chloride	ND		12		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
m-Xylene & p-Xylene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Naphthalene	ND		8.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
n-Butylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
N-Propylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA7-1-1.5

Lab Sample ID: 580-48155-3

Date Collected: 03/19/15 10:40

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
sec-Butylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Styrene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
t-Butylbenzene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Tetrachloroethene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Toluene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
trans-1,2-Dichloroethene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
trans-1,3-Dichloropropene	ND	*	8.0		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Trichloroethene	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Trichlorofluoromethane	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1
Vinyl chloride	ND		1.6		ug/Kg	☼	03/19/15 09:15	03/20/15 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		71 - 136	03/19/15 09:15	03/20/15 18:40	1
4-Bromofluorobenzene (Surr)	93		70 - 120	03/19/15 09:15	03/20/15 18:40	1
Dibromofluoromethane (Surr)	95		75 - 132	03/19/15 09:15	03/20/15 18:40	1
Toluene-d8 (Surr)	109		80 - 120	03/19/15 09:15	03/20/15 18:40	1
Trifluorotoluene (Surr)	102		65 - 140	03/19/15 09:15	03/20/15 18:40	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		59		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
1,2-Dichlorobenzene	ND		65		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
1,3-Dichlorobenzene	ND		59		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
1,4-Dichlorobenzene	ND		59		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
1-Methylnaphthalene	ND		35		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,4,5-Trichlorophenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,4,6-Trichlorophenol	ND		180		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,4-Dichlorophenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,4-Dimethylphenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,4-Dinitrophenol	ND		1200		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,4-Dinitrotoluene	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2,6-Dinitrotoluene	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2-Chloronaphthalene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2-Chlorophenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2-Methylnaphthalene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2-Methylphenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2-Nitroaniline	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
2-Nitrophenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
3 & 4 Methylphenol	ND		240		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
3,3'-Dichlorobenzidine	ND		240		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
3-Nitroaniline	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4,6-Dinitro-2-methylphenol	ND		1200		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4-Bromophenyl phenyl ether	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4-Chloro-3-methylphenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4-Chloroaniline	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4-Chlorophenyl phenyl ether	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4-Nitroaniline	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
4-Nitrophenol	ND		1200		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Acenaphthene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA7-1-1.5

Lab Sample ID: 580-48155-3

Date Collected: 03/19/15 10:40

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Anthracene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzo[a]anthracene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzo[a]pyrene	ND		35		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzo[b]fluoranthene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzo[g,h,i]perylene	ND		30		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzo[k]fluoranthene	ND		30		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzoic acid	ND		3000		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Benzyl alcohol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Bis(2-chloroethoxy)methane	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Bis(2-chloroethyl)ether	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Bis(2-ethylhexyl) phthalate	ND		710		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
bis(chloroisopropyl) ether	ND		300		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Butyl benzyl phthalate	1300		240		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Carbazole	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Chrysene	ND		30		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Dibenz(a,h)anthracene	ND		47		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Dibenzofuran	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Diethyl phthalate	ND		240		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Dimethyl phthalate	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Di-n-butyl phthalate	ND		590		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Di-n-octyl phthalate	ND		590		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Fluoranthene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Fluorene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Hexachlorobenzene	ND		59		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Hexachlorobutadiene	ND		59		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Hexachlorocyclopentadiene	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Hexachloroethane	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Indeno[1,2,3-cd]pyrene	ND ^		47		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Isophorone	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Naphthalene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Nitrobenzene	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
N-Nitrosodi-n-propylamine	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
N-Nitrosodiphenylamine	ND		59		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Pentachlorophenol	ND		240		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Phenanthrene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Phenol	ND		120		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1
Pyrene	ND		24		ug/Kg	☼	04/02/15 11:39	04/03/15 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	81		28 - 143	04/02/15 11:39	04/03/15 13:16	1
2-Fluorobiphenyl	80		42 - 140	04/02/15 11:39	04/03/15 13:16	1
2-Fluorophenol (Surr)	87		36 - 145	04/02/15 11:39	04/03/15 13:16	1
Nitrobenzene-d5 (Surr)	81		38 - 141	04/02/15 11:39	04/03/15 13:16	1
Phenol-d5 (Surr)	90		38 - 149	04/02/15 11:39	04/03/15 13:16	1
Terphenyl-d14 (Surr)	84		42 - 151	04/02/15 11:39	04/03/15 13:16	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA7-1-1.5

Lab Sample ID: 580-48155-3

Date Collected: 03/19/15 10:40

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.013		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1
PCB-1232	ND		0.013		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1
PCB-1242	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1
PCB-1248	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1
PCB-1254	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1
PCB-1260	ND		0.012		mg/Kg	☼	03/26/15 08:15	03/26/15 19:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		50 - 140	03/26/15 08:15	03/26/15 19:42	1
Tetrachloro-m-xylene	69		45 - 135	03/26/15 08:15	03/26/15 19:42	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	29	Y	29		mg/Kg	☼	03/20/15 14:35	03/23/15 14:52	1
Motor Oil (>C24-C36)	120	Y	59		mg/Kg	☼	03/20/15 14:35	03/23/15 14:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	03/20/15 14:35	03/23/15 14:52	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.51		0.20		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Arsenic	6.6		0.50		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Beryllium	0.24		0.20		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Cadmium	0.25		0.20		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Chromium	36		0.50		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Copper	20		0.40		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Lead	11		0.50		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Nickel	45		0.50		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Selenium	ND		1.0		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Silver	ND		0.20		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Thallium	ND		0.40		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10
Zinc	50		5.0		mg/Kg	☼	04/01/15 14:56	04/02/15 11:23	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.043		0.020		mg/Kg	☼	03/31/15 11:29	03/31/15 14:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			03/23/15 16:10	1
Percent Moisture	17		0.10		%			03/23/15 16:10	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA1-1-4.5

Lab Sample ID: 580-48155-4

Date Collected: 03/19/15 13:10

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 74.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,1,1-Trichloroethane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,1,2,2-Tetrachloroethane	ND		3.8		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,1,2-Trichloroethane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,1-Dichloroethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,1-Dichloroethene	ND		4.8		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,1-Dichloropropene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2,3-Trichlorobenzene	ND		2.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2,3-Trichloropropane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2-Dibromo-3-Chloropropane	ND		9.5		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2-Dibromoethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2-Dichlorobenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2-Dichloroethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,2-Dichloropropane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,3,5-Trimethylbenzene	ND		4.8		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,3-Dichlorobenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,3-Dichloropropane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
1,4-Dichlorobenzene	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
2,2-Dichloropropane	ND		4.8		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
2-Chlorotoluene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
4-Chlorotoluene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
4-Isopropyltoluene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Benzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Bromobenzene	ND		9.5		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Bromochloromethane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Bromodichloromethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Bromoform	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Bromomethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Carbon tetrachloride	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Chlorobenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Chloroethane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Chloroform	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Chloromethane	ND *		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
cis-1,2-Dichloroethene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
cis-1,3-Dichloropropene	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Dibromochloromethane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Dibromomethane	ND		0.95		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Dichlorodifluoromethane	ND *		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Ethylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Hexachlorobutadiene	ND		2.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Isopropylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Methyl tert-butyl ether	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Methylene Chloride	ND		14		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Naphthalene	ND		9.5		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
n-Butylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
N-Propylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA1-1-4.5

Lab Sample ID: 580-48155-4

Date Collected: 03/19/15 13:10

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 74.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
sec-Butylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Styrene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
t-Butylbenzene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Tetrachloroethene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Toluene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
trans-1,2-Dichloroethene	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
trans-1,3-Dichloropropene	ND	*	9.5		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Trichloroethene	1.9		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Trichlorofluoromethane	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1
Vinyl chloride	ND		1.9		ug/Kg	☼	03/19/15 09:15	03/20/15 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		71 - 136	03/19/15 09:15	03/20/15 17:24	1
4-Bromofluorobenzene (Surr)	92		70 - 120	03/19/15 09:15	03/20/15 17:24	1
Dibromofluoromethane (Surr)	95		75 - 132	03/19/15 09:15	03/20/15 17:24	1
Toluene-d8 (Surr)	108		80 - 120	03/19/15 09:15	03/20/15 17:24	1
Trifluorotoluene (Surr)	98		65 - 140	03/19/15 09:15	03/20/15 17:24	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	F2 F1	67		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
1,2-Dichlorobenzene	ND	F2 F1	74		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
1,3-Dichlorobenzene	ND	F2 F1	67		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
1,4-Dichlorobenzene	ND	F2 F1	67		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
1-Methylnaphthalene	ND	F2 F1	40		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,4,5-Trichlorophenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,4,6-Trichlorophenol	ND	F2 F1	200		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,4-Dichlorophenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,4-Dimethylphenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,4-Dinitrophenol	ND	F1	1300		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,4-Dinitrotoluene	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2,6-Dinitrotoluene	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2-Chloronaphthalene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2-Chlorophenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2-Methylnaphthalene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2-Methylphenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2-Nitroaniline	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
2-Nitrophenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
3 & 4 Methylphenol	ND	F2 F1	270		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
3,3'-Dichlorobenzidine	ND	F2 F1	270		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
3-Nitroaniline	ND	F2	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4,6-Dinitro-2-methylphenol	ND	F1	1300		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4-Bromophenyl phenyl ether	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4-Chloro-3-methylphenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4-Chloroaniline	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4-Chlorophenyl phenyl ether	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4-Nitroaniline	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
4-Nitrophenol	ND	F2	1300		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Acenaphthene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA1-1-4.5

Lab Sample ID: 580-48155-4

Date Collected: 03/19/15 13:10

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 74.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Anthracene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzo[a]anthracene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzo[a]pyrene	ND	F2 F1	40		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzo[b]fluoranthene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzo[g,h,i]perylene	ND	F2 F1	34		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzo[k]fluoranthene	ND	F2 F1	34		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzoic acid	ND	F1	3400		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Benzyl alcohol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Bis(2-chloroethoxy)methane	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Bis(2-chloroethyl)ether	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
bis(chloroisopropyl) ether	ND	F2 F1	340		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Butyl benzyl phthalate	ND	F2 F1	270		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Carbazole	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Chrysene	ND	F2 F1	34		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Dibenz(a,h)anthracene	ND	F2 F1	54		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Dibenzofuran	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Diethyl phthalate	ND	F2 F1	270		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Dimethyl phthalate	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Di-n-butyl phthalate	ND	F2 F1	670		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Di-n-octyl phthalate	ND	F2 F1	670		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Fluoranthene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Fluorene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Hexachlorobenzene	ND	F2 F1	67		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Hexachlorobutadiene	ND	F2 F1	67		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Hexachlorocyclopentadiene	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Hexachloroethane	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Indeno[1,2,3-cd]pyrene	ND	F2 F1 ^	54		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Isophorone	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Naphthalene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Nitrobenzene	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
N-Nitrosodi-n-propylamine	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
N-Nitrosodiphenylamine	ND	F2 F1	67		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Pentachlorophenol	ND	F2 F1	270		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Phenanthrene	ND	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Phenol	ND	F2 F1	130		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1
Pyrene	28	F2 F1	27		ug/Kg	☼	04/02/15 11:39	04/03/15 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	113		28 - 143	04/02/15 11:39	04/03/15 13:41	1
2-Fluorobiphenyl	82		42 - 140	04/02/15 11:39	04/03/15 13:41	1
2-Fluorophenol (Surr)	87		36 - 145	04/02/15 11:39	04/03/15 13:41	1
Nitrobenzene-d5 (Surr)	85		38 - 141	04/02/15 11:39	04/03/15 13:41	1
Phenol-d5 (Surr)	88		38 - 149	04/02/15 11:39	04/03/15 13:41	1
Terphenyl-d14 (Surr)	94		42 - 151	04/02/15 11:39	04/03/15 13:41	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	9900	F2	4000		ug/Kg	☼	04/02/15 11:39	04/03/15 14:56	5

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA1-1-4.5

Lab Sample ID: 580-48155-4

Date Collected: 03/19/15 13:10

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 74.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	104		28 - 143	04/02/15 11:39	04/03/15 14:56	5
2-Fluorobiphenyl	76		42 - 140	04/02/15 11:39	04/03/15 14:56	5
2-Fluorophenol (Surr)	83		36 - 145	04/02/15 11:39	04/03/15 14:56	5
Nitrobenzene-d5 (Surr)	86		38 - 141	04/02/15 11:39	04/03/15 14:56	5
Phenol-d5 (Surr)	83		38 - 149	04/02/15 11:39	04/03/15 14:56	5
Terphenyl-d14 (Surr)	104		42 - 151	04/02/15 11:39	04/03/15 14:56	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	3800	Y	32		mg/Kg	☼	03/20/15 14:35	03/23/15 15:10	1
Motor Oil (>C24-C36)	8300	Y	64		mg/Kg	☼	03/20/15 14:35	03/23/15 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150	03/20/15 14:35	03/23/15 15:10	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.2		0.21		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Arsenic	7.2		0.52		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Beryllium	0.40		0.21		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Cadmium	0.25		0.21		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Chromium	49		0.52		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Copper	30		0.42		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Lead	9.0		0.52		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Nickel	42		0.52		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Selenium	ND		1.0		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Silver	ND		0.21		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Thallium	ND		0.42		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10
Zinc	49		5.2		mg/Kg	☼	04/01/15 14:56	04/02/15 11:28	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.031		0.025		mg/Kg	☼	03/31/15 11:29	03/31/15 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	74		0.10		%			03/23/15 16:10	1
Percent Moisture	26		0.10		%			03/23/15 16:10	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: TB-031915-01

Lab Sample ID: 580-48155-5

Date Collected: 03/19/15 00:01

Matrix: Solid

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Benzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Bromobenzene	ND		10		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Bromochloromethane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Bromodichloromethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Bromoform	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Bromomethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Chlorobenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Chloroethane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Chloroform	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Chloromethane	ND	*	1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Dibromochloromethane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Dibromomethane	ND		1.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Dichlorodifluoromethane	ND	*	2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Ethylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Isopropylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Methylene Chloride	ND		15		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Naphthalene	ND		10		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
n-Butylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
N-Propylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: TB-031915-01

Lab Sample ID: 580-48155-5

Date Collected: 03/19/15 00:01

Matrix: Solid

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Styrene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
t-Butylbenzene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Tetrachloroethene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Toluene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
trans-1,3-Dichloropropene	ND *		10		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Trichloroethene	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1
Vinyl chloride	ND		2.0		ug/Kg		03/19/15 09:15	03/20/15 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		71 - 136	03/19/15 09:15	03/20/15 15:31	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/19/15 09:15	03/20/15 15:31	1
Dibromofluoromethane (Surr)	91		75 - 132	03/19/15 09:15	03/20/15 15:31	1
Toluene-d8 (Surr)	109		80 - 120	03/19/15 09:15	03/20/15 15:31	1
Trifluorotoluene (Surr)	96		65 - 140	03/19/15 09:15	03/20/15 15:31	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: TB-031915-02

Lab Sample ID: 580-48155-6

Date Collected: 03/19/15 00:01

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 16:36	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 16:36	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 16:36	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 16:36	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 16:36	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 16:36	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 16:36	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 16:36	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 16:36	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 16:36	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 16:36	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 16:36	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 16:36	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 16:36	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 16:36	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 16:36	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 16:36	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 16:36	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 16:36	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 16:36	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 16:36	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 16:36	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 16:36	1
Benzene	ND		0.20		ug/L			03/20/15 16:36	1
Bromobenzene	ND		0.20		ug/L			03/20/15 16:36	1
Bromoform	ND		0.50		ug/L			03/20/15 16:36	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 16:36	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 16:36	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 16:36	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 16:36	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 16:36	1
Chloroethane	ND		0.50		ug/L			03/20/15 16:36	1
Chloroform	ND		0.20		ug/L			03/20/15 16:36	1
Chloromethane	ND		0.30		ug/L			03/20/15 16:36	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 16:36	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 16:36	1
Dibromomethane	ND		0.20		ug/L			03/20/15 16:36	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 16:36	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 16:36	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 16:36	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 16:36	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 16:36	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 16:36	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 16:36	1
Methylene Chloride	1.3		0.50		ug/L			03/20/15 16:36	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 16:36	1
Naphthalene	ND		0.50		ug/L			03/20/15 16:36	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 16:36	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 16:36	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: TB-031915-02

Lab Sample ID: 580-48155-6

Date Collected: 03/19/15 00:01

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 16:36	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 16:36	1
Styrene	ND		0.50		ug/L			03/20/15 16:36	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 16:36	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 16:36	1
Toluene	ND		0.20		ug/L			03/20/15 16:36	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 16:36	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 16:36	1
Trichloroethene	ND		0.20		ug/L			03/20/15 16:36	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 16:36	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 16:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 128					03/20/15 16:36	1
4-Bromofluorobenzene (Surr)	99		75 - 120					03/20/15 16:36	1
Dibromofluoromethane (Surr)	99		85 - 115					03/20/15 16:36	1
Toluene-d8 (Surr)	102		75 - 125					03/20/15 16:36	1
Trifluorotoluene (Surr)	113		80 - 127					03/20/15 16:36	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: B4-1-G

Lab Sample ID: 580-48155-7

Date Collected: 03/19/15 12:10

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 20:58	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 20:58	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 20:58	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 20:58	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 20:58	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 20:58	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 20:58	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 20:58	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 20:58	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 20:58	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 20:58	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 20:58	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:58	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 20:58	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 20:58	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 20:58	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:58	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 20:58	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 20:58	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 20:58	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 20:58	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 20:58	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 20:58	1
Benzene	ND		0.20		ug/L			03/20/15 20:58	1
Bromobenzene	ND		0.20		ug/L			03/20/15 20:58	1
Bromoform	ND		0.50		ug/L			03/20/15 20:58	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 20:58	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 20:58	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 20:58	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 20:58	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 20:58	1
Chloroethane	ND		0.50		ug/L			03/20/15 20:58	1
Chloroform	ND		0.20		ug/L			03/20/15 20:58	1
Chloromethane	ND		0.30		ug/L			03/20/15 20:58	1
cis-1,2-Dichloroethene	2.0		0.20		ug/L			03/20/15 20:58	1
cis-1,3-Dichloropropene	ND	*	0.50		ug/L			03/20/15 20:58	1
Dibromomethane	ND		0.20		ug/L			03/20/15 20:58	1
Dichlorobromomethane	0.20		0.20		ug/L			03/20/15 20:58	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 20:58	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 20:58	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 20:58	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 20:58	1
Isopropylbenzene	ND	*	0.50		ug/L			03/20/15 20:58	1
Methyl tert-butyl ether	ND	*	0.20		ug/L			03/20/15 20:58	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 20:58	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 20:58	1
Naphthalene	ND		0.50		ug/L			03/20/15 20:58	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 20:58	1
N-Propylbenzene	ND	*	0.20		ug/L			03/20/15 20:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: B4-1-G

Lab Sample ID: 580-48155-7

Date Collected: 03/19/15 12:10

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/20/15 20:58	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 20:58	1
Styrene	ND		0.50		ug/L			03/20/15 20:58	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 20:58	1
Tetrachloroethene	0.79		0.50		ug/L			03/20/15 20:58	1
Toluene	ND		0.20		ug/L			03/20/15 20:58	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 20:58	1
trans-1,3-Dichloropropene	ND	* ^	0.20		ug/L			03/20/15 20:58	1
Trichloroethene	23		0.20		ug/L			03/20/15 20:58	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 20:58	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 128		03/20/15 20:58	1
4-Bromofluorobenzene (Surr)	98		75 - 120		03/20/15 20:58	1
Dibromofluoromethane (Surr)	100		85 - 115		03/20/15 20:58	1
Toluene-d8 (Surr)	102		75 - 125		03/20/15 20:58	1
Trifluorotoluene (Surr)	111		80 - 127		03/20/15 20:58	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/20/15 12:03	03/24/15 15:08	1
Acenaphthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Acenaphthylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Benzo[a]anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Benzo[a]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Benzo[b]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Benzo[g,h,i]perylene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Chrysene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Dibenz(a,h)anthracene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Fluoranthene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Fluorene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Indeno[1,2,3-cd]pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Naphthalene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Phenanthrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1
Pyrene	ND	*	0.020		ug/L		03/20/15 12:03	03/24/15 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	63	X	64 - 150	03/20/15 12:03	03/24/15 15:08	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
2-Methylnaphthalene	ND	H	0.027		ug/L		03/30/15 16:50	04/01/15 19:11	1
Acenaphthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Acenaphthylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: B4-1-G

Lab Sample ID: 580-48155-7

Date Collected: 03/19/15 12:10

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Benzo[a]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Benzo[b]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Benzo[g,h,i]perylene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Benzo[k]fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Chrysene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Dibenz[a,h]anthracene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Fluoranthene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Fluorene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Indeno[1,2,3-cd]pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Naphthalene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Phenanthrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1
Pyrene	ND	H	0.020		ug/L		03/30/15 16:50	04/01/15 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		64 - 150	03/30/15 16:50	04/01/15 19:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
1,2-Dichlorobenzene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
1,3-Dichlorobenzene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
1,4-Dichlorobenzene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
1-Methylnaphthalene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,4,5-Trichlorophenol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,4,6-Trichlorophenol	ND		0.64		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,4-Dichlorophenol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,4-Dimethylphenol	ND		2.1		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,4-Dinitrophenol	ND		5.4		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,4-Dinitrotoluene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2,6-Dinitrotoluene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2-Chloronaphthalene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
2-Chlorophenol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2-Methylnaphthalene	ND		0.21		ug/L		03/23/15 10:38	03/27/15 20:39	1
2-Methylphenol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2-Nitroaniline	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
2-Nitrophenol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
3 & 4 Methylphenol	ND		0.86		ug/L		03/23/15 10:38	03/27/15 20:39	1
3,3'-Dichlorobenzidine	ND		2.1		ug/L		03/23/15 10:38	03/27/15 20:39	1
3-Nitroaniline	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
4,6-Dinitro-2-methylphenol	ND		4.3		ug/L		03/23/15 10:38	03/27/15 20:39	1
4-Bromophenyl phenyl ether	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
4-Chloro-3-methylphenol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
4-Chloroaniline	ND	*	0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
4-Chlorophenyl phenyl ether	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
4-Nitroaniline	ND		0.64		ug/L		03/23/15 10:38	03/27/15 20:39	1
4-Nitrophenol	ND		3.2		ug/L		03/23/15 10:38	03/27/15 20:39	1
Acenaphthene	ND		0.11		ug/L		03/23/15 10:38	03/27/15 20:39	1
Acenaphthylene	ND		0.086		ug/L		03/23/15 10:38	03/27/15 20:39	1
Anthracene	ND		0.043		ug/L		03/23/15 10:38	03/27/15 20:39	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: B4-1-G

Lab Sample ID: 580-48155-7

Date Collected: 03/19/15 12:10

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
Benzo[a]pyrene	ND		0.043		ug/L		03/23/15 10:38	03/27/15 20:39	1
Benzo[b]fluoranthene	ND		0.086		ug/L		03/23/15 10:38	03/27/15 20:39	1
Benzo[g,h,i]perylene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
Benzo[k]fluoranthene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
Benzoic acid	10	*	3.2		ug/L		03/23/15 10:38	03/27/15 20:39	1
Benzyl alcohol	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Bis(2-chloroethoxy)methane	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Bis(2-chloroethyl)ether	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Bis(2-ethylhexyl) phthalate	ND	*	3.2		ug/L		03/23/15 10:38	03/27/15 20:39	1
bis(chloroisopropyl) ether	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Butyl benzyl phthalate	ND		0.64		ug/L		03/23/15 10:38	03/27/15 20:39	1
Carbazole	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Chrysene	ND		0.043		ug/L		03/23/15 10:38	03/27/15 20:39	1
Dibenz(a,h)anthracene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
Dibenzofuran	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Diethyl phthalate	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Dimethyl phthalate	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Di-n-butyl phthalate	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Di-n-octyl phthalate	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Fluoranthene	ND		0.054		ug/L		03/23/15 10:38	03/27/15 20:39	1
Fluorene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
Hexachlorobenzene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Hexachlorobutadiene	ND	*	0.64		ug/L		03/23/15 10:38	03/27/15 20:39	1
Hexachlorocyclopentadiene	ND	*	2.1		ug/L		03/23/15 10:38	03/27/15 20:39	1
Hexachloroethane	ND		0.64		ug/L		03/23/15 10:38	03/27/15 20:39	1
Indeno[1,2,3-cd]pyrene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1
Isophorone	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Naphthalene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Nitrobenzene	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
N-Nitrosodi-n-propylamine	ND		0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
N-Nitrosodiphenylamine	ND	*	0.43		ug/L		03/23/15 10:38	03/27/15 20:39	1
Pentachlorophenol	ND		0.75		ug/L		03/23/15 10:38	03/27/15 20:39	1
Phenanthrene	ND		0.086		ug/L		03/23/15 10:38	03/27/15 20:39	1
Phenol	ND		0.64		ug/L		03/23/15 10:38	03/27/15 20:39	1
Pyrene	ND		0.064		ug/L		03/23/15 10:38	03/27/15 20:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	80		44 - 125	03/23/15 10:38	03/27/15 20:39	1
2-Fluorobiphenyl	57		50 - 120	03/23/15 10:38	03/27/15 20:39	1
2-Fluorophenol (Surr)	54		30 - 134	03/23/15 10:38	03/27/15 20:39	1
Nitrobenzene-d5 (Surr)	67		59 - 120	03/23/15 10:38	03/27/15 20:39	1
Phenol-d5 (Surr)	63		52 - 120	03/23/15 10:38	03/27/15 20:39	1
Terphenyl-d14 (Surr)	72		64 - 150	03/23/15 10:38	03/27/15 20:39	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
4,4'-DDE	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
4,4'-DDT	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: B4-1-G

Lab Sample ID: 580-48155-7

Date Collected: 03/19/15 12:10

Matrix: Water

Date Received: 03/19/15 15:50

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
alpha-BHC	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
alpha-Chlordane	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
beta-BHC	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
delta-BHC	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
Dieldrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
Endosulfan I	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
Endosulfan II	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
Endosulfan sulfate	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
Endrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
Endrin aldehyde	ND		0.050		ug/L		03/26/15 15:03	03/31/15 11:31	1
Endrin ketone	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:31	1
gamma-BHC (Lindane)	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
gamma-Chlordane	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
Heptachlor	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
Heptachlor epoxide	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:31	1
Methoxychlor	ND		0.099		ug/L		03/26/15 15:03	03/31/15 11:31	1
Toxaphene	ND		0.99		ug/L		03/26/15 15:03	03/31/15 11:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	68		33 - 133	03/26/15 15:03	03/31/15 11:31	1
Tetrachloro-m-xylene	58		45 - 123	03/26/15 15:03	03/31/15 11:31	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.34	Y	0.13		mg/L		03/24/15 21:40	03/25/15 15:27	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/24/15 21:40	03/25/15 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	76		50 - 150	03/24/15 21:40	03/25/15 15:27	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0023		0.0020		mg/L		04/02/15 16:33	04/03/15 13:15	5
Arsenic	0.011		0.0050		mg/L		04/02/15 16:33	04/03/15 13:15	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:15	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:15	5
Chromium	0.040		0.0020		mg/L		04/02/15 16:33	04/03/15 13:15	5
Copper	0.023		0.010		mg/L		04/02/15 16:33	04/03/15 13:15	5
Lead	0.0065		0.0020		mg/L		04/02/15 16:33	04/03/15 13:15	5
Nickel	0.061		0.015		mg/L		04/02/15 16:33	04/03/15 13:15	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:15	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:15	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:15	5
Zinc	0.041		0.035		mg/L		04/02/15 16:33	04/03/15 13:15	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00042		0.00020		mg/L		03/30/15 13:14	03/30/15 15:50	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184860/6

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1-Dichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,1-Dichloroethene	ND		0.10		ug/L			03/20/15 13:34	1
1,1-Dichloropropene	ND		0.10		ug/L			03/20/15 13:34	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/20/15 13:34	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/20/15 13:34	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/20/15 13:34	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
1,2-Dichloroethane	ND		0.20		ug/L			03/20/15 13:34	1
1,2-Dichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
1,3-Dichloropropane	ND		0.20		ug/L			03/20/15 13:34	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/20/15 13:34	1
2,2-Dichloropropane	ND		0.50		ug/L			03/20/15 13:34	1
2-Chlorotoluene	ND		0.50		ug/L			03/20/15 13:34	1
4-Chlorotoluene	ND		0.30		ug/L			03/20/15 13:34	1
4-Isopropyltoluene	ND		0.30		ug/L			03/20/15 13:34	1
Benzene	ND		0.20		ug/L			03/20/15 13:34	1
Bromobenzene	ND		0.20		ug/L			03/20/15 13:34	1
Bromoform	ND		0.50		ug/L			03/20/15 13:34	1
Bromomethane	ND	^	1.0		ug/L			03/20/15 13:34	1
Carbon tetrachloride	ND		0.20		ug/L			03/20/15 13:34	1
Chlorobenzene	ND		0.20		ug/L			03/20/15 13:34	1
Chlorobromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Chlorodibromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Chloroethane	ND		0.50		ug/L			03/20/15 13:34	1
Chloroform	ND		0.20		ug/L			03/20/15 13:34	1
Chloromethane	ND		0.30		ug/L			03/20/15 13:34	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/20/15 13:34	1
Dibromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Dichlorobromomethane	ND		0.20		ug/L			03/20/15 13:34	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/20/15 13:34	1
Ethylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
Ethylene Dibromide	ND		0.10		ug/L			03/20/15 13:34	1
Hexachlorobutadiene	ND		0.50		ug/L			03/20/15 13:34	1
Isopropylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/20/15 13:34	1
Methylene Chloride	ND		0.50		ug/L			03/20/15 13:34	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/20/15 13:34	1
Naphthalene	ND		0.50		ug/L			03/20/15 13:34	1
n-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184860/6

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/20/15 13:34	1
o-Xylene	ND		0.50		ug/L			03/20/15 13:34	1
sec-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Styrene	ND		0.50		ug/L			03/20/15 13:34	1
tert-Butylbenzene	ND		0.50		ug/L			03/20/15 13:34	1
Tetrachloroethene	ND		0.50		ug/L			03/20/15 13:34	1
Toluene	ND		0.20		ug/L			03/20/15 13:34	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/20/15 13:34	1
Trichloroethene	ND		0.20		ug/L			03/20/15 13:34	1
Trichlorofluoromethane	ND		0.50		ug/L			03/20/15 13:34	1
Vinyl chloride	ND	^	0.020		ug/L			03/20/15 13:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 128		03/20/15 13:34	1
4-Bromofluorobenzene (Surr)	102		75 - 120		03/20/15 13:34	1
Dibromofluoromethane (Surr)	103		85 - 115		03/20/15 13:34	1
Toluene-d8 (Surr)	104		75 - 125		03/20/15 13:34	1
Trifluorotoluene (Surr)	113		80 - 127		03/20/15 13:34	1

Lab Sample ID: LCS 580-184860/7

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.57		ug/L		111	75 - 125
1,1,1-Trichloroethane	5.00	5.79		ug/L		116	80 - 140
1,1,2,2-Tetrachloroethane	5.00	5.27		ug/L		105	75 - 125
1,1,2-Trichloroethane	5.00	5.46		ug/L		109	80 - 130
1,1-Dichloroethane	5.00	5.54		ug/L		111	75 - 135
1,1-Dichloroethene	5.00	5.08		ug/L		102	70 - 150
1,1-Dichloropropene	5.00	6.27		ug/L		125	80 - 130
1,2,3-Trichlorobenzene	5.00	3.95	^	ug/L		79	60 - 125
1,2,3-Trichloropropane	5.00	6.01		ug/L		120	75 - 120
1,2,4-Trichlorobenzene	5.00	4.55		ug/L		91	60 - 125
1,2,4-Trimethylbenzene	5.00	5.99		ug/L		120	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	5.61		ug/L		112	55 - 120
1,2-Dichlorobenzene	5.00	5.22		ug/L		104	80 - 130
1,2-Dichloroethane	5.00	5.58		ug/L		112	80 - 140
1,2-Dichloropropane	5.00	5.50		ug/L		110	80 - 120
1,3,5-Trimethylbenzene	5.00	6.23		ug/L		125	80 - 125
1,3-Dichlorobenzene	5.00	5.31		ug/L		106	80 - 120
1,3-Dichloropropane	5.00	5.38		ug/L		108	80 - 130
1,4-Dichlorobenzene	5.00	5.17		ug/L		103	80 - 120
2,2-Dichloropropane	5.00	5.77		ug/L		115	60 - 150
2-Chlorotoluene	5.00	5.86		ug/L		117	75 - 130
4-Chlorotoluene	5.00	6.03		ug/L		121	75 - 130
4-Isopropyltoluene	5.00	5.39		ug/L		108	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184860/7

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.51		ug/L		110	80 - 120
Bromobenzene	5.00	5.64		ug/L		113	80 - 130
Bromoform	5.00	5.32		ug/L		106	65 - 130
Bromomethane	5.00	5.45	^	ug/L		109	70 - 135
Carbon tetrachloride	5.00	6.00		ug/L		120	75 - 140
Chlorobenzene	5.00	5.21		ug/L		104	80 - 120
Chlorobromomethane	5.00	5.60		ug/L		112	80 - 125
Chlorodibromomethane	5.00	6.02		ug/L		120	70 - 120
Chloroethane	5.00	5.00		ug/L		100	75 - 140
Chloroform	5.00	5.34		ug/L		107	80 - 130
Chloromethane	5.00	4.02		ug/L		80	50 - 140
cis-1,2-Dichloroethene	5.00	5.29		ug/L		106	80 - 130
cis-1,3-Dichloropropene	5.00	6.56	*	ug/L		131	70 - 120
Dibromomethane	5.00	5.79		ug/L		116	80 - 130
Dichlorobromomethane	5.00	5.87		ug/L		117	80 - 125
Dichlorodifluoromethane	5.00	2.57		ug/L		51	30 - 180
Ethylbenzene	5.00	5.46		ug/L		109	80 - 125
Ethylene Dibromide	5.00	5.76		ug/L		115	70 - 130
Hexachlorobutadiene	5.00	4.50		ug/L		90	75 - 135
Isopropylbenzene	5.00	5.84		ug/L		117	75 - 120
Methyl tert-butyl ether	5.00	6.23	*	ug/L		125	75 - 120
Methylene Chloride	5.00	5.68		ug/L		114	60 - 145
m-Xylene & p-Xylene	5.00	5.61		ug/L		112	80 - 130
Naphthalene	5.00	4.80		ug/L		96	45 - 130
n-Butylbenzene	5.00	5.62		ug/L		112	75 - 125
N-Propylbenzene	5.00	6.08	*	ug/L		122	80 - 120
o-Xylene	5.00	5.65		ug/L		113	80 - 120
sec-Butylbenzene	5.00	6.11		ug/L		122	80 - 125
Styrene	5.00	5.88		ug/L		118	75 - 130
tert-Butylbenzene	5.00	6.31		ug/L		126	80 - 130
Tetrachloroethene	5.00	7.18		ug/L		144	40 - 180
Toluene	5.00	5.43		ug/L		109	80 - 120
trans-1,2-Dichloroethene	5.00	5.57		ug/L		111	80 - 140
trans-1,3-Dichloropropene	5.00	7.07	* ^	ug/L		141	60 - 140
Trichloroethene	5.00	5.83		ug/L		117	80 - 130
Trichlorofluoromethane	5.00	4.60		ug/L		92	30 - 180
Vinyl chloride	5.00	4.70	^	ug/L		94	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 128
4-Bromofluorobenzene (Surr)	97		75 - 120
Dibromofluoromethane (Surr)	102		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	113		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184860/8

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.83		ug/L		117	75 - 125	5	20
1,1,1-Trichloroethane	5.00	5.87		ug/L		117	80 - 140	1	20
1,1,2,2-Tetrachloroethane	5.00	5.22		ug/L		104	75 - 125	1	20
1,1,2-Trichloroethane	5.00	5.11		ug/L		102	80 - 130	7	20
1,1-Dichloroethane	5.00	5.72		ug/L		114	75 - 135	3	20
1,1-Dichloroethene	5.00	4.99		ug/L		100	70 - 150	2	20
1,1-Dichloropropene	5.00	6.31		ug/L		126	80 - 130	1	20
1,2,3-Trichlorobenzene	5.00	3.76	^	ug/L		75	60 - 125	5	20
1,2,3-Trichloropropane	5.00	5.76		ug/L		115	75 - 120	4	20
1,2,4-Trichlorobenzene	5.00	4.33		ug/L		87	60 - 125	5	20
1,2,4-Trimethylbenzene	5.00	5.86		ug/L		117	80 - 125	2	20
1,2-Dibromo-3-Chloropropane	5.00	5.11		ug/L		102	55 - 120	9	20
1,2-Dichlorobenzene	5.00	5.11		ug/L		102	80 - 130	2	20
1,2-Dichloroethane	5.00	5.23		ug/L		105	80 - 140	6	20
1,2-Dichloropropane	5.00	5.25		ug/L		105	80 - 120	5	20
1,3,5-Trimethylbenzene	5.00	6.00		ug/L		120	80 - 125	4	20
1,3-Dichlorobenzene	5.00	5.15		ug/L		103	80 - 120	3	20
1,3-Dichloropropane	5.00	5.00		ug/L		100	80 - 130	7	20
1,4-Dichlorobenzene	5.00	5.09		ug/L		102	80 - 120	2	20
2,2-Dichloropropane	5.00	6.41		ug/L		128	60 - 150	11	20
2-Chlorotoluene	5.00	5.84		ug/L		117	75 - 130	0	20
4-Chlorotoluene	5.00	5.76		ug/L		115	75 - 130	5	20
4-Isopropyltoluene	5.00	5.22		ug/L		104	80 - 120	3	20
Benzene	5.00	5.43		ug/L		109	80 - 120	1	20
Bromobenzene	5.00	5.54		ug/L		111	80 - 130	2	20
Bromoform	5.00	5.25		ug/L		105	65 - 130	1	20
Bromomethane	5.00	5.08	^	ug/L		102	70 - 135	7	20
Carbon tetrachloride	5.00	6.04		ug/L		121	75 - 140	1	20
Chlorobenzene	5.00	5.12		ug/L		102	80 - 120	2	20
Chlorobromomethane	5.00	5.67		ug/L		113	80 - 125	1	20
Chlorodibromomethane	5.00	5.81		ug/L		116	70 - 120	3	20
Chloroethane	5.00	4.86		ug/L		97	75 - 140	3	20
Chloroform	5.00	5.43		ug/L		109	80 - 130	2	20
Chloromethane	5.00	4.02		ug/L		80	50 - 140	0	20
cis-1,2-Dichloroethene	5.00	5.43		ug/L		109	80 - 130	3	20
cis-1,3-Dichloropropene	5.00	6.15	*	ug/L		123	70 - 120	7	20
Dibromomethane	5.00	5.32		ug/L		106	80 - 130	9	20
Dichlorobromomethane	5.00	5.56		ug/L		111	80 - 125	5	20
Dichlorodifluoromethane	5.00	2.59		ug/L		52	30 - 180	1	20
Ethylbenzene	5.00	5.46		ug/L		109	80 - 125	0	20
Ethylene Dibromide	5.00	5.29		ug/L		106	70 - 130	9	20
Hexachlorobutadiene	5.00	4.49		ug/L		90	75 - 135	0	20
Isopropylbenzene	5.00	6.03	*	ug/L		121	75 - 120	3	20
Methyl tert-butyl ether	5.00	6.31	*	ug/L		126	75 - 120	1	20
Methylene Chloride	5.00	5.83		ug/L		117	60 - 145	3	20
m-Xylene & p-Xylene	5.00	5.70		ug/L		114	80 - 130	1	20
Naphthalene	5.00	4.52		ug/L		90	45 - 130	6	20
n-Butylbenzene	5.00	5.43		ug/L		109	75 - 125	3	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184860/8

Matrix: Water

Analysis Batch: 184860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.86		ug/L		117	80 - 120	4	20
o-Xylene	5.00	5.82		ug/L		116	80 - 120	3	20
sec-Butylbenzene	5.00	5.88		ug/L		118	80 - 125	4	20
Styrene	5.00	5.83		ug/L		117	75 - 130	1	20
tert-Butylbenzene	5.00	6.12		ug/L		122	80 - 130	3	20
Tetrachloroethene	5.00	7.27		ug/L		145	40 - 180	1	20
Toluene	5.00	5.42		ug/L		108	80 - 120	0	20
trans-1,2-Dichloroethene	5.00	5.68		ug/L		114	80 - 140	2	20
trans-1,3-Dichloropropene	5.00	6.56	^	ug/L		131	60 - 140	8	20
Trichloroethene	5.00	5.68		ug/L		114	80 - 130	2	20
Trichlorofluoromethane	5.00	5.10		ug/L		102	30 - 180	10	20
Vinyl chloride	5.00	4.78	^	ug/L		95	65 - 140	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 128
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	105		85 - 115
Toluene-d8 (Surr)	102		75 - 125
Trifluorotoluene (Surr)	114		80 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-184883/1-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-184883/1-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Benzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromobenzene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromochloromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromodichloromethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromoform	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Bromomethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chlorobenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloroethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloroform	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Chloromethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dibromochloromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dibromomethane	ND		1.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Ethylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Isopropylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Methylene Chloride	ND		15		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Naphthalene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
n-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
N-Propylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
o-Xylene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Styrene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
t-Butylbenzene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Tetrachloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Toluene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Trichloroethene	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1
Vinyl chloride	ND		2.0		ug/Kg		03/20/15 12:00	03/20/15 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 136	03/20/15 12:00	03/20/15 12:34	1
4-Bromofluorobenzene (Surr)	95		70 - 120	03/20/15 12:00	03/20/15 12:34	1
Dibromofluoromethane (Surr)	97		75 - 132	03/20/15 12:00	03/20/15 12:34	1
Toluene-d8 (Surr)	102		80 - 120	03/20/15 12:00	03/20/15 12:34	1
Trifluorotoluene (Surr)	95		65 - 140	03/20/15 12:00	03/20/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184883/2-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	40.0	42.1		ug/Kg		105	72 - 123
1,1,1-Trichloroethane	40.0	40.8		ug/Kg		102	63 - 135
1,1,2,2-Tetrachloroethane	40.0	43.0		ug/Kg		108	73 - 125
1,1,2-Trichloroethane	40.0	41.6		ug/Kg		104	77 - 124
1,1-Dichloroethane	40.0	43.3		ug/Kg		108	70 - 128
1,1-Dichloroethene	40.0	36.3		ug/Kg		91	70 - 133
1,1-Dichloropropene	40.0	44.3		ug/Kg		111	77 - 125
1,2,3-Trichlorobenzene	40.0	49.8		ug/Kg		124	61 - 130
1,2,3-Trichloropropane	40.0	43.6		ug/Kg		109	77 - 123
1,2,4-Trichlorobenzene	40.0	49.2		ug/Kg		123	61 - 130
1,2,4-Trimethylbenzene	40.0	42.0		ug/Kg		105	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	44.4		ug/Kg		111	53 - 132
1,2-Dibromoethane	40.0	44.5		ug/Kg		111	69 - 126
1,2-Dichlorobenzene	40.0	42.6		ug/Kg		107	79 - 117
1,2-Dichloroethane	40.0	41.7		ug/Kg		104	71 - 128
1,2-Dichloropropane	40.0	40.9		ug/Kg		102	76 - 161
1,3,5-Trimethylbenzene	40.0	43.6		ug/Kg		109	80 - 125
1,3-Dichlorobenzene	40.0	42.9		ug/Kg		107	79 - 119
1,3-Dichloropropane	40.0	41.9		ug/Kg		105	77 - 123
1,4-Dichlorobenzene	40.0	43.2		ug/Kg		108	79 - 117
2,2-Dichloropropane	40.0	40.5		ug/Kg		101	56 - 144
2-Chlorotoluene	40.0	42.8		ug/Kg		107	79 - 122
4-Chlorotoluene	40.0	43.7		ug/Kg		109	80 - 122
4-Isopropyltoluene	40.0	41.9		ug/Kg		105	78 - 126
Benzene	40.0	42.0		ug/Kg		105	70 - 128
Bromobenzene	40.0	44.5		ug/Kg		111	80 - 120
Bromochloromethane	40.0	42.4		ug/Kg		106	78 - 123
Bromodichloromethane	40.0	41.3		ug/Kg		103	58 - 133
Bromoform	40.0	41.2		ug/Kg		103	50 - 124
Bromomethane	40.0	30.3		ug/Kg		76	57 - 148
Carbon tetrachloride	40.0	42.3		ug/Kg		106	59 - 145
Chlorobenzene	40.0	42.6		ug/Kg		106	75 - 120
Chloroethane	40.0	31.9		ug/Kg		80	48 - 167
Chloroform	40.0	42.3		ug/Kg		106	78 - 125
Chloromethane	40.0	27.0		ug/Kg		67	55 - 136
cis-1,2-Dichloroethene	40.0	40.6		ug/Kg		102	70 - 130
cis-1,3-Dichloropropene	40.0	45.0		ug/Kg		113	69 - 129
Dibromochloromethane	40.0	43.6		ug/Kg		109	42 - 129
Dibromomethane	40.0	41.5		ug/Kg		104	78 - 126
Dichlorodifluoromethane	40.0	15.7		ug/Kg		39	38 - 150
Ethylbenzene	40.0	42.3		ug/Kg		106	78 - 126
Hexachlorobutadiene	40.0	44.0		ug/Kg		110	68 - 134
Isopropylbenzene	40.0	41.8		ug/Kg		104	79 - 127
Methyl tert-butyl ether	40.0	42.5		ug/Kg		106	65 - 125
Methylene Chloride	40.0	39.3		ug/Kg		98	57 - 146
m-Xylene & p-Xylene	40.0	41.6		ug/Kg		104	78 - 126
Naphthalene	40.0	53.1		ug/Kg		133	14 - 170
n-Butylbenzene	40.0	41.4		ug/Kg		104	78 - 128

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-184883/2-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	40.0	43.1		ug/Kg		108	81 - 127
o-Xylene	40.0	41.4		ug/Kg		103	77 - 127
sec-Butylbenzene	40.0	43.0		ug/Kg		108	78 - 128
Styrene	40.0	41.3		ug/Kg		103	79 - 127
t-Butylbenzene	40.0	41.6		ug/Kg		104	71 - 136
Tetrachloroethene	40.0	44.1		ug/Kg		110	56 - 155
Toluene	40.0	42.6		ug/Kg		107	75 - 126
trans-1,2-Dichloroethene	40.0	40.0		ug/Kg		100	76 - 131
trans-1,3-Dichloropropene	40.0	48.8		ug/Kg		122	72 - 129
Trichloroethene	40.0	41.3		ug/Kg		103	83 - 124
Trichlorofluoromethane	40.0	32.0		ug/Kg		80	47 - 165
Vinyl chloride	40.0	29.3		ug/Kg		73	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	98		80 - 120
Trifluorotoluene (Surr)	92		65 - 140

Lab Sample ID: LCSD 580-184883/3-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	44.9		ug/Kg		112	72 - 123	6	20
1,1,1-Trichloroethane	40.0	38.3		ug/Kg		96	63 - 135	6	20
1,1,2,2-Tetrachloroethane	40.0	41.5		ug/Kg		104	73 - 125	4	22
1,1,2-Trichloroethane	40.0	45.0		ug/Kg		113	77 - 124	8	18
1,1-Dichloroethane	40.0	42.3		ug/Kg		106	70 - 128	2	21
1,1-Dichloroethene	40.0	34.0		ug/Kg		85	70 - 133	7	23
1,1-Dichloropropene	40.0	45.1		ug/Kg		113	77 - 125	2	16
1,2,3-Trichlorobenzene	40.0	50.8		ug/Kg		127	61 - 130	2	23
1,2,3-Trichloropropane	40.0	42.0		ug/Kg		105	77 - 123	4	23
1,2,4-Trichlorobenzene	40.0	51.0		ug/Kg		128	61 - 130	4	22
1,2,4-Trimethylbenzene	40.0	44.6		ug/Kg		111	79 - 124	6	18
1,2-Dibromo-3-Chloropropane	40.0	41.3		ug/Kg		103	53 - 132	7	27
1,2-Dibromoethane	40.0	45.6		ug/Kg		114	69 - 126	2	21
1,2-Dichlorobenzene	40.0	44.4		ug/Kg		111	79 - 117	4	17
1,2-Dichloroethane	40.0	44.0		ug/Kg		110	71 - 128	5	18
1,2-Dichloropropane	40.0	45.1		ug/Kg		113	76 - 161	10	15
1,3,5-Trimethylbenzene	40.0	45.3		ug/Kg		113	80 - 125	4	18
1,3-Dichlorobenzene	40.0	45.2		ug/Kg		113	79 - 119	5	17
1,3-Dichloropropane	40.0	44.4		ug/Kg		111	77 - 123	6	19
1,4-Dichlorobenzene	40.0	45.7		ug/Kg		114	79 - 117	6	18
2,2-Dichloropropane	40.0	37.8		ug/Kg		95	56 - 144	7	21
2-Chlorotoluene	40.0	43.3		ug/Kg		108	79 - 122	1	18
4-Chlorotoluene	40.0	45.4		ug/Kg		113	80 - 122	4	18

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-184883/3-A

Matrix: Solid

Analysis Batch: 184870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Isopropyltoluene	40.0	43.0		ug/Kg		107	78 - 126	3	18
Benzene	40.0	44.8		ug/Kg		112	70 - 128	6	19
Bromobenzene	40.0	46.6		ug/Kg		116	80 - 120	5	19
Bromochloromethane	40.0	42.0		ug/Kg		105	78 - 123	1	19
Bromodichloromethane	40.0	44.8		ug/Kg		112	58 - 133	8	19
Bromoform	40.0	41.3		ug/Kg		103	50 - 124	0	25
Bromomethane	40.0	33.2		ug/Kg		83	57 - 148	9	29
Carbon tetrachloride	40.0	39.8		ug/Kg		99	59 - 145	6	19
Chlorobenzene	40.0	45.2		ug/Kg		113	75 - 120	6	21
Chloroethane	40.0	32.2		ug/Kg		80	48 - 167	1	53
Chloroform	40.0	42.2		ug/Kg		105	78 - 125	0	17
Chloromethane	40.0	35.4	*	ug/Kg		88	55 - 136	27	26
cis-1,2-Dichloroethene	40.0	39.6		ug/Kg		99	70 - 130	3	19
cis-1,3-Dichloropropene	40.0	50.5		ug/Kg		126	69 - 129	11	19
Dibromochloromethane	40.0	46.8		ug/Kg		117	42 - 129	7	23
Dibromomethane	40.0	43.9		ug/Kg		110	78 - 126	6	18
Dichlorodifluoromethane	40.0	30.2	*	ug/Kg		76	38 - 150	63	26
Ethylbenzene	40.0	44.5		ug/Kg		111	78 - 126	5	23
Hexachlorobutadiene	40.0	48.3		ug/Kg		121	68 - 134	9	21
Isopropylbenzene	40.0	43.2		ug/Kg		108	79 - 127	3	20
Methyl tert-butyl ether	40.0	39.4		ug/Kg		98	65 - 125	8	30
Methylene Chloride	40.0	38.5		ug/Kg		96	57 - 146	2	21
m-Xylene & p-Xylene	40.0	44.5		ug/Kg		111	78 - 126	7	23
Naphthalene	40.0	52.4		ug/Kg		131	14 - 170	1	50
n-Butylbenzene	40.0	43.0		ug/Kg		108	78 - 128	4	17
N-Propylbenzene	40.0	43.7		ug/Kg		109	81 - 127	1	20
o-Xylene	40.0	43.3		ug/Kg		108	77 - 127	5	22
sec-Butylbenzene	40.0	44.5		ug/Kg		111	78 - 128	3	17
Styrene	40.0	44.0		ug/Kg		110	79 - 127	6	21
t-Butylbenzene	40.0	44.8		ug/Kg		112	71 - 136	7	27
Tetrachloroethene	40.0	48.3		ug/Kg		121	56 - 155	9	27
Toluene	40.0	46.3		ug/Kg		116	75 - 126	8	19
trans-1,2-Dichloroethene	40.0	38.5		ug/Kg		96	76 - 131	4	18
trans-1,3-Dichloropropene	40.0	52.2	*	ug/Kg		131	72 - 129	7	20
Trichloroethene	40.0	43.4		ug/Kg		108	83 - 124	5	17
Trichlorofluoromethane	40.0	33.9		ug/Kg		85	47 - 165	6	54
Vinyl chloride	40.0	31.1		ug/Kg		78	67 - 131	6	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	97		75 - 132
Toluene-d8 (Surr)	103		80 - 120
Trifluorotoluene (Surr)	91		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1,2-Dichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1,3-Dichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1,4-Dichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1-Methylnaphthalene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dichlorophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dinitrophenol	ND		5.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dinitrotoluene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,6-Dinitrotoluene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Chloronaphthalene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Chlorophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Methylnaphthalene	ND		0.20		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Methylphenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Nitroaniline	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Nitrophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
3 & 4 Methylphenol	ND		0.80		ug/L		03/23/15 10:38	03/27/15 14:44	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
3-Nitroaniline	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4,6-Dinitro-2-methylphenol	ND		4.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Chloroaniline	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Nitroaniline	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Nitrophenol	ND		3.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
Acenaphthene	ND		0.10		ug/L		03/23/15 10:38	03/27/15 14:44	1
Acenaphthylene	ND		0.080		ug/L		03/23/15 10:38	03/27/15 14:44	1
Anthracene	ND		0.040		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[a]anthracene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[a]pyrene	ND		0.040		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[b]fluoranthene	ND		0.080		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[k]fluoranthene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzoic acid	ND		3.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzyl alcohol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Bis(2-ethylhexyl) phthalate	ND		3.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Butyl benzyl phthalate	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Carbazole	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Chrysene	ND		0.040		ug/L		03/23/15 10:38	03/27/15 14:44	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Dibenzofuran	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Diethyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Di-n-butyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Di-n-octyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Fluoranthene	ND		0.050		ug/L		03/23/15 10:38	03/27/15 14:44	1
Fluorene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachlorobutadiene	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachloroethane	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Isophorone	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Naphthalene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Nitrobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Pentachlorophenol	ND		0.70		ug/L		03/23/15 10:38	03/27/15 14:44	1
Phenanthrene	ND		0.080		ug/L		03/23/15 10:38	03/27/15 14:44	1
Phenol	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Pyrene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	68		44 - 125	03/23/15 10:38	03/27/15 14:44	1
2-Fluorobiphenyl	73		50 - 120	03/23/15 10:38	03/27/15 14:44	1
2-Fluorophenol (Surr)	61		30 - 134	03/23/15 10:38	03/27/15 14:44	1
Nitrobenzene-d5 (Surr)	81		59 - 120	03/23/15 10:38	03/27/15 14:44	1
Phenol-d5 (Surr)	69		52 - 120	03/23/15 10:38	03/27/15 14:44	1
Terphenyl-d14 (Surr)	92		64 - 150	03/23/15 10:38	03/27/15 14:44	1

Lab Sample ID: LCS 580-184969/2-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.27		ug/L		64	40 - 125
1,2-Dichlorobenzene	2.00	1.31		ug/L		65	44 - 125
1,3-Dichlorobenzene	2.00	1.20		ug/L		60	40 - 125
1,4-Dichlorobenzene	2.00	1.25		ug/L		62	40 - 125
1-Methylnaphthalene	2.00	1.48		ug/L		74	54 - 125
2,4,5-Trichlorophenol	2.00	1.63		ug/L		82	66 - 130
2,4,6-Trichlorophenol	2.00	1.62		ug/L		81	55 - 140
2,4-Dichlorophenol	2.00	1.56		ug/L		78	50 - 140
2,4-Dimethylphenol	2.00	1.23	J	ug/L		61	30 - 135
2,4-Dinitrophenol	4.00	ND		ug/L		25	24 - 146
2,4-Dinitrotoluene	2.00	1.60		ug/L		80	73 - 126
2,6-Dinitrotoluene	2.00	1.62		ug/L		81	67 - 134
2-Chloronaphthalene	2.00	1.48		ug/L		74	55 - 125
2-Chlorophenol	2.00	1.61		ug/L		80	57 - 125
2-Methylnaphthalene	2.00	1.41		ug/L		70	56 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184969/2-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	2.00	1.53		ug/L		77	60 - 130
2-Nitroaniline	2.00	1.74		ug/L		87	52 - 140
2-Nitrophenol	2.00	1.52		ug/L		76	55 - 140
3 & 4 Methylphenol	2.00	1.59		ug/L		80	60 - 130
3,3'-Dichlorobenzidine	4.00	1.84	J	ug/L		46	20 - 175
3-Nitroaniline	2.00	1.34		ug/L		67	22 - 124
4,6-Dinitro-2-methylphenol	4.00	2.23	J	ug/L		56	50 - 136
4-Bromophenyl phenyl ether	2.00	1.57		ug/L		79	62 - 132
4-Chloro-3-methylphenol	2.00	1.69		ug/L		84	65 - 145
4-Chloroaniline	2.00	0.337	J *	ug/L		17	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.44		ug/L		72	59 - 125
4-Nitroaniline	2.00	1.31		ug/L		66	49 - 125
4-Nitrophenol	4.00	3.08		ug/L		77	35 - 153
Acenaphthene	2.00	1.57		ug/L		79	63 - 125
Acenaphthylene	2.00	1.54		ug/L		77	62 - 125
Anthracene	2.00	1.47		ug/L		73	50 - 125
Benzo[a]anthracene	2.00	1.71		ug/L		85	65 - 125
Benzo[a]pyrene	2.00	1.52		ug/L		76	45 - 125
Benzo[b]fluoranthene	2.00	1.80		ug/L		90	70 - 129
Benzo[g,h,i]perylene	2.00	1.79		ug/L		90	65 - 153
Benzo[k]fluoranthene	2.00	1.83		ug/L		92	70 - 123
Benzoic acid	4.00	ND	*	ug/L		10	20 - 144
Benzyl alcohol	2.00	1.79		ug/L		89	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.43		ug/L		72	59 - 125
Bis(2-chloroethyl)ether	2.00	1.37		ug/L		69	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	4.29	*	ug/L		214	70 - 185
bis(chloroisopropyl) ether	2.00	1.45		ug/L		72	44 - 130
Butyl benzyl phthalate	2.00	2.11		ug/L		106	60 - 167
Carbazole	2.00	1.77		ug/L		89	75 - 142
Chrysene	2.00	1.69		ug/L		84	70 - 125
Dibenz(a,h)anthracene	2.00	1.75		ug/L		87	69 - 154
Dibenzofuran	2.00	1.53		ug/L		76	60 - 125
Diethyl phthalate	2.00	1.78		ug/L		89	60 - 150
Dimethyl phthalate	2.00	1.71		ug/L		85	65 - 155
Di-n-butyl phthalate	2.00	2.06		ug/L		103	55 - 167
Di-n-octyl phthalate	2.00	2.01		ug/L		100	55 - 150
Fluoranthene	2.00	1.75		ug/L		88	70 - 145
Fluorene	2.00	1.59		ug/L		79	69 - 125
Hexachlorobenzene	2.00	1.60		ug/L		80	61 - 125
Hexachlorobutadiene	2.00	1.05		ug/L		53	25 - 125
Hexachlorocyclopentadiene	2.00	0.426	J	ug/L		21	20 - 125
Hexachloroethane	2.00	1.09		ug/L		54	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.82		ug/L		91	70 - 136
Isophorone	2.00	1.78		ug/L		89	64 - 125
Naphthalene	2.00	1.52		ug/L		76	56 - 125
Nitrobenzene	2.00	1.67		ug/L		83	62 - 125
N-Nitrosodi-n-propylamine	2.00	1.52		ug/L		76	60 - 120
N-Nitrosodiphenylamine	2.00	2.74	*	ug/L		137	40 - 135

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184969/2-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	4.00	1.38		ug/L		35	20 - 145
Phenanthrene	2.00	1.43		ug/L		72	70 - 125
Phenol	2.00	1.37		ug/L		69	53 - 130
Pyrene	2.00	1.67		ug/L		84	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	76		44 - 125
2-Fluorobiphenyl	67		50 - 120
2-Fluorophenol (Surr)	61		30 - 134
Nitrobenzene-d5 (Surr)	74		59 - 120
Phenol-d5 (Surr)	69		52 - 120
Terphenyl-d14 (Surr)	84		64 - 150

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	2.00	1.44		ug/L		72	40 - 125	12	20
1,2-Dichlorobenzene	2.00	1.41		ug/L		71	44 - 125	8	20
1,3-Dichlorobenzene	2.00	1.30		ug/L		65	40 - 125	8	20
1,4-Dichlorobenzene	2.00	1.39		ug/L		70	40 - 125	11	20
1-Methylnaphthalene	2.00	1.66		ug/L		83	54 - 125	11	20
2,4,5-Trichlorophenol	2.00	1.66		ug/L		83	66 - 130	1	20
2,4,6-Trichlorophenol	2.00	1.58		ug/L		79	55 - 140	2	20
2,4-Dichlorophenol	2.00	1.61		ug/L		80	50 - 140	3	20
2,4-Dimethylphenol	2.00	1.06	J	ug/L		53	30 - 135	15	20
2,4-Dinitrophenol	4.00	1.00	J	ug/L		25	24 - 146	1	20
2,4-Dinitrotoluene	2.00	1.65		ug/L		82	73 - 126	3	20
2,6-Dinitrotoluene	2.00	1.69		ug/L		85	67 - 134	4	20
2-Chloronaphthalene	2.00	1.51		ug/L		75	55 - 125	2	20
2-Chlorophenol	2.00	1.59		ug/L		80	57 - 125	1	20
2-Methylnaphthalene	2.00	1.51		ug/L		75	56 - 125	7	20
2-Methylphenol	2.00	1.52		ug/L		76	60 - 130	1	20
2-Nitroaniline	2.00	1.80		ug/L		90	52 - 140	3	20
2-Nitrophenol	2.00	1.57		ug/L		79	55 - 140	3	20
3 & 4 Methylphenol	2.00	1.56		ug/L		78	60 - 130	2	20
3,3'-Dichlorobenzidine	4.00	2.16		ug/L		54	20 - 175	16	20
3-Nitroaniline	2.00	1.38		ug/L		69	22 - 124	3	20
4,6-Dinitro-2-methylphenol	4.00	2.62	J	ug/L		65	50 - 136	16	20
4-Bromophenyl phenyl ether	2.00	1.73		ug/L		87	62 - 132	10	20
4-Chloro-3-methylphenol	2.00	1.83		ug/L		91	65 - 145	8	20
4-Chloroaniline	2.00	0.454	*	ug/L		23	20 - 150	29	20
4-Chlorophenyl phenyl ether	2.00	1.46		ug/L		73	59 - 125	1	20
4-Nitroaniline	2.00	1.48		ug/L		74	49 - 125	12	20
4-Nitrophenol	4.00	3.02		ug/L		75	35 - 153	2	20
Acenaphthene	2.00	1.65		ug/L		83	63 - 125	5	20
Acenaphthylene	2.00	1.57		ug/L		78	62 - 125	2	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	2.00	1.57		ug/L		78	50 - 125	6	20
Benzo[a]anthracene	2.00	1.90		ug/L		95	65 - 125	11	20
Benzo[a]pyrene	2.00	1.66		ug/L		83	45 - 125	9	20
Benzo[b]fluoranthene	2.00	1.87		ug/L		94	70 - 129	4	20
Benzo[g,h,i]perylene	2.00	1.91		ug/L		95	65 - 153	6	20
Benzo[k]fluoranthene	2.00	2.06		ug/L		103	70 - 123	12	20
Benzoic acid	4.00	ND	*	ug/L		8	20 - 144	17	20
Benzyl alcohol	2.00	1.82		ug/L		91	41 - 144	2	20
Bis(2-chloroethoxy)methane	2.00	1.57		ug/L		79	59 - 125	9	20
Bis(2-chloroethyl)ether	2.00	1.47		ug/L		74	55 - 125	7	20
Bis(2-ethylhexyl) phthalate	2.00	2.52	J *	ug/L		126	70 - 185	52	20
bis(chloroisopropyl) ether	2.00	1.46		ug/L		73	44 - 130	1	20
Butyl benzyl phthalate	2.00	2.46		ug/L		123	60 - 167	15	20
Carbazole	2.00	1.90		ug/L		95	75 - 142	7	20
Chrysene	2.00	1.83		ug/L		91	70 - 125	8	20
Dibenz(a,h)anthracene	2.00	1.83		ug/L		91	69 - 154	5	20
Dibenzofuran	2.00	1.61		ug/L		80	60 - 125	5	20
Diethyl phthalate	2.00	1.85		ug/L		92	60 - 150	4	20
Dimethyl phthalate	2.00	1.81		ug/L		90	65 - 155	6	20
Di-n-butyl phthalate	2.00	2.19		ug/L		110	55 - 167	6	20
Di-n-octyl phthalate	2.00	2.18		ug/L		109	55 - 150	8	20
Fluoranthene	2.00	1.88		ug/L		94	70 - 145	7	20
Fluorene	2.00	1.62		ug/L		81	69 - 125	2	20
Hexachlorobenzene	2.00	1.74		ug/L		87	61 - 125	8	20
Hexachlorobutadiene	2.00	1.30	*	ug/L		65	25 - 125	21	20
Hexachlorocyclopentadiene	2.00	0.596	J *	ug/L		30	20 - 125	33	20
Hexachloroethane	2.00	1.28		ug/L		64	30 - 125	17	20
Indeno[1,2,3-cd]pyrene	2.00	2.03		ug/L		101	70 - 136	11	20
Isophorone	2.00	1.90		ug/L		95	64 - 125	6	20
Naphthalene	2.00	1.62		ug/L		81	56 - 125	7	20
Nitrobenzene	2.00	1.75		ug/L		87	62 - 125	5	20
N-Nitrosodi-n-propylamine	2.00	1.58		ug/L		79	60 - 120	4	20
N-Nitrosodiphenylamine	2.00	2.99	*	ug/L		149	40 - 135	9	20
Pentachlorophenol	4.00	1.61		ug/L		40	20 - 145	15	20
Phenanthrene	2.00	1.58		ug/L		79	70 - 125	10	20
Phenol	2.00	1.32		ug/L		66	53 - 130	4	20
Pyrene	2.00	1.81		ug/L		91	70 - 133	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	78		44 - 125
2-Fluorobiphenyl	64		50 - 120
2-Fluorophenol (Surr)	54		30 - 134
Nitrobenzene-d5 (Surr)	73		59 - 120
Phenol-d5 (Surr)	65		52 - 120
Terphenyl-d14 (Surr)	84		64 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185881/1-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
1,2-Dichlorobenzene	ND		55		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
1,3-Dichlorobenzene	ND		50		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
1,4-Dichlorobenzene	ND		50		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
1-Methylnaphthalene	ND		30		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,4,5-Trichlorophenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,4,6-Trichlorophenol	ND		150		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,4-Dichlorophenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,4-Dimethylphenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,4-Dinitrophenol	ND		1000		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,4-Dinitrotoluene	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2,6-Dinitrotoluene	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2-Chloronaphthalene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2-Chlorophenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2-Methylnaphthalene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2-Methylphenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2-Nitroaniline	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
2-Nitrophenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
3 & 4 Methylphenol	ND		200		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
3,3'-Dichlorobenzidine	ND		200		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
3-Nitroaniline	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4,6-Dinitro-2-methylphenol	ND		1000		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4-Bromophenyl phenyl ether	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4-Chloro-3-methylphenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4-Chloroaniline	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4-Chlorophenyl phenyl ether	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4-Nitroaniline	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
4-Nitrophenol	ND		1000		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Acenaphthene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Acenaphthylene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Anthracene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzo[a]anthracene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzo[a]pyrene	ND		30		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzo[b]fluoranthene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzo[g,h,i]perylene	ND		25		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzo[k]fluoranthene	ND		25		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzoic acid	ND		2500		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Benzyl alcohol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Bis(2-chloroethoxy)methane	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Bis(2-chloroethyl)ether	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
bis(chloroisopropyl) ether	ND		250		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Butyl benzyl phthalate	ND		200		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Carbazole	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Chrysene	ND		25		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Dibenz(a,h)anthracene	ND		40		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Dibenzofuran	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Diethyl phthalate	ND		200		ug/Kg		04/02/15 11:39	04/03/15 11:35	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185881/1-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Di-n-butyl phthalate	ND		500		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Di-n-octyl phthalate	ND		500		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Fluoranthene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Fluorene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Hexachlorobenzene	ND		50		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Hexachlorobutadiene	ND		50		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Hexachlorocyclopentadiene	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Hexachloroethane	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Indeno[1,2,3-cd]pyrene	ND	^	40		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Isophorone	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Naphthalene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Nitrobenzene	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
N-Nitrosodi-n-propylamine	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
N-Nitrosodiphenylamine	ND		50		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Pentachlorophenol	ND		200		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Phenanthrene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Phenol	ND		100		ug/Kg		04/02/15 11:39	04/03/15 11:35	1
Pyrene	ND		20		ug/Kg		04/02/15 11:39	04/03/15 11:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	72		28 - 143	04/02/15 11:39	04/03/15 11:35	1
2-Fluorobiphenyl	71		42 - 140	04/02/15 11:39	04/03/15 11:35	1
2-Fluorophenol (Surr)	80		36 - 145	04/02/15 11:39	04/03/15 11:35	1
Nitrobenzene-d5 (Surr)	76		38 - 141	04/02/15 11:39	04/03/15 11:35	1
Phenol-d5 (Surr)	81		38 - 149	04/02/15 11:39	04/03/15 11:35	1
Terphenyl-d14 (Surr)	74		42 - 151	04/02/15 11:39	04/03/15 11:35	1

Lab Sample ID: LCS 580-185881/2-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	1000	854		ug/Kg		85	66 - 115
1,2-Dichlorobenzene	1000	857		ug/Kg		86	64 - 112
1,3-Dichlorobenzene	1000	861		ug/Kg		86	64 - 111
1,4-Dichlorobenzene	1000	880		ug/Kg		88	65 - 110
1-Methylnaphthalene	1000	885		ug/Kg		89	62 - 118
2,4,5-Trichlorophenol	1000	850		ug/Kg		85	57 - 133
2,4,6-Trichlorophenol	1000	983		ug/Kg		98	62 - 133
2,4-Dichlorophenol	1000	882		ug/Kg		88	68 - 125
2,4-Dimethylphenol	1000	871		ug/Kg		87	54 - 139
2,4-Dinitrophenol	2000	1300		ug/Kg		65	20 - 141
2,4-Dinitrotoluene	1000	861		ug/Kg		86	68 - 121
2,6-Dinitrotoluene	1000	867		ug/Kg		87	66 - 123
2-Chloronaphthalene	1000	895		ug/Kg		90	68 - 112
2-Chlorophenol	1000	984		ug/Kg		98	68 - 117
2-Methylnaphthalene	1000	829		ug/Kg		83	64 - 119

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185881/2-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	1000	954		ug/Kg		95	71 - 116
2-Nitroaniline	1000	990		ug/Kg		99	64 - 112
2-Nitrophenol	1000	911		ug/Kg		91	67 - 127
3 & 4 Methylphenol	1000	971		ug/Kg		97	70 - 116
3,3'-Dichlorobenzidine	2000	1230		ug/Kg		62	20 - 103
3-Nitroaniline	1000	764		ug/Kg		76	27 - 103
4,6-Dinitro-2-methylphenol	2000	1640		ug/Kg		82	48 - 130
4-Bromophenyl phenyl ether	1000	965		ug/Kg		96	68 - 122
4-Chloro-3-methylphenol	1000	969		ug/Kg		97	69 - 121
4-Chloroaniline	1000	517		ug/Kg		52	20 - 103
4-Chlorophenyl phenyl ether	1000	821		ug/Kg		82	75 - 108
4-Nitroaniline	1000	784		ug/Kg		78	58 - 108
4-Nitrophenol	2000	1970		ug/Kg		98	20 - 165
Acenaphthene	1000	901		ug/Kg		90	68 - 116
Acenaphthylene	1000	925		ug/Kg		93	68 - 120
Anthracene	1000	930		ug/Kg		93	73 - 116
Benzo[a]anthracene	1000	910		ug/Kg		91	76 - 119
Benzo[a]pyrene	1000	960		ug/Kg		96	72 - 117
Benzo[b]fluoranthene	1000	959		ug/Kg		96	63 - 132
Benzo[g,h,i]perylene	1000	1050		ug/Kg		105	55 - 139
Benzo[k]fluoranthene	1000	963		ug/Kg		96	63 - 119
Benzoic acid	2010	1130	J	ug/Kg		56	29 - 158
Benzyl alcohol	1000	967		ug/Kg		97	55 - 123
Bis(2-chloroethoxy)methane	1000	856		ug/Kg		86	69 - 107
Bis(2-chloroethyl)ether	1000	834		ug/Kg		83	62 - 110
Bis(2-ethylhexyl) phthalate	1000	1030		ug/Kg		103	62 - 144
bis(chloroisopropyl) ether	1000	971		ug/Kg		97	41 - 126
Butyl benzyl phthalate	1000	1080		ug/Kg		108	69 - 142
Carbazole	1000	915		ug/Kg		91	76 - 135
Chrysene	1000	860		ug/Kg		86	75 - 114
Dibenz(a,h)anthracene	1000	966		ug/Kg		97	56 - 134
Dibenzofuran	1000	853		ug/Kg		85	72 - 109
Diethyl phthalate	1000	890		ug/Kg		89	73 - 116
Dimethyl phthalate	1000	883		ug/Kg		88	78 - 117
Di-n-butyl phthalate	1000	1000		ug/Kg		100	66 - 140
Di-n-octyl phthalate	1000	1030		ug/Kg		103	65 - 141
Fluoranthene	1000	850		ug/Kg		85	73 - 125
Fluorene	1000	856		ug/Kg		86	70 - 121
Hexachlorobenzene	1000	967		ug/Kg		97	66 - 117
Hexachlorobutadiene	1000	874		ug/Kg		87	65 - 116
Hexachlorocyclopentadiene	1000	910		ug/Kg		91	46 - 131
Hexachloroethane	1000	943		ug/Kg		94	62 - 120
Indeno[1,2,3-cd]pyrene	1000	1040	^	ug/Kg		104	56 - 127
Isophorone	1000	967		ug/Kg		97	67 - 119
Naphthalene	1000	882		ug/Kg		88	62 - 112
Nitrobenzene	1000	964		ug/Kg		96	64 - 118
N-Nitrosodi-n-propylamine	1000	965		ug/Kg		97	62 - 116
N-Nitrosodiphenylamine	2010	1860		ug/Kg		93	73 - 115

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185881/2-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	2000	1680		ug/Kg		84	45 - 117
Phenanthrene	1000	824		ug/Kg		82	73 - 106
Phenol	1000	910		ug/Kg		91	63 - 111
Pyrene	1000	835		ug/Kg		84	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	93		28 - 143
2-Fluorobiphenyl	81		42 - 140
2-Fluorophenol (Surr)	93		36 - 145
Nitrobenzene-d5 (Surr)	88		38 - 141
Phenol-d5 (Surr)	95		38 - 149
Terphenyl-d14 (Surr)	84		42 - 151

Lab Sample ID: LCSD 580-185881/3-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	1000	862		ug/Kg		86	66 - 115	1	28
1,2-Dichlorobenzene	1000	863		ug/Kg		86	64 - 112	1	30
1,3-Dichlorobenzene	1000	858		ug/Kg		86	64 - 111	0	30
1,4-Dichlorobenzene	1000	882		ug/Kg		88	65 - 110	0	30
1-Methylnaphthalene	1000	917		ug/Kg		92	62 - 118	4	30
2,4,5-Trichlorophenol	1000	943		ug/Kg		94	57 - 133	10	30
2,4,6-Trichlorophenol	1000	978		ug/Kg		98	62 - 133	1	30
2,4-Dichlorophenol	1000	895		ug/Kg		90	68 - 125	1	30
2,4-Dimethylphenol	1000	958		ug/Kg		96	54 - 139	9	30
2,4-Dinitrophenol	2000	1510		ug/Kg		76	20 - 141	15	36
2,4-Dinitrotoluene	1000	914		ug/Kg		91	68 - 121	6	30
2,6-Dinitrotoluene	1000	909		ug/Kg		91	66 - 123	5	30
2-Chloronaphthalene	1000	925		ug/Kg		93	68 - 112	3	25
2-Chlorophenol	1000	963		ug/Kg		96	68 - 117	2	27
2-Methylnaphthalene	1000	860		ug/Kg		86	64 - 119	4	27
2-Methylphenol	1000	947		ug/Kg		95	71 - 116	1	25
2-Nitroaniline	1000	986		ug/Kg		99	64 - 112	0	22
2-Nitrophenol	1000	937		ug/Kg		94	67 - 127	3	30
3 & 4 Methylphenol	1000	976		ug/Kg		98	70 - 116	1	27
3,3'-Dichlorobenzidine	2000	1190		ug/Kg		59	20 - 103	4	60
3-Nitroaniline	1000	771		ug/Kg		77	27 - 103	1	33
4,6-Dinitro-2-methylphenol	2000	1740		ug/Kg		87	48 - 130	6	22
4-Bromophenyl phenyl ether	1000	950		ug/Kg		95	68 - 122	2	30
4-Chloro-3-methylphenol	1000	990		ug/Kg		99	69 - 121	2	27
4-Chloroaniline	1000	552		ug/Kg		55	20 - 103	7	60
4-Chlorophenyl phenyl ether	1000	818		ug/Kg		82	75 - 108	0	30
4-Nitroaniline	1000	880		ug/Kg		88	58 - 108	12	32
4-Nitrophenol	2000	2000		ug/Kg		100	20 - 165	2	30
Acenaphthene	1000	938		ug/Kg		94	68 - 116	4	27
Acenaphthylene	1000	950		ug/Kg		95	68 - 120	3	28

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185881/3-A

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	1000	924		ug/Kg		92	73 - 116	1	27
Benzo[a]anthracene	1000	956		ug/Kg		96	76 - 119	5	27
Benzo[a]pyrene	1000	992		ug/Kg		99	72 - 117	3	30
Benzo[b]fluoranthene	1000	976		ug/Kg		98	63 - 132	2	30
Benzo[g,h,i]perylene	1000	1090		ug/Kg		109	55 - 139	4	28
Benzo[k]fluoranthene	1000	1050		ug/Kg		105	63 - 119	8	30
Benzoic acid	2010	1430	J	ug/Kg		71	29 - 158	24	28
Benzyl alcohol	1000	969		ug/Kg		97	55 - 123	0	60
Bis(2-chloroethoxy)methane	1000	869		ug/Kg		87	69 - 107	1	30
Bis(2-chloroethyl)ether	1000	847		ug/Kg		85	62 - 110	2	22
Bis(2-ethylhexyl) phthalate	1000	1070		ug/Kg		107	62 - 144	3	30
bis(chloroisopropyl) ether	1000	983		ug/Kg		98	41 - 126	1	57
Butyl benzyl phthalate	1000	1130		ug/Kg		113	69 - 142	5	30
Carbazole	1000	914		ug/Kg		91	76 - 135	0	30
Chrysene	1000	864		ug/Kg		86	75 - 114	0	26
Dibenz(a,h)anthracene	1000	1040		ug/Kg		104	56 - 134	8	30
Dibenzofuran	1000	874		ug/Kg		87	72 - 109	2	30
Diethyl phthalate	1000	915		ug/Kg		92	73 - 116	3	26
Dimethyl phthalate	1000	906		ug/Kg		91	78 - 117	3	30
Di-n-butyl phthalate	1000	1030		ug/Kg		103	66 - 140	3	30
Di-n-octyl phthalate	1000	1070		ug/Kg		107	65 - 141	4	30
Fluoranthene	1000	864		ug/Kg		86	73 - 125	2	30
Fluorene	1000	897		ug/Kg		90	70 - 121	5	30
Hexachlorobenzene	1000	1010		ug/Kg		101	66 - 117	4	30
Hexachlorobutadiene	1000	851		ug/Kg		85	65 - 116	3	30
Hexachlorocyclopentadiene	1000	968		ug/Kg		97	46 - 131	6	29
Hexachloroethane	1000	953		ug/Kg		95	62 - 120	1	30
Indeno[1,2,3-cd]pyrene	1000	1110	^	ug/Kg		111	56 - 127	6	29
Isophorone	1000	975		ug/Kg		98	67 - 119	1	30
Naphthalene	1000	893		ug/Kg		89	62 - 112	1	26
Nitrobenzene	1000	957		ug/Kg		96	64 - 118	1	30
N-Nitrosodi-n-propylamine	1000	937		ug/Kg		94	62 - 116	3	28
N-Nitrosodiphenylamine	2010	1880		ug/Kg		94	73 - 115	1	30
Pentachlorophenol	2000	1720		ug/Kg		86	45 - 117	2	23
Phenanthrene	1000	831		ug/Kg		83	73 - 106	1	28
Phenol	1000	918		ug/Kg		92	63 - 111	1	26
Pyrene	1000	865		ug/Kg		86	70 - 120	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	91		28 - 143
2-Fluorobiphenyl	79		42 - 140
2-Fluorophenol (Surr)	89		36 - 145
Nitrobenzene-d5 (Surr)	85		38 - 141
Phenol-d5 (Surr)	89		38 - 149
Terphenyl-d14 (Surr)	83		42 - 151

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48155-4 MS

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: HA1-1-4.5

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,2,4-Trichlorobenzene	ND	F2 F1	1330	1130		ug/Kg	☼	85	66 - 115
1,2-Dichlorobenzene	ND	F2 F1	1330	1110		ug/Kg	☼	83	64 - 112
1,3-Dichlorobenzene	ND	F2 F1	1330	1110		ug/Kg	☼	83	64 - 111
1,4-Dichlorobenzene	ND	F2 F1	1330	1130		ug/Kg	☼	85	65 - 110
1-Methylnaphthalene	ND	F2 F1	1330	1180		ug/Kg	☼	88	62 - 118
2,4,5-Trichlorophenol	ND	F2 F1	1330	1240		ug/Kg	☼	93	57 - 133
2,4,6-Trichlorophenol	ND	F2 F1	1330	1280		ug/Kg	☼	96	62 - 133
2,4-Dichlorophenol	ND	F2 F1	1330	1180		ug/Kg	☼	89	68 - 125
2,4-Dimethylphenol	ND	F2 F1	1330	1270		ug/Kg	☼	95	54 - 139
2,4-Dinitrophenol	ND	F1	2670	ND	F1	ug/Kg	☼	0	20 - 141
2,4-Dinitrotoluene	ND	F2 F1	1330	1030		ug/Kg	☼	77	68 - 121
2,6-Dinitrotoluene	ND	F2 F1	1330	2420	F1	ug/Kg	☼	182	66 - 123
2-Chloronaphthalene	ND	F2 F1	1330	1150		ug/Kg	☼	86	68 - 112
2-Chlorophenol	ND	F2 F1	1330	1330		ug/Kg	☼	100	68 - 117
2-Methylnaphthalene	ND	F2 F1	1330	1100		ug/Kg	☼	82	64 - 119
2-Methylphenol	ND	F2 F1	1330	1230		ug/Kg	☼	92	71 - 116
2-Nitroaniline	ND	F2 F1	1330	1330		ug/Kg	☼	99	64 - 112
2-Nitrophenol	ND	F2 F1	1330	1160		ug/Kg	☼	87	67 - 127
3 & 4 Methylphenol	ND	F2 F1	1330	1310		ug/Kg	☼	96	70 - 116
3,3'-Dichlorobenzidine	ND	F2 F1	2670	290	F1	ug/Kg	☼	11	20 - 103
3-Nitroaniline	ND	F2	1330	1330		ug/Kg	☼	100	27 - 103
4,6-Dinitro-2-methylphenol	ND	F1	2670	ND	F1	ug/Kg	☼	10	48 - 130
4-Bromophenyl phenyl ether	ND	F2 F1	1330	1730	F1	ug/Kg	☼	130	68 - 122
4-Chloro-3-methylphenol	ND	F2 F1	1330	1530		ug/Kg	☼	115	69 - 121
4-Chloroaniline	ND	F2 F1	1330	340		ug/Kg	☼	26	20 - 103
4-Chlorophenyl phenyl ether	ND	F2 F1	1330	1440		ug/Kg	☼	108	75 - 108
4-Nitroaniline	ND	F2 F1	1330	851		ug/Kg	☼	64	58 - 108
4-Nitrophenol	ND	F2	2670	2670		ug/Kg	☼	100	20 - 165
Acenaphthene	ND	F2 F1	1330	1200		ug/Kg	☼	90	68 - 116
Acenaphthylene	ND	F2 F1	1330	1270		ug/Kg	☼	96	68 - 120
Anthracene	ND	F2 F1	1330	1190		ug/Kg	☼	89	73 - 116
Benzo[a]anthracene	ND	F2 F1	1330	1220		ug/Kg	☼	91	76 - 119
Benzo[a]pyrene	ND	F2 F1	1330	1350		ug/Kg	☼	101	72 - 117
Benzo[b]fluoranthene	ND	F2 F1	1330	1590		ug/Kg	☼	119	63 - 132
Benzo[g,h,i]perylene	ND	F2 F1	1330	338	F1	ug/Kg	☼	25	55 - 139
Benzo[k]fluoranthene	ND	F2 F1	1330	1480		ug/Kg	☼	111	63 - 119
Benzoic acid	ND	F1	2670	4000		ug/Kg	☼	150	29 - 158
Benzyl alcohol	ND	F2 F1	1330	1300		ug/Kg	☼	98	55 - 123
Bis(2-chloroethoxy)methane	ND	F2 F1	1330	1110		ug/Kg	☼	83	69 - 107
Bis(2-chloroethyl)ether	ND	F2 F1	1330	1040		ug/Kg	☼	78	62 - 110
Bis(2-ethylhexyl) phthalate	7000	F2 E	1330	6620	4	ug/Kg	☼	-32	62 - 144
bis(chloroisopropyl) ether	ND	F2 F1	1330	1220		ug/Kg	☼	91	41 - 126
Butyl benzyl phthalate	ND	F2 F1	1330	1350		ug/Kg	☼	101	69 - 142
Carbazole	ND	F2 F1	1330	1110		ug/Kg	☼	84	76 - 135
Chrysene	ND	F2 F1	1330	1090		ug/Kg	☼	82	75 - 114
Dibenz(a,h)anthracene	ND	F2 F1	1330	358	F1	ug/Kg	☼	27	56 - 134
Dibenzofuran	ND	F2 F1	1330	1100		ug/Kg	☼	82	72 - 109
Diethyl phthalate	ND	F2 F1	1330	1040		ug/Kg	☼	78	73 - 116

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48155-4 MS

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: HA1-1-4.5

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	ND	F2 F1	1330	1160		ug/Kg	☼	87	78 - 117
Di-n-butyl phthalate	ND	F2 F1	1330	1240		ug/Kg	☼	93	66 - 140
Di-n-octyl phthalate	ND	F2 F1	1330	ND	F1	ug/Kg	☼	22	65 - 141
Fluoranthene	ND	F2 F1	1330	1180		ug/Kg	☼	89	73 - 125
Fluorene	ND	F2 F1	1330	1130		ug/Kg	☼	85	70 - 121
Hexachlorobenzene	ND	F2 F1	1330	1460		ug/Kg	☼	109	66 - 117
Hexachlorobutadiene	ND	F2 F1	1330	1130		ug/Kg	☼	85	65 - 116
Hexachlorocyclopentadiene	ND	F2 F1	1330	547	F1	ug/Kg	☼	41	46 - 131
Hexachloroethane	ND	F2 F1	1330	1170		ug/Kg	☼	88	62 - 120
Indeno[1,2,3-cd]pyrene	ND	F2 F1 ^	1330	458	F1 ^	ug/Kg	☼	34	56 - 127
Isophorone	ND	F2 F1	1330	1300		ug/Kg	☼	97	67 - 119
Naphthalene	ND	F2 F1	1330	1150		ug/Kg	☼	86	62 - 112
Nitrobenzene	ND	F2 F1	1330	1270		ug/Kg	☼	95	64 - 118
N-Nitrosodi-n-propylamine	ND	F2 F1	1330	1250		ug/Kg	☼	94	62 - 116
N-Nitrosodiphenylamine	ND	F2 F1	2670	2520		ug/Kg	☼	94	73 - 115
Pentachlorophenol	ND	F2 F1	2670	3060		ug/Kg	☼	115	45 - 117
Phenanthrene	ND	F2 F1	1330	1060		ug/Kg	☼	79	73 - 106
Phenol	ND	F2 F1	1330	1180		ug/Kg	☼	88	63 - 111
Pyrene	28	F2 F1	1330	1080		ug/Kg	☼	79	70 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	109		28 - 143
2-Fluorobiphenyl	79		42 - 140
2-Fluorophenol (Surr)	89		36 - 145
Nitrobenzene-d5 (Surr)	87		38 - 141
Phenol-d5 (Surr)	90		38 - 149
Terphenyl-d14 (Surr)	91		42 - 151

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Lab Sample ID: 580-48155-4 MS

Matrix: Solid

Analysis Batch: 185981

Client Sample ID: HA1-1-4.5

Prep Type: Total/NA

Prep Batch: 185881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-ethylhexyl) phthalate - DL	9900	F2	1330	9170	4	ug/Kg	☼	-54	62 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr) - DL	102		28 - 143
2-Fluorobiphenyl - DL	76		42 - 140
2-Fluorophenol (Surr) - DL	80		36 - 145
Nitrobenzene-d5 (Surr) - DL	83		38 - 141
Phenol-d5 (Surr) - DL	80		38 - 149
Terphenyl-d14 (Surr) - DL	107		42 - 151

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-184868/1-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184868

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
2-Methylnaphthalene	ND		0.026		ug/L		03/20/15 12:03	03/24/15 10:04	1
Acenaphthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Acenaphthylene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[a]anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[a]pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Chrysene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Fluoranthene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Fluorene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Naphthalene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Phenanthrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1
Pyrene	ND		0.020		ug/L		03/20/15 12:03	03/24/15 10:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		64 - 150	03/20/15 12:03	03/24/15 10:04	1

Lab Sample ID: LCS 580-184868/2-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184868

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	2.23		ug/L		56	54 - 125
2-Methylnaphthalene	4.00	2.14	*	ug/L		54	56 - 125
Acenaphthene	4.00	2.29	*	ug/L		57	63 - 125
Acenaphthylene	4.00	1.09	*	ug/L		27	62 - 125
Anthracene	4.00	1.15	*	ug/L		29	50 - 125
Benzo[a]anthracene	4.00	1.85	*	ug/L		46	65 - 125
Benzo[a]pyrene	4.00	0.757	*	ug/L		19	45 - 125
Benzo[b]fluoranthene	4.00	1.99	*	ug/L		50	70 - 129
Benzo[g,h,i]perylene	4.00	1.90	*	ug/L		47	65 - 153
Benzo[k]fluoranthene	4.00	1.89	*	ug/L		47	70 - 123
Chrysene	4.00	2.27	*	ug/L		57	70 - 125
Dibenz(a,h)anthracene	4.00	2.12	*	ug/L		53	69 - 154
Fluoranthene	4.00	2.45	*	ug/L		61	70 - 145
Fluorene	4.00	2.05	*	ug/L		51	69 - 125
Indeno[1,2,3-cd]pyrene	4.00	1.95	*	ug/L		49	70 - 136
Naphthalene	4.00	2.19	*	ug/L		55	56 - 125
Phenanthrene	4.00	2.18	*	ug/L		54	70 - 125
Pyrene	4.00	2.33	*	ug/L		58	70 - 133

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-184868/2-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184868

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	64		64 - 150

Lab Sample ID: LCSD 580-184868/3-A

Matrix: Water

Analysis Batch: 185041

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184868

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.00	2.77	*	ug/L		69	54 - 125	21	20
2-Methylnaphthalene	4.00	2.73	*	ug/L		68	56 - 125	24	20
Acenaphthene	4.00	2.97	*	ug/L		74	63 - 125	26	20
Acenaphthylene	4.00	1.79	*	ug/L		45	62 - 125	48	20
Anthracene	4.00	1.65	*	ug/L		41	50 - 125	36	20
Benzo[a]anthracene	4.00	2.30	*	ug/L		57	65 - 125	21	20
Benzo[a]pyrene	4.00	1.27	*	ug/L		32	45 - 125	50	20
Benzo[b]fluoranthene	4.00	2.60	*	ug/L		65	70 - 129	26	20
Benzo[g,h,i]perylene	4.00	2.51	*	ug/L		63	65 - 153	28	20
Benzo[k]fluoranthene	4.00	2.29	*	ug/L		57	70 - 123	19	20
Chrysene	4.00	2.88	*	ug/L		72	70 - 125	24	20
Dibenz(a,h)anthracene	4.00	2.66	*	ug/L		67	69 - 154	23	20
Fluoranthene	4.00	2.93		ug/L		73	70 - 145	18	20
Fluorene	4.00	3.43	*	ug/L		86	69 - 125	50	20
Indeno[1,2,3-cd]pyrene	4.00	2.57	*	ug/L		64	70 - 136	27	20
Naphthalene	4.00	2.75	*	ug/L		69	56 - 125	23	20
Phenanthrene	4.00	2.67	*	ug/L		67	70 - 125	20	20
Pyrene	4.00	2.89	*	ug/L		72	70 - 133	21	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	74		64 - 150

Lab Sample ID: MB 580-185536/1-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
2-Methylnaphthalene	ND		0.026		ug/L		03/30/15 12:41	04/01/15 13:02	1
Acenaphthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Acenaphthylene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[a]anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[a]pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Chrysene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Fluoranthene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Fluorene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-185536/1-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Naphthalene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Phenanthrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1
Pyrene	ND		0.020		ug/L		03/30/15 12:41	04/01/15 13:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	88		64 - 150	03/30/15 12:41	04/01/15 13:02	1

Lab Sample ID: LCS 580-185536/2-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.00	3.29		ug/L		82	54 - 125
2-Methylnaphthalene	4.00	3.20		ug/L		80	56 - 125
Acenaphthene	4.00	2.91		ug/L		73	63 - 125
Acenaphthylene	4.00	2.56		ug/L		64	62 - 125
Anthracene	4.00	3.16		ug/L		79	50 - 125
Benzo[a]anthracene	4.00	3.22		ug/L		80	65 - 125
Benzo[a]pyrene	4.00	2.34		ug/L		58	45 - 125
Benzo[b]fluoranthene	4.00	3.06		ug/L		77	70 - 129
Benzo[g,h,i]perylene	4.00	2.90		ug/L		73	65 - 153
Benzo[k]fluoranthene	4.00	2.93		ug/L		73	70 - 123
Chrysene	4.00	3.36		ug/L		84	70 - 125
Dibenz(a,h)anthracene	4.00	3.07		ug/L		77	69 - 154
Fluoranthene	4.00	3.34		ug/L		84	70 - 145
Fluorene	4.00	3.31		ug/L		83	69 - 125
Indeno[1,2,3-cd]pyrene	4.00	3.12		ug/L		78	70 - 136
Naphthalene	4.00	3.22		ug/L		81	56 - 125
Phenanthrene	4.00	3.12		ug/L		78	70 - 125
Pyrene	4.00	3.42		ug/L		86	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	83		64 - 150

Lab Sample ID: LCSD 580-185536/3-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1-Methylnaphthalene	4.00	3.41		ug/L		85	54 - 125	4	20
2-Methylnaphthalene	4.00	3.32		ug/L		83	56 - 125	4	20
Acenaphthene	4.00	3.17		ug/L		79	63 - 125	9	20
Acenaphthylene	4.00	2.84		ug/L		71	62 - 125	10	20
Anthracene	4.00	3.22		ug/L		80	50 - 125	2	20
Benzo[a]anthracene	4.00	3.42		ug/L		85	65 - 125	6	20
Benzo[a]pyrene	4.00	2.47		ug/L		62	45 - 125	6	20
Benzo[b]fluoranthene	4.00	3.33		ug/L		83	70 - 129	8	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-185536/3-A

Matrix: Water

Analysis Batch: 185761

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene	4.00	3.05		ug/L		76	65 - 153	5	20
Benzo[k]fluoranthene	4.00	2.97		ug/L		74	70 - 123	2	20
Chrysene	4.00	3.61		ug/L		90	70 - 125	7	20
Dibenz(a,h)anthracene	4.00	3.23		ug/L		81	69 - 154	5	20
Fluoranthene	4.00	3.59		ug/L		90	70 - 145	7	20
Fluorene	4.00	2.83		ug/L		71	69 - 125	16	20
Indeno[1,2,3-cd]pyrene	4.00	3.12		ug/L		78	70 - 136	0	20
Naphthalene	4.00	3.31		ug/L		83	56 - 125	3	20
Phenanthrene	4.00	3.31		ug/L		83	70 - 125	6	20
Pyrene	4.00	3.63		ug/L		91	70 - 133	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	86		64 - 150

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-185311/1-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
4,4'-DDE	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
4,4'-DDT	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Aldrin	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
alpha-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
alpha-Chlordane	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
beta-BHC	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
delta-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Dieldrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan I	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan II	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan sulfate	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin aldehyde	ND		0.050		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin ketone	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
gamma-BHC (Lindane)	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
gamma-Chlordane	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Heptachlor	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Heptachlor epoxide	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Methoxychlor	ND		0.10		ug/L		03/26/15 15:03	03/31/15 10:39	1
Toxaphene	ND		1.0		ug/L		03/26/15 15:03	03/31/15 10:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	81		33 - 133	03/26/15 15:03	03/31/15 10:39	1
Tetrachloro-m-xylene	65		45 - 123	03/26/15 15:03	03/31/15 10:39	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-185311/2-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.160	0.103		ug/L		65	48 - 147
4,4'-DDE	0.160	0.103		ug/L		64	61 - 131
4,4'-DDT	0.160	0.105		ug/L		65	47 - 143
Aldrin	0.160	0.0942		ug/L		59	56 - 124
alpha-BHC	0.160	0.0899		ug/L		56	41 - 126
alpha-Chlordane	0.160	0.106		ug/L		66	58 - 133
beta-BHC	0.160	0.107		ug/L		67	56 - 114
delta-BHC	0.160	0.0581		ug/L		36	30 - 130
Dieldrin	0.160	0.107		ug/L		67	63 - 140
Endosulfan I	0.160	0.107		ug/L		67	54 - 151
Endosulfan II	0.160	0.110		ug/L		69	53 - 144
Endosulfan sulfate	0.160	0.0999		ug/L		62	45 - 130
Endrin	0.160	0.104		ug/L		65	57 - 137
Endrin aldehyde	0.160	0.129		ug/L		80	52 - 139
Endrin ketone	0.160	0.109		ug/L		68	52 - 150
gamma-BHC (Lindane)	0.160	0.0942		ug/L		59	46 - 127
gamma-Chlordane	0.160	0.108		ug/L		68	61 - 130
Heptachlor	0.160	0.0982		ug/L		61	46 - 138
Heptachlor epoxide	0.160	0.102		ug/L		64	58 - 142
Methoxychlor	0.160	0.111		ug/L		70	51 - 147
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
DCB Decachlorobiphenyl	70		33 - 133				
Tetrachloro-m-xylene	57		45 - 123				

Lab Sample ID: LCSD 580-185311/3-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.160	0.101		ug/L		63	48 - 147	2	52
4,4'-DDE	0.160	0.101		ug/L		63	61 - 131	2	50
4,4'-DDT	0.160	0.138		ug/L		86	47 - 143	27	52
Aldrin	0.160	0.0930		ug/L		58	56 - 124	1	52
alpha-BHC	0.160	0.0926		ug/L		58	41 - 126	3	53
alpha-Chlordane	0.160	0.101		ug/L		63	58 - 133	5	52
beta-BHC	0.160	0.0941		ug/L		59	56 - 114	13	50
delta-BHC	0.160	0.0557		ug/L		35	30 - 130	4	56
Dieldrin	0.160	0.104		ug/L		65	63 - 140	2	51
Endosulfan I	0.160	0.102		ug/L		64	54 - 151	4	55
Endosulfan II	0.160	0.107		ug/L		67	53 - 144	3	19
Endosulfan sulfate	0.160	0.0980		ug/L		61	45 - 130	2	52
Endrin	0.160	0.124		ug/L		77	57 - 137	17	52
Endrin aldehyde	0.160	0.125		ug/L		78	52 - 139	2	51
Endrin ketone	0.160	0.107		ug/L		67	52 - 150	1	50
gamma-BHC (Lindane)	0.160	0.0951		ug/L		59	46 - 127	1	50
gamma-Chlordane	0.160	0.108		ug/L		68	61 - 130	0	51
Heptachlor	0.160	0.0974		ug/L		61	46 - 138	1	50

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-185311/3-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	0.160	0.0992		ug/L		62	58 - 142	3	49
Methoxychlor	0.160	0.112		ug/L		70	51 - 147	1	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	72		33 - 133
Tetrachloro-m-xylene	56		45 - 123

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-185251/1-A

Matrix: Solid

Analysis Batch: 185307

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.010		mg/Kg		03/26/15 08:15	03/26/15 17:29	1
PCB-1221	ND		0.011		mg/Kg		03/26/15 08:15	03/26/15 17:29	1
PCB-1232	ND		0.011		mg/Kg		03/26/15 08:15	03/26/15 17:29	1
PCB-1242	ND		0.010		mg/Kg		03/26/15 08:15	03/26/15 17:29	1
PCB-1248	ND		0.010		mg/Kg		03/26/15 08:15	03/26/15 17:29	1
PCB-1254	ND		0.010		mg/Kg		03/26/15 08:15	03/26/15 17:29	1
PCB-1260	ND		0.010		mg/Kg		03/26/15 08:15	03/26/15 17:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	98		50 - 140	03/26/15 08:15	03/26/15 17:29	1
Tetrachloro-m-xylene	47		45 - 135	03/26/15 08:15	03/26/15 17:29	1

Lab Sample ID: LCS 580-185251/4-A

Matrix: Solid

Analysis Batch: 185307

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.100	0.0652		mg/Kg		65	40 - 140
PCB-1260	0.100	0.0869		mg/Kg		87	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	94		50 - 140
Tetrachloro-m-xylene	47		45 - 135

Lab Sample ID: LCSD 580-185251/5-A

Matrix: Solid

Analysis Batch: 185307

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185251

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	0.100	0.0672		mg/Kg		67	40 - 140	3	20
PCB-1260	0.100	0.0917		mg/Kg		92	60 - 130	5	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCSD 580-185251/5-A

Matrix: Solid

Analysis Batch: 185307

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185251

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	94		50 - 140
Tetrachloro-m-xylene	49		45 - 135

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184888/1-A

Matrix: Solid

Analysis Batch: 184937

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184888

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		03/20/15 14:28	03/23/15 12:27	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		03/20/15 14:28	03/23/15 12:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150	03/20/15 14:28	03/23/15 12:27	1

Lab Sample ID: LCS 580-184888/2-A

Matrix: Solid

Analysis Batch: 184937

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184888

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	431		mg/Kg		86	70 - 125
Motor Oil (>C24-C36)	502	454		mg/Kg		90	64 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	82		50 - 150

Lab Sample ID: LCSD 580-184888/3-A

Matrix: Solid

Analysis Batch: 184937

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184888

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	500	423		mg/Kg		85	70 - 125	2	16
Motor Oil (>C24-C36)	502	446		mg/Kg		89	64 - 127	2	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	83		50 - 150

Lab Sample ID: MB 580-185136/1-A

Matrix: Water

Analysis Batch: 185187

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185136

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/24/15 21:40	03/25/15 11:49	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/24/15 21:40	03/25/15 11:49	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-185136/1-A
Matrix: Water
Analysis Batch: 185187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185136

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	77		50 - 150	03/24/15 21:40	03/25/15 11:49	1

Lab Sample ID: LCS 580-185136/2-A
Matrix: Water
Analysis Batch: 185187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	4.00	3.97		mg/L		99	59 - 120
Motor Oil (>C24-C36)	4.02	4.38		mg/L		109	71 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	87		50 - 150				

Lab Sample ID: LCSD 580-185136/3-A
Matrix: Water
Analysis Batch: 185187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4.00	3.65		mg/L		91	59 - 120	9	27
Motor Oil (>C24-C36)	4.02	3.93		mg/L		98	71 - 140	11	27
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
<i>o</i> -Terphenyl	82		50 - 150						

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-185818/18-A
Matrix: Solid
Analysis Batch: 185935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185818

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Arsenic	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Beryllium	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Cadmium	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Chromium	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Copper	ND		0.40		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Lead	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Nickel	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Selenium	ND		1.0		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Silver	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Thallium	ND		0.40		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Zinc	ND		5.0		mg/Kg		04/01/15 14:56	04/02/15 10:33	10

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-185818/19-A

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	150	160		mg/Kg		107	80 - 120
Arsenic	200	206		mg/Kg		103	80 - 120
Beryllium	5.00	5.22		mg/Kg		104	80 - 120
Cadmium	5.00	5.66		mg/Kg		113	80 - 120
Chromium	20.0	19.5		mg/Kg		97	80 - 120
Copper	25.0	26.0		mg/Kg		104	80 - 120
Lead	50.0	52.7		mg/Kg		105	80 - 120
Nickel	50.0	49.4		mg/Kg		99	80 - 120
Selenium	200	212		mg/Kg		106	80 - 120
Silver	30.0	35.0		mg/Kg		117	80 - 120
Thallium	200	208		mg/Kg		104	80 - 120
Zinc	200	204		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 580-185818/20-A

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	150	160		mg/Kg		107	80 - 120	0	20
Arsenic	200	206		mg/Kg		103	80 - 120	0	20
Beryllium	5.00	5.14		mg/Kg		103	80 - 120	2	20
Cadmium	5.00	5.64		mg/Kg		113	80 - 120	0	20
Chromium	20.0	19.8		mg/Kg		99	80 - 120	1	20
Copper	25.0	26.4		mg/Kg		106	80 - 120	2	20
Lead	50.0	52.9		mg/Kg		106	80 - 120	0	20
Nickel	50.0	50.0		mg/Kg		100	80 - 120	1	20
Selenium	200	210		mg/Kg		105	80 - 120	1	20
Silver	30.0	35.2		mg/Kg		117	80 - 120	1	20
Thallium	200	211		mg/Kg		105	80 - 120	1	20
Zinc	200	206		mg/Kg		103	80 - 120	1	20

Lab Sample ID: MB 580-185930/20-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Arsenic	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Beryllium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Cadmium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Chromium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Copper	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:08	1
Lead	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Nickel	ND		0.0030		mg/L		04/02/15 16:33	04/03/15 12:08	1
Selenium	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Silver	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Thallium	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Zinc	ND		0.0070		mg/L		04/02/15 16:33	04/03/15 12:08	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-185930/21-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	3.09		mg/L		103	80 - 120
Arsenic	4.00	4.03		mg/L		101	80 - 120
Beryllium	0.100	0.0997		mg/L		100	80 - 120
Cadmium	0.100	0.107		mg/L		107	80 - 120
Chromium	0.400	0.401		mg/L		100	80 - 120
Copper	0.500	0.509		mg/L		102	80 - 120
Lead	1.00	1.07		mg/L		107	80 - 120
Nickel	1.00	1.02		mg/L		102	80 - 120
Selenium	4.00	4.06		mg/L		101	80 - 120
Silver	0.600	0.692		mg/L		115	80 - 120
Thallium	4.00	4.23		mg/L		106	80 - 120
Zinc	4.00	4.08		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-185930/22-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.00	3.05		mg/L		102	80 - 120	1	20
Arsenic	4.00	4.05		mg/L		101	80 - 120	0	20
Beryllium	0.100	0.0953		mg/L		95	80 - 120	5	20
Cadmium	0.100	0.108		mg/L		108	80 - 120	2	20
Chromium	0.400	0.401		mg/L		100	80 - 120	0	20
Copper	0.500	0.510		mg/L		102	80 - 120	0	20
Lead	1.00	1.07		mg/L		107	80 - 120	0	20
Nickel	1.00	1.03		mg/L		103	80 - 120	1	20
Selenium	4.00	4.08		mg/L		102	80 - 120	0	20
Silver	0.600	0.676		mg/L		113	80 - 120	2	20
Thallium	4.00	4.17		mg/L		104	80 - 120	1	20
Zinc	4.00	4.11		mg/L		103	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-185546/21-A

Matrix: Water

Analysis Batch: 185583

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		03/30/15 13:14	03/30/15 15:33	1

Lab Sample ID: LCS 580-185546/22-A

Matrix: Water

Analysis Batch: 185583

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185546

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00182		mg/L		91	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-185546/23-A

Matrix: Water

Analysis Batch: 185583

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185546

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00183		mg/L		92	80 - 120	1	20

Lab Sample ID: 580-48155-1 MS

Matrix: Water

Analysis Batch: 185583

Client Sample ID: MW1-2-031915

Prep Type: Total/NA

Prep Batch: 185546

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00200	0.00188		mg/L		94	80 - 120		

Lab Sample ID: 580-48155-1 MSD

Matrix: Water

Analysis Batch: 185583

Client Sample ID: MW1-2-031915

Prep Type: Total/NA

Prep Batch: 185546

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00200	0.00187		mg/L		93	80 - 120	1	20

Lab Sample ID: 580-48155-1 DU

Matrix: Water

Analysis Batch: 185583

Client Sample ID: MW1-2-031915

Prep Type: Total/NA

Prep Batch: 185546

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	ND		ND		mg/L		NC	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-185652/22-A

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185652

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		03/31/15 11:29	03/31/15 13:24	1

Lab Sample ID: LCS 580-185652/23-A

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.165		mg/Kg		99	80 - 120		

Lab Sample ID: LCSD 580-185652/24-A

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.161		mg/Kg		97	80 - 120	2	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-48155-4 DU

Matrix: Solid

Analysis Batch: 185013

Client Sample ID: HA1-1-4.5

Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	
	Result	Qualifier	Result	Qualifier			RPD	Limit
Percent Solids	74		72		%		3	20
Percent Moisture	26		28		%		7	20

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: MW1-2-031915

Date Collected: 03/19/15 13:58

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 20:31	A1C	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	185375	03/27/15 20:13	AHP	TAL SEA
Total/NA	Prep	3520C			184868	03/20/15 12:03		TAL SEA
Total/NA	Analysis	8270D SIM		1	185041	03/24/15 14:46	AHP	TAL SEA
Total/NA	Prep	3520C	RE		185536	03/30/15 16:50	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM	RE	1	185761	04/01/15 18:49	AHP	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 15:09	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:11	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 15:40	FCW	TAL SEA

Client Sample ID: SS7-1-0.5

Date Collected: 03/19/15 11:20

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-2

Matrix: Solid

Percent Solids: 83.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/19/15 09:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 20:21	TL1	TAL SEA
Total/NA	Prep	3550B			185881	04/02/15 11:39	ERZ	TAL SEA
Total/NA	Analysis	8270D		1	185981	04/03/15 12:50	AHP	TAL SEA
Total/NA	Prep	3550B			185251	03/26/15 08:15	EKK	TAL SEA
Total/NA	Analysis	8082A		1	185307	03/26/15 19:25	EKK	TAL SEA
Total/NA	Prep	3546			184888	03/20/15 14:35	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184937	03/23/15 14:34	EKK	TAL SEA
Total/NA	Prep	3050B			185818	04/01/15 14:56	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185935	04/02/15 11:19	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 14:10	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	185013	03/23/15 16:10	AJR	TAL SEA

Client Sample ID: HA7-1-1.5

Date Collected: 03/19/15 10:40

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-3

Matrix: Solid

Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/19/15 09:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 18:40	TL1	TAL SEA
Total/NA	Prep	3550B			185881	04/02/15 11:39	ERZ	TAL SEA
Total/NA	Analysis	8270D		1	185981	04/03/15 13:16	AHP	TAL SEA
Total/NA	Prep	3550B			185251	03/26/15 08:15	EKK	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: HA7-1-1.5

Lab Sample ID: 580-48155-3

Date Collected: 03/19/15 10:40

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8082A		1	185307	03/26/15 19:42	EKK	TAL SEA
Total/NA	Prep	3546			184888	03/20/15 14:35	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184937	03/23/15 14:52	EKK	TAL SEA
Total/NA	Prep	3050B			185818	04/01/15 14:56	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185935	04/02/15 11:23	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 14:12	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	185013	03/23/15 16:10	AJR	TAL SEA

Client Sample ID: HA1-1-4.5

Lab Sample ID: 580-48155-4

Date Collected: 03/19/15 13:10

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 74.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/19/15 09:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 17:24	TL1	TAL SEA
Total/NA	Prep	3550B			185881	04/02/15 11:39	ERZ	TAL SEA
Total/NA	Analysis	8270D		1	185981	04/03/15 13:41	AHP	TAL SEA
Total/NA	Prep	3550B	DL		185881	04/02/15 11:39	ERZ	TAL SEA
Total/NA	Analysis	8270D	DL	5	185981	04/03/15 14:56	AHP	TAL SEA
Total/NA	Prep	3546			184888	03/20/15 14:35	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184937	03/23/15 15:10	EKK	TAL SEA
Total/NA	Prep	3050B			185818	04/01/15 14:56	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185935	04/02/15 11:28	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 14:15	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	185013	03/23/15 16:10	AJR	TAL SEA

Client Sample ID: TB-031915-01

Lab Sample ID: 580-48155-5

Date Collected: 03/19/15 00:01

Matrix: Solid

Date Received: 03/19/15 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184883	03/19/15 09:15	SOC	TAL SEA
Total/NA	Analysis	8260C		1	184870	03/20/15 15:31	TL1	TAL SEA

Client Sample ID: TB-031915-02

Lab Sample ID: 580-48155-6

Date Collected: 03/19/15 00:01

Matrix: Water

Date Received: 03/19/15 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 16:36	A1C	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Client Sample ID: B4-1-G

Date Collected: 03/19/15 12:10

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	184860	03/20/15 20:58	A1C	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	185375	03/27/15 20:39	AHP	TAL SEA
Total/NA	Prep	3520C			184868	03/20/15 12:03		TAL SEA
Total/NA	Analysis	8270D SIM		1	185041	03/24/15 15:08	AHP	TAL SEA
Total/NA	Prep	3520C	RE		185536	03/30/15 16:50	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM	RE	1	185761	04/01/15 19:11	AHP	TAL SEA
Total/NA	Prep	3510C			185311	03/26/15 15:03	RBL	TAL SEA
Total/NA	Analysis	8081B		1	185623	03/31/15 11:31	EKK	TAL SEA
Total/NA	Prep	3510C			185136	03/24/15 21:40	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185187	03/25/15 15:27	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:15	FCW	TAL SEA
Total/NA	Prep	7470A			185546	03/30/15 13:14	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185583	03/30/15 15:50	FCW	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	bis(chloroisopropyl) ether
8270D	3550B	Solid	1,2,4-Trichlorobenzene
8270D	3550B	Solid	bis(chloroisopropyl) ether
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Sample Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48155-1	MW1-2-031915	Water	03/19/15 13:58	03/19/15 15:50
580-48155-2	SS7-1-0.5	Solid	03/19/15 11:20	03/19/15 15:50
580-48155-3	HA7-1-1.5	Solid	03/19/15 10:40	03/19/15 15:50
580-48155-4	HA1-1-4.5	Solid	03/19/15 13:10	03/19/15 15:50
580-48155-5	TB-031915-01	Solid	03/19/15 00:01	03/19/15 15:50
580-48155-6	TB-031915-02	Water	03/19/15 00:01	03/19/15 15:50
580-48155-7	B4-1-G	Water	03/19/15 12:10	03/19/15 15:50

Client ERM 		City Seattle WA		State WA		Zip Code 98101		Sampler Name M. Ke Arnold		Date 3/19/15		Chain of Custody Number 27474								
Address 1218 3rd Ave Ste 1412								Telephone Number (Area Code)/Fax Number 425 462 8591												
Project Name and Location (State) K2 Site Vashon, WA								Billing Contact David Burke		Laboratory Number 48155		Page 1 of 1								
Contract/Purchase Order/Quote No. 266125																				
Sample I.D. and Location/Description (Containers for each sample may be combined on one line)		Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)					Special Instructions/ Conditions of Receipt	
				Air	Aqueous	Sed.	Soil	Unpres.	H ₂ SO ₄	HNO ₃	HCl	NaOH	ZnAc/ NaOH	Methanol	TPH-G	TPH-D/HO	VOC's	S-VOC's		PP Metals
MW-1-a-Q31915		3/19/15	1358	X				4	18											Goo - 5 day turn for water
SS7-i-o.5			1120		X			6												
HA7-1-l.5			1040		X			6												
HA1-1-y.5			1310		X			5												
TB-O31915-01					X			1												
TB-O31915-02					X				2											
BY-1-G			1210	X				6	18											
Cooler/TB DigIR cor 23 unc 80 @ Lab				Cooler Dsc LGP/W				Wet Packs Packing FUBIE				Cuent DROR								
QC Requirements (Specify)				Disposal By Lab				(A fee may be assessed if samples are retained longer than 1 month)												

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48155-1

Login Number: 48155

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-48155-2

Client Project/Site: K2 Site Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine

David Burk

Authorized for release by:
3/24/2015 4:26:48 PM

David Burk, Project Manager I
(253)248-4972
david.burk@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Job ID: 580-48155-2

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/19/2015 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.3° C.

Except:

The sample IDs on the following samples are smudged to the point of illegibility: HA7-1-1.5 (580-48155-3), SS7-1-0.5 (580-48155-2). The sample collection times were used to verify the sample ID.

The following samples were received at the laboratory outside the required temperature criteria: B4-1-G (580-48155-7), HA1-1-4.5 (580-48155-4), HA7-1-1.5 (580-48155-3), MW1-2-031915 (580-48155-1), SS7-1-0.5 (580-48155-2), TB-031915-01 (580-48155-5), TB-031915-02 (580-48155-6). The samples are considered acceptable since they were collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: MW1-2-031915

Lab Sample ID: 580-48155-1

Date Collected: 03/19/15 13:58

Matrix: Water

Date Received: 03/19/15 15:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 21:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					03/20/15 21:00	1
Trifluorotoluene (Surr)	105		50 - 150					03/20/15 21:00	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: SS7-1-0.5

Lab Sample ID: 580-48155-2

Date Collected: 03/19/15 11:20

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.9

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12		mg/Kg	☼	03/20/15 14:12	03/20/15 23:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150				03/20/15 14:12	03/20/15 23:11	1
Trifluorotoluene (Surr)							03/20/15 14:12	03/20/15 23:11	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: HA7-1-1.5

Lab Sample ID: 580-48155-3

Date Collected: 03/19/15 10:40

Matrix: Solid

Date Received: 03/19/15 15:50

Percent Solids: 83.0

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.6		mg/Kg	☼	03/20/15 14:12	03/20/15 23:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150				03/20/15 14:12	03/20/15 23:42	1
Trifluorotoluene (Surr)							03/20/15 14:12	03/20/15 23:42	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: HA1-1-4.5

Date Collected: 03/19/15 13:10

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-4

Matrix: Solid

Percent Solids: 74.2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.2		mg/Kg	☼	03/20/15 14:12	03/21/15 00:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150				03/20/15 14:12	03/21/15 00:13	1
Trifluorotoluene (Surr)							03/20/15 14:12	03/21/15 00:13	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: TB-031915-01

Lab Sample ID: 580-48155-5

Date Collected: 03/19/15 00:01

Matrix: Solid

Date Received: 03/19/15 15:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/20/15 14:12	03/20/15 19:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150				03/20/15 14:12	03/20/15 19:32	1
Trifluorotoluene (Surr)							03/20/15 14:12	03/20/15 19:32	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: TB-031915-02

Lab Sample ID: 580-48155-6

Date Collected: 03/19/15 00:01

Matrix: Water

Date Received: 03/19/15 15:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 16:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/20/15 16:03	1
Trifluorotoluene (Surr)	104		50 - 150					03/20/15 16:03	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: B4-1-G

Date Collected: 03/19/15 12:10

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-7

Matrix: Water

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 21:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/20/15 21:32	1
Trifluorotoluene (Surr)	105		50 - 150					03/20/15 21:32	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184878/4

Matrix: Water

Analysis Batch: 184878

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/20/15 13:18	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					03/20/15 13:18	1
Trifluorotoluene (Surr)	111		50 - 150					03/20/15 13:18	1

Lab Sample ID: LCS 580-184878/5

Matrix: Water

Analysis Batch: 184878

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.832		mg/L		83	79 - 110
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	101		50 - 150				
Trifluorotoluene (Surr)	99		50 - 150				

Lab Sample ID: LCSD 580-184878/6

Matrix: Water

Analysis Batch: 184878

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.813		mg/L		81	79 - 110	2	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		50 - 150						
Trifluorotoluene (Surr)	96		50 - 150						

Lab Sample ID: MB 580-184885/1-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184885

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/20/15 14:11	03/20/15 17:27	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150				03/20/15 14:11	03/20/15 17:27	1
Trifluorotoluene (Surr)	112		50 - 150				03/20/15 14:11	03/20/15 17:27	1

Lab Sample ID: LCS 580-184885/2-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184885

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	40.9		mg/Kg		102	68 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-184885/2-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184885

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		50 - 150
Trifluorotoluene (Surr)	110		50 - 150

Lab Sample ID: LCSD 580-184885/3-A

Matrix: Solid

Analysis Batch: 184903

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184885

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	41.3		mg/Kg	-	103	68 - 120	1	25

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150
Trifluorotoluene (Surr)	109		50 - 150

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: MW1-2-031915

Date Collected: 03/19/15 13:58

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184878	03/20/15 21:00	TL1	TAL SEA

Client Sample ID: SS7-1-0.5

Date Collected: 03/19/15 11:20

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-2

Matrix: Solid

Percent Solids: 83.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 23:11	CJ	TAL SEA

Client Sample ID: HA7-1-1.5

Date Collected: 03/19/15 10:40

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-3

Matrix: Solid

Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 23:42	CJ	TAL SEA

Client Sample ID: HA1-1-4.5

Date Collected: 03/19/15 13:10

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-4

Matrix: Solid

Percent Solids: 74.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/21/15 00:13	CJ	TAL SEA

Client Sample ID: TB-031915-01

Date Collected: 03/19/15 00:01

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			184885	03/20/15 14:12	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	184903	03/20/15 19:32	CJ	TAL SEA

Client Sample ID: TB-031915-02

Date Collected: 03/19/15 00:01

Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184878	03/20/15 16:03	TL1	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Client Sample ID: B4-1-G
Date Collected: 03/19/15 12:10
Date Received: 03/19/15 15:50

Lab Sample ID: 580-48155-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184878	03/20/15 21:32	TL1	TAL SEA

Laboratory References:
TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

Analysis Method	Prep Method	Matrix	Analyte

Sample Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48155-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48155-1	MW1-2-031915	Water	03/19/15 13:58	03/19/15 15:50
580-48155-2	SS7-1-0.5	Solid	03/19/15 11:20	03/19/15 15:50
580-48155-3	HA7-1-1.5	Solid	03/19/15 10:40	03/19/15 15:50
580-48155-4	HA1-1-4.5	Solid	03/19/15 13:10	03/19/15 15:50
580-48155-5	TB-031915-01	Solid	03/19/15 00:01	03/19/15 15:50
580-48155-6	TB-031915-02	Water	03/19/15 00:01	03/19/15 15:50
580-48155-7	B4-1-G	Water	03/19/15 12:10	03/19/15 15:50

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Chain of Custody Record

2015

Client
ERM

Address
1218 3rd Ave Ste 1412

City
Seattle

State
WA

Zip Code
98101

Project Name and Location (State)
K2 Site

Contract/Purchase Order/Quote No.
266125

Client Contact
M. Ke Arnold

Telephone Number (Area Code)/Fax Number
425 462 8591

Sample
M. Ke Arnold

Billing Contact
David Burke

Date
3/19/15

Lab Number
49155

Chain of Custody Number
27474

Sample I.D. and Location/Description
(Containers for each sample may be combined on one line)

Date

Time

Air

Aqueous

Sed.

Soil

Unpres.

H2SO4

HNO3

HCl

NaOH

ZnAc/
NaOH

MoOH

TPH-G

TPH-D/HO

VOCs

SVOCs

PP Metals

PCBs

Pesticide

Special Instructions/
Conditions of Receipt

Matrix

Containers &
Preservatives

Analysis (Attach list if
more space is needed)

1. Received By Sign/Print
QMAKella

2. Received By Sign/Print

3. Received By Sign/Print

Date
3/19/15

Time
1550

Date

Time

Date

Time

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☒ Other **Standard**

QC Requirements (Specify)

1. Received By Sign/Print
QMAKella

2. Received By Sign/Print

3. Received By Sign/Print

Date
3/19/15

Time
1550

Date

Time

Date

Time

Cooler

☒ Yes ☐ No Cooler Temp: _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal By Lab

Months _____

(A fee may be assessed if samples
are retained longer than 1 month)

580-48155 Chain of Custody

Barcode

580-48155 Chain of Custody

Cooler/TB Digir cor 23 unc 80

Cooler Dsc 16 R/W @ Lab

Wet/Packs Packing FUBIE

40 CS Cuent DROF

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48155-2

Login Number: 48155

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

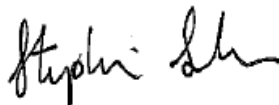
TestAmerica Job ID: 580-48243-1

Client Project/Site: K2 Facility, Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:
4/3/2015 11:29:50 AM

Stephanie Sanders, Project Manager I
(303)736-0196
stephanie.sanders@testamericainc.com

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results through

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Job ID: 580-48243-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/19/2015 8:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 185172 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 185172 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The laboratory control sample (LCS) for batch 185172 recovered outside control limits for the following analytes: 1,2,4-Trichlorobenzene and 1,2,3-Trichlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample duplicate (LCSD) for batch 185172 recovered outside control limits for the following analytes: trans-1,3-Dichloropropene, 1,2,4-Trichlorobenzene and 1,2,3-Trichlorobenzene. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for batch 185172. The associated laboratory control sample (LCS) met acceptance criteria. Insufficient sample remained to reanalyze the matrix spike/matrix spike duplicate.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 185404 recovered above the upper control limit for 4,6-Dinitro-2-methylphenol and 2,4-Dinitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (580-48243-1), (580-48243-1 MS), (580-48243-1 MSD), (CCVIS 580-185404/3), (LCS 580-185250/2-A), (LCSD 580-185250/3-A), (MB 580-185250/1-A), B4-1-9 (580-48243-1), B4-1-9 (580-48243-1 MS), B4-1-9 (580-48243-1 MSD).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8081B: In analysis batch 185333, the %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 185251 recovered outside control limits for the following analytes: alpha-BHC, gamma-BHC and Heptachlor. The %recoveries of these analytes were within control limits in the individual LCS and LCSD samples; therefore, the data have been qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
E	Result exceeded calibration range.
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery exceeds the control limits
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: B4-1-9

Lab Sample ID: 580-48243-1

Date Collected: 03/18/15 15:50

Matrix: Solid

Date Received: 03/19/15 08:05

Percent Solids: 86.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,1,1-Trichloroethane	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,1,2,2-Tetrachloroethane	ND	F1 F2	3.1		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,1,2-Trichloroethane	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,1-Dichloroethane	ND	F2 F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,1-Dichloroethene	ND	F2 F1	3.9		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,1-Dichloropropene	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2,3-Trichlorobenzene	ND	* F1 F2	2.3		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2,3-Trichloropropane	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2,4-Trichlorobenzene	ND	* F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2,4-Trimethylbenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2-Dibromo-3-Chloropropane	ND	F1 F2	7.8		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2-Dibromoethane	ND	F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2-Dichlorobenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2-Dichloroethane	ND	F2 F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,2-Dichloropropane	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,3,5-Trimethylbenzene	ND	F1 F2	3.9		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,3-Dichlorobenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,3-Dichloropropane	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
1,4-Dichlorobenzene	ND	F1 F2	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
2,2-Dichloropropane	ND	F2 F1	3.9		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
2-Chlorotoluene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
4-Chlorotoluene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
4-Isopropyltoluene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Benzene	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Bromobenzene	ND	F1 F2	7.8		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Bromochloromethane	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Bromodichloromethane	ND	F2 F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Bromoform	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Bromomethane	ND	F2 F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Carbon tetrachloride	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Chlorobenzene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Chloroethane	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Chloroform	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Chloromethane	ND	F2 F1 ^	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
cis-1,2-Dichloroethene	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
cis-1,3-Dichloropropene	ND	F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Dibromochloromethane	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Dibromomethane	ND	F2 F1	0.78		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Dichlorodifluoromethane	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Ethylbenzene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Hexachlorobutadiene	ND	F1 F2	2.3		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Isopropylbenzene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Methyl tert-butyl ether	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Methylene Chloride	ND	F2 F1	12		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
m-Xylene & p-Xylene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Naphthalene	ND	F1 F2	7.8		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
n-Butylbenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
N-Propylbenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: B4-1-9

Lab Sample ID: 580-48243-1

Date Collected: 03/18/15 15:50

Matrix: Solid

Date Received: 03/19/15 08:05

Percent Solids: 86.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
sec-Butylbenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Styrene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
t-Butylbenzene	ND	F1 F2	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Tetrachloroethene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Toluene	ND	F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
trans-1,2-Dichloroethene	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
trans-1,3-Dichloropropene	ND	* F1	7.8		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Trichloroethene	4.3	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Trichlorofluoromethane	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1
Vinyl chloride	ND	F2 F1	1.6		ug/Kg	☼	03/19/15 12:50	03/25/15 17:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		71 - 136	03/19/15 12:50	03/25/15 17:13	1
4-Bromofluorobenzene (Surr)	100		70 - 120	03/19/15 12:50	03/25/15 17:13	1
Dibromofluoromethane (Surr)	95		75 - 132	03/19/15 12:50	03/25/15 17:13	1
Toluene-d8 (Surr)	105		80 - 120	03/19/15 12:50	03/25/15 17:13	1
Trifluorotoluene (Surr)	106		65 - 140	03/19/15 12:50	03/25/15 17:13	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		56		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
1,2-Dichlorobenzene	ND		61		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
1,3-Dichlorobenzene	ND		56		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
1,4-Dichlorobenzene	ND		56		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
1-Methylnaphthalene	ND		33		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,4,5-Trichlorophenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,4,6-Trichlorophenol	ND		170		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,4-Dichlorophenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,4-Dimethylphenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,4-Dinitrophenol	ND	^	1100		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,4-Dinitrotoluene	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2,6-Dinitrotoluene	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2-Chloronaphthalene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2-Chlorophenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2-Methylnaphthalene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2-Methylphenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2-Nitroaniline	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
2-Nitrophenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
3 & 4 Methylphenol	ND		220		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
3,3'-Dichlorobenzidine	ND		220		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
3-Nitroaniline	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4,6-Dinitro-2-methylphenol	ND	^	1100		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4-Bromophenyl phenyl ether	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4-Chloro-3-methylphenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4-Chloroaniline	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4-Chlorophenyl phenyl ether	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4-Nitroaniline	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
4-Nitrophenol	ND		1100		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Acenaphthene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: B4-1-9

Lab Sample ID: 580-48243-1

Date Collected: 03/18/15 15:50

Matrix: Solid

Date Received: 03/19/15 08:05

Percent Solids: 86.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Anthracene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzo[a]anthracene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzo[a]pyrene	ND		33		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzo[b]fluoranthene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzo[g,h,i]perylene	ND		28		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzo[k]fluoranthene	ND		28		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzoic acid	ND		2800		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Benzyl alcohol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Bis(2-chloroethoxy)methane	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Bis(2-chloroethyl)ether	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Bis(2-ethylhexyl) phthalate	ND		670		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
bis(chloroisopropyl) ether	ND		280		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Butyl benzyl phthalate	ND		220		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Carbazole	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Chrysene	ND		28		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Dibenz(a,h)anthracene	ND		45		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Dibenzofuran	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Diethyl phthalate	ND		220		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Dimethyl phthalate	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Di-n-butyl phthalate	ND		560		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Di-n-octyl phthalate	ND		560		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Fluoranthene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Fluorene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Hexachlorobenzene	ND		56		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Hexachlorobutadiene	ND		56		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Hexachlorocyclopentadiene	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Hexachloroethane	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Indeno[1,2,3-cd]pyrene	ND		45		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Isophorone	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Naphthalene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Nitrobenzene	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
N-Nitrosodi-n-propylamine	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
N-Nitrosodiphenylamine	ND		56		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Pentachlorophenol	ND		220		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Phenanthrene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Phenol	ND		110		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1
Pyrene	ND		22		ug/Kg	☼	03/26/15 08:08	03/27/15 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	81		28 - 143	03/26/15 08:08	03/27/15 18:48	1
2-Fluorobiphenyl	94		42 - 140	03/26/15 08:08	03/27/15 18:48	1
2-Fluorophenol (Surr)	102		36 - 145	03/26/15 08:08	03/27/15 18:48	1
Nitrobenzene-d5 (Surr)	91		38 - 141	03/26/15 08:08	03/27/15 18:48	1
Phenol-d5 (Surr)	101		38 - 149	03/26/15 08:08	03/27/15 18:48	1
Terphenyl-d14 (Surr)	101		42 - 151	03/26/15 08:08	03/27/15 18:48	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.7		mg/Kg	☼	03/23/15 15:00	03/23/15 18:53	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: B4-1-9

Lab Sample ID: 580-48243-1

Date Collected: 03/18/15 15:50

Matrix: Solid

Date Received: 03/19/15 08:05

Percent Solids: 86.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150	03/23/15 15:00	03/23/15 18:53	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
4,4'-DDE	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
4,4'-DDT	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Aldrin	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
alpha-BHC	ND	*	1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
beta-BHC	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
delta-BHC	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Dieldrin	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Endosulfan I	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Endosulfan II	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Endosulfan sulfate	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Endrin	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Endrin aldehyde	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Endrin ketone	ND		2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
gamma-BHC (Lindane)	ND	*	1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Heptachlor	ND	*	2.2		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Methoxychlor	ND		11		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1
Toxaphene	ND		110		ug/Kg	☼	03/26/15 08:15	03/27/15 05:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		60 - 128	03/26/15 08:15	03/27/15 05:17	1
Tetrachloro-m-xylene	64		35 - 129	03/26/15 08:15	03/27/15 05:17	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		27		mg/Kg	☼	03/21/15 15:25	03/23/15 11:14	1
Motor Oil (>C24-C36)	ND		54		mg/Kg	☼	03/21/15 15:25	03/23/15 11:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	03/21/15 15:25	03/23/15 11:14	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.19		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Arsenic	2.7		0.47		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Beryllium	ND		0.19		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Cadmium	ND		0.19		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Chromium	29 F1		0.47		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Copper	13 F1		0.37		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Lead	2.1		0.47		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Nickel	44		0.47		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Selenium	ND		0.94		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Silver	ND		0.19		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10
Thallium	ND		0.37		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: B4-1-9

Lab Sample ID: 580-48243-1

Date Collected: 03/18/15 15:50

Matrix: Solid

Date Received: 03/19/15 08:05

Percent Solids: 86.3

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	30		4.7		mg/Kg	☼	04/01/15 14:56	04/02/15 10:50	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.029	F2	0.020		mg/Kg	☼	03/31/15 11:29	03/31/15 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%	—		03/24/15 08:09	1
Percent Moisture	14		0.10		%	—		03/24/15 08:09	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: TB-031815-01

Lab Sample ID: 580-48243-2

Date Collected: 03/18/15 00:01

Matrix: Solid

Date Received: 03/19/15 08:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2,3-Trichlorobenzene	ND	*	3.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2,4-Trichlorobenzene	ND	*	2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Benzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Bromobenzene	ND		10		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Bromochloromethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Bromodichloromethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Bromoform	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Bromomethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Chlorobenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Chloroethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Chloroform	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Chloromethane	ND	^	1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Dibromochloromethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Dibromomethane	ND		1.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Ethylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Isopropylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Methylene Chloride	ND		15		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Naphthalene	ND		10		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
n-Butylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
N-Propylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: TB-031815-01

Lab Sample ID: 580-48243-2

Date Collected: 03/18/15 00:01

Matrix: Solid

Date Received: 03/19/15 08:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Styrene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
t-Butylbenzene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Tetrachloroethene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Toluene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
trans-1,3-Dichloropropene	ND	*	10		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Trichloroethene	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1
Vinyl chloride	ND		2.0		ug/Kg		03/19/15 12:50	03/25/15 13:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		71 - 136	03/19/15 12:50	03/25/15 13:46	1
4-Bromofluorobenzene (Surr)	96		70 - 120	03/19/15 12:50	03/25/15 13:46	1
Dibromofluoromethane (Surr)	91		75 - 132	03/19/15 12:50	03/25/15 13:46	1
Toluene-d8 (Surr)	111		80 - 120	03/19/15 12:50	03/25/15 13:46	1
Trifluorotoluene (Surr)	100		65 - 140	03/19/15 12:50	03/25/15 13:46	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/23/15 14:58	03/23/15 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	03/23/15 14:58	03/23/15 17:19	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-185198/1-A

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,1,1-Trichloroethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,1,2-Trichloroethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,1-Dichloroethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,1-Dichloroethene	ND		5.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,1-Dichloropropene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2,3-Trichlorobenzene	ND		3.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2-Dibromoethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2-Dichlorobenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2-Dichloroethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,2-Dichloropropane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,3-Dichlorobenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,3-Dichloropropane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
2,2-Dichloropropane	ND		5.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
2-Chlorotoluene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
4-Chlorotoluene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
4-Isopropyltoluene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Benzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Bromobenzene	ND		10		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Bromochloromethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Bromodichloromethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Bromoform	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Bromomethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Carbon tetrachloride	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Chlorobenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Chloroethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Chloroform	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Chloromethane	ND	^	1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
cis-1,2-Dichloroethene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Dibromochloromethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Dibromomethane	ND		1.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Ethylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Hexachlorobutadiene	ND		3.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Isopropylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Methyl tert-butyl ether	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Methylene Chloride	ND		15		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Naphthalene	ND		10		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
n-Butylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-185198/1-A

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
o-Xylene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
sec-Butylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Styrene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
t-Butylbenzene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Tetrachloroethene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Toluene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
trans-1,2-Dichloroethene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
trans-1,3-Dichloropropene	ND		10		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Trichloroethene	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Trichlorofluoromethane	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1
Vinyl chloride	ND		2.0		ug/Kg		03/25/15 11:00	03/25/15 11:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 136	03/25/15 11:00	03/25/15 11:14	1
4-Bromofluorobenzene (Surr)	99		70 - 120	03/25/15 11:00	03/25/15 11:14	1
Dibromofluoromethane (Surr)	98		75 - 132	03/25/15 11:00	03/25/15 11:14	1
Toluene-d8 (Surr)	102		80 - 120	03/25/15 11:00	03/25/15 11:14	1
Trifluorotoluene (Surr)	96		65 - 140	03/25/15 11:00	03/25/15 11:14	1

Lab Sample ID: LCS 580-185198/2-A

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	40.0	44.3		ug/Kg		111	72 - 123
1,1,1-Trichloroethane	40.0	42.2		ug/Kg		105	63 - 135
1,1,2,2-Tetrachloroethane	40.0	41.8		ug/Kg		104	73 - 125
1,1,2-Trichloroethane	40.0	42.5		ug/Kg		106	77 - 124
1,1-Dichloroethane	40.0	44.3		ug/Kg		111	70 - 128
1,1-Dichloroethene	40.0	36.6		ug/Kg		92	70 - 133
1,1-Dichloropropene	40.0	43.8		ug/Kg		110	77 - 125
1,2,3-Trichlorobenzene	40.0	54.2	*	ug/Kg		135	61 - 130
1,2,3-Trichloropropane	40.0	42.4		ug/Kg		106	77 - 123
1,2,4-Trichlorobenzene	40.0	53.2	*	ug/Kg		133	61 - 130
1,2,4-Trimethylbenzene	40.0	43.7		ug/Kg		109	79 - 124
1,2-Dibromo-3-Chloropropane	40.0	45.0		ug/Kg		113	53 - 132
1,2-Dibromoethane	40.0	45.0		ug/Kg		113	69 - 126
1,2-Dichlorobenzene	40.0	45.0		ug/Kg		112	79 - 117
1,2-Dichloroethane	40.0	44.7		ug/Kg		112	71 - 128
1,2-Dichloropropane	40.0	42.7		ug/Kg		107	76 - 161
1,3,5-Trimethylbenzene	40.0	44.2		ug/Kg		111	80 - 125
1,3-Dichlorobenzene	40.0	44.2		ug/Kg		110	79 - 119
1,3-Dichloropropane	40.0	42.8		ug/Kg		107	77 - 123
1,4-Dichlorobenzene	40.0	44.5		ug/Kg		111	79 - 117
2,2-Dichloropropane	40.0	41.7		ug/Kg		104	56 - 144
2-Chlorotoluene	40.0	42.2		ug/Kg		106	79 - 122
4-Chlorotoluene	40.0	42.8		ug/Kg		107	80 - 122

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-185198/2-A

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Isopropyltoluene	40.0	42.1		ug/Kg		105	78 - 126
Benzene	40.0	44.2		ug/Kg		110	70 - 128
Bromobenzene	40.0	45.7		ug/Kg		114	80 - 120
Bromochloromethane	40.0	45.1		ug/Kg		113	78 - 123
Bromodichloromethane	40.0	45.0		ug/Kg		112	58 - 133
Bromoform	40.0	44.2		ug/Kg		111	50 - 124
Bromomethane	40.0	39.5		ug/Kg		99	57 - 148
Carbon tetrachloride	40.0	42.6		ug/Kg		107	59 - 145
Chlorobenzene	40.0	43.9		ug/Kg		110	75 - 120
Chloroethane	40.0	31.9		ug/Kg		80	48 - 167
Chloroform	40.0	44.9		ug/Kg		112	78 - 125
Chloromethane	40.0	34.8	^	ug/Kg		87	55 - 136
cis-1,2-Dichloroethene	40.0	42.6		ug/Kg		106	70 - 130
cis-1,3-Dichloropropene	40.0	45.1		ug/Kg		113	69 - 129
Dibromochloromethane	40.0	45.8		ug/Kg		115	42 - 129
Dibromomethane	40.0	46.0		ug/Kg		115	78 - 126
Dichlorodifluoromethane	40.0	32.9		ug/Kg		82	38 - 150
Ethylbenzene	40.0	43.4		ug/Kg		108	78 - 126
Hexachlorobutadiene	40.0	49.4		ug/Kg		123	68 - 134
Isopropylbenzene	40.0	42.7		ug/Kg		107	79 - 127
Methyl tert-butyl ether	40.0	43.9		ug/Kg		110	65 - 125
Methylene Chloride	40.0	43.1		ug/Kg		108	57 - 146
m-Xylene & p-Xylene	40.0	43.4		ug/Kg		109	78 - 126
Naphthalene	40.0	55.1		ug/Kg		138	14 - 170
n-Butylbenzene	40.0	41.2		ug/Kg		103	78 - 128
N-Propylbenzene	40.0	41.9		ug/Kg		105	81 - 127
o-Xylene	40.0	43.3		ug/Kg		108	77 - 127
sec-Butylbenzene	40.0	43.2		ug/Kg		108	78 - 128
Styrene	40.0	43.8		ug/Kg		110	79 - 127
t-Butylbenzene	40.0	41.9		ug/Kg		105	71 - 136
Tetrachloroethene	40.0	44.5		ug/Kg		111	56 - 155
Toluene	40.0	42.4		ug/Kg		106	75 - 126
trans-1,2-Dichloroethene	40.0	40.5		ug/Kg		101	76 - 131
trans-1,3-Dichloropropene	40.0	50.1		ug/Kg		125	72 - 129
Trichloroethene	40.0	42.5		ug/Kg		106	83 - 124
Trichlorofluoromethane	40.0	38.5		ug/Kg		96	47 - 165
Vinyl chloride	40.0	34.1		ug/Kg		85	67 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		71 - 136
4-Bromofluorobenzene (Surr)	102		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	95		80 - 120
Trifluorotoluene (Surr)	89		65 - 140

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-185198/3-A

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	40.0	44.7		ug/Kg		112	72 - 123	1	20
1,1,1-Trichloroethane	40.0	42.3		ug/Kg		106	63 - 135	0	20
1,1,2,2-Tetrachloroethane	40.0	46.4		ug/Kg		116	73 - 125	10	22
1,1,2-Trichloroethane	40.0	46.2		ug/Kg		116	77 - 124	8	18
1,1-Dichloroethane	40.0	43.7		ug/Kg		109	70 - 128	1	21
1,1-Dichloroethene	40.0	36.1		ug/Kg		90	70 - 133	1	23
1,1-Dichloropropene	40.0	43.0		ug/Kg		107	77 - 125	2	16
1,2,3-Trichlorobenzene	40.0	54.8	*	ug/Kg		137	61 - 130	1	23
1,2,3-Trichloropropane	40.0	47.6		ug/Kg		119	77 - 123	12	23
1,2,4-Trichlorobenzene	40.0	53.0	*	ug/Kg		132	61 - 130	0	22
1,2,4-Trimethylbenzene	40.0	44.1		ug/Kg		110	79 - 124	1	18
1,2-Dibromo-3-Chloropropane	40.0	51.7		ug/Kg		129	53 - 132	14	27
1,2-Dibromoethane	40.0	48.6		ug/Kg		121	69 - 126	8	21
1,2-Dichlorobenzene	40.0	44.9		ug/Kg		112	79 - 117	0	17
1,2-Dichloroethane	40.0	46.5		ug/Kg		116	71 - 128	4	18
1,2-Dichloropropane	40.0	44.0		ug/Kg		110	76 - 161	3	15
1,3,5-Trimethylbenzene	40.0	44.8		ug/Kg		112	80 - 125	1	18
1,3-Dichlorobenzene	40.0	44.3		ug/Kg		111	79 - 119	0	17
1,3-Dichloropropane	40.0	45.3		ug/Kg		113	77 - 123	6	19
1,4-Dichlorobenzene	40.0	45.3		ug/Kg		113	79 - 117	2	18
2,2-Dichloropropane	40.0	41.7		ug/Kg		104	56 - 144	0	21
2-Chlorotoluene	40.0	42.7		ug/Kg		107	79 - 122	1	18
4-Chlorotoluene	40.0	43.6		ug/Kg		109	80 - 122	2	18
4-Isopropyltoluene	40.0	41.5		ug/Kg		104	78 - 126	1	18
Benzene	40.0	43.6		ug/Kg		109	70 - 128	1	19
Bromobenzene	40.0	46.7		ug/Kg		117	80 - 120	2	19
Bromochloromethane	40.0	44.9		ug/Kg		112	78 - 123	0	19
Bromodichloromethane	40.0	46.2		ug/Kg		115	58 - 133	3	19
Bromoform	40.0	48.3		ug/Kg		121	50 - 124	9	25
Bromomethane	40.0	36.9		ug/Kg		92	57 - 148	7	29
Carbon tetrachloride	40.0	42.9		ug/Kg		107	59 - 145	1	19
Chlorobenzene	40.0	44.4		ug/Kg		111	75 - 120	1	21
Chloroethane	40.0	37.3		ug/Kg		93	48 - 167	15	53
Chloroform	40.0	44.6		ug/Kg		111	78 - 125	1	17
Chloromethane	40.0	35.0	^	ug/Kg		88	55 - 136	1	26
cis-1,2-Dichloroethene	40.0	42.2		ug/Kg		106	70 - 130	1	19
cis-1,3-Dichloropropene	40.0	48.3		ug/Kg		121	69 - 129	7	19
Dibromochloromethane	40.0	49.3		ug/Kg		123	42 - 129	7	23
Dibromomethane	40.0	48.1		ug/Kg		120	78 - 126	5	18
Dichlorodifluoromethane	40.0	30.7		ug/Kg		77	38 - 150	7	26
Ethylbenzene	40.0	43.6		ug/Kg		109	78 - 126	0	23
Hexachlorobutadiene	40.0	47.1		ug/Kg		118	68 - 134	5	21
Isopropylbenzene	40.0	43.0		ug/Kg		108	79 - 127	1	20
Methyl tert-butyl ether	40.0	48.3		ug/Kg		121	65 - 125	10	30
Methylene Chloride	40.0	42.0		ug/Kg		105	57 - 146	2	21
m-Xylene & p-Xylene	40.0	43.9		ug/Kg		110	78 - 126	1	23
Naphthalene	40.0	58.6		ug/Kg		147	14 - 170	6	50
n-Butylbenzene	40.0	40.1		ug/Kg		100	78 - 128	3	17

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-185198/3-A

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	40.0	42.8		ug/Kg		107	81 - 127	2	20
o-Xylene	40.0	43.5		ug/Kg		109	77 - 127	0	22
sec-Butylbenzene	40.0	43.3		ug/Kg		108	78 - 128	0	17
Styrene	40.0	44.7		ug/Kg		112	79 - 127	2	21
t-Butylbenzene	40.0	42.9		ug/Kg		107	71 - 136	2	27
Tetrachloroethene	40.0	45.8		ug/Kg		115	56 - 155	3	27
Toluene	40.0	43.7		ug/Kg		109	75 - 126	3	19
trans-1,2-Dichloroethene	40.0	39.8		ug/Kg		100	76 - 131	2	18
trans-1,3-Dichloropropene	40.0	53.4	*	ug/Kg		133	72 - 129	6	20
Trichloroethene	40.0	42.3		ug/Kg		106	83 - 124	1	17
Trichlorofluoromethane	40.0	37.5		ug/Kg		94	47 - 165	3	54
Vinyl chloride	40.0	32.3		ug/Kg		81	67 - 131	5	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		71 - 136
4-Bromofluorobenzene (Surr)	100		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Toluene-d8 (Surr)	98		80 - 120
Trifluorotoluene (Surr)	90		65 - 140

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND	F1	30.8	312	E F1	ug/Kg	✱	1014	75 - 125
1,1,1-Trichloroethane	ND	F2 F1	30.8	33800	E F1	ug/Kg	✱	10988 0	70 - 135
1,1,2,2-Tetrachloroethane	ND	F1 F2	30.8	18100	E F1	ug/Kg	✱	58777	55 - 130
1,1,2-Trichloroethane	ND	F1	30.8	300	E F1	ug/Kg	✱	974	60 - 125
1,1-Dichloroethane	ND	F2 F1	30.8	32900	E F1	ug/Kg	✱	10703 8	75 - 125
1,1-Dichloroethene	ND	F2 F1	30.8	29000	E F1	ug/Kg	✱	94164	65 - 135
1,1-Dichloropropene	ND	F2 F1	30.8	35400	E F1	ug/Kg	✱	11507 8	70 - 135
1,2,3-Trichlorobenzene	ND	* F1 F2	30.8	22700	E F1	ug/Kg	✱	73884	60 - 135
1,2,3-Trichloropropane	ND	F1 F2	30.8	19400	E F1	ug/Kg	✱	63176	65 - 130
1,2,4-Trichlorobenzene	ND	* F1 F2	30.8	22300	E F1	ug/Kg	✱	72523	65 - 130
1,2,4-Trimethylbenzene	ND	F1 F2	30.8	18800	E F1	ug/Kg	✱	61076	65 - 135
1,2-Dibromo-3-Chloropropane	ND	F1 F2	30.8	21400	E F1	ug/Kg	✱	69468	40 - 135
1,2-Dibromoethane	ND	F1	30.8	317	E F1	ug/Kg	✱	1030	70 - 125
1,2-Dichlorobenzene	ND	F1 F2	30.8	19200	E F1	ug/Kg	✱	62311	75 - 120
1,2-Dichloroethane	ND	F2 F1	30.8	34400	E F1	ug/Kg	✱	11172 3	70 - 135
1,2-Dichloropropane	ND	F2 F1	30.8	31300	E F1	ug/Kg	✱	10163 2	70 - 120
1,3,5-Trimethylbenzene	ND	F1 F2	30.8	19300	E F1	ug/Kg	✱	62678	65 - 135
1,3-Dichlorobenzene	ND	F1 F2	30.8	19100	E F1	ug/Kg	✱	61985	70 - 125
1,3-Dichloropropane	ND	F1	30.8	293	E F1	ug/Kg	✱	954	75 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND	F1 F2	30.8	19000	E F1	ug/Kg	✱	61770	70 - 125
2,2-Dichloropropane	ND	F2 F1	30.8	31400	E F1	ug/Kg	✱	10221	65 - 135
2-Chlorotoluene	ND	F1 F2	30.8	18200	E F1	ug/Kg	✱	59227	70 - 130
4-Chlorotoluene	ND	F1 F2	30.8	18600	E F1	ug/Kg	✱	60443	75 - 125
4-Isopropyltoluene	ND	F1 F2	30.8	18800	E F1	ug/Kg	✱	61132	75 - 135
Benzene	ND	F2 F1	30.8	32300	E F1	ug/Kg	✱	10483	75 - 125
Bromobenzene	ND	F1 F2	30.8	19500	E F1	ug/Kg	✱	63235	65 - 120
Bromochloromethane	ND	F2 F1	30.8	33400	E F1	ug/Kg	✱	10858	70 - 125
Bromodichloromethane	ND	F2 F1	30.8	33700	E F1	ug/Kg	✱	10952	70 - 130
Bromoform	ND	F1	30.8	327	E F1	ug/Kg	✱	1061	55 - 135
Bromomethane	ND	F2 F1	30.8	17800	E F1	ug/Kg	✱	57850	30 - 160
Carbon tetrachloride	ND	F2 F1	30.8	35500	E F1	ug/Kg	✱	11530	65 - 135
Chlorobenzene	ND	F1	30.8	301	E F1	ug/Kg	✱	979	75 - 125
Chloroethane	ND	F2 F1	30.8	15900	E F1	ug/Kg	✱	51729	40 - 155
Chloroform	ND	F2 F1	30.8	33600	E F1	ug/Kg	✱	10934	70 - 125
Chloromethane	ND	F2 F1 ^	30.8	16900	E F1	ug/Kg	✱	54842	50 - 130
cis-1,2-Dichloroethene	ND	F2 F1	30.8	31000	E F1	ug/Kg	✱	10090	65 - 125
cis-1,3-Dichloropropene	ND	F1	30.8	314	E F1	ug/Kg	✱	1020	70 - 125
Dibromochloromethane	ND	F1	30.8	328	E F1	ug/Kg	✱	1067	65 - 130
Dibromomethane	ND	F2 F1	30.8	34900	E F1	ug/Kg	✱	11348	75 - 130
Dichlorodifluoromethane	ND	F2 F1	30.8	16600	E F1	ug/Kg	✱	53924	35 - 135
Ethylbenzene	ND	F1	30.8	303	E F1	ug/Kg	✱	986	75 - 125
Hexachlorobutadiene	ND	F1 F2	30.8	22800	E F1	ug/Kg	✱	74018	55 - 140
Isopropylbenzene	ND	F1	30.8	312	E F1	ug/Kg	✱	1015	75 - 130
Methyl tert-butyl ether	ND	F2 F1	30.8	33100	E F1	ug/Kg	✱	10749	59 - 137
Methylene Chloride	ND	F2 F1	30.8	30100	E F1	ug/Kg	✱	97845	55 - 140
m-Xylene & p-Xylene	ND	F1	30.8	309	E F1	ug/Kg	✱	1004	80 - 125
Naphthalene	ND	F1 F2	30.8	23700	E F1	ug/Kg	✱	77108	40 - 125
n-Butylbenzene	ND	F1 F2	30.8	18900	E F1	ug/Kg	✱	61444	65 - 140
N-Propylbenzene	ND	F1 F2	30.8	18500	E F1	ug/Kg	✱	60267	65 - 135
o-Xylene	ND	F1	30.8	302	E F1	ug/Kg	✱	982	75 - 125
sec-Butylbenzene	ND	F1 F2	30.8	19400	E F1	ug/Kg	✱	62995	65 - 130
Styrene	ND	F1	30.8	307	E F1	ug/Kg	✱	996	75 - 125
t-Butylbenzene	ND	F1 F2	30.8	18900	E F1	ug/Kg	✱	61307	65 - 130
Tetrachloroethene	ND	F1	30.8	334	E F1	ug/Kg	✱	1086	65 - 140
Toluene	ND	F1	30.8	300	E F1	ug/Kg	✱	975	70 - 125
trans-1,2-Dichloroethene	ND	F2 F1	30.8	30500	E F1	ug/Kg	✱	99171	65 - 135
trans-1,3-Dichloropropene	ND	* F1	30.8	346	E F1	ug/Kg	✱	1125	65 - 125
Trichloroethene	4.3	F2 F1	30.8	34800	E F1	ug/Kg	✱	11319	75 - 125
Trichlorofluoromethane	ND	F2 F1	30.8	20500	E F1	ug/Kg	✱	66517	25 - 185
Vinyl chloride	ND	F2 F1	30.8	17600	E F1	ug/Kg	✱	57254	60 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185198

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	0	X	71 - 136
4-Bromofluorobenzene (Surr)	0.7	X	70 - 120
Dibromofluoromethane (Surr)	0	X	75 - 132
Toluene-d8 (Surr)	0.3	X	80 - 120
Trifluorotoluene (Surr)	0	X	65 - 140

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND	F1	36.3	374	E F1	ug/Kg	☼	1028	75 - 125	18	30
1,1,1-Trichloroethane	ND	F2 F1	36.3	58000	E F1 F2	ug/Kg	☼	15974	70 - 135	53	30
1,1,1,2,2-Tetrachloroethane	ND	F1 F2	36.3	52700	E F1 F2	ug/Kg	☼	14494	55 - 130	98	30
1,1,2-Trichloroethane	ND	F1	36.3	349	E F1	ug/Kg	☼	961	60 - 125	15	30
1,1-Dichloroethane	ND	F2 F1	36.3	52400	E F1 F2	ug/Kg	☼	14419	75 - 125	46	30
1,1-Dichloroethene	ND	F2 F1	36.3	47700	E F1 F2	ug/Kg	☼	13122	65 - 135	49	30
1,1-Dichloropropene	ND	F2 F1	36.3	54800	E F1 F2	ug/Kg	☼	15078	70 - 135	43	30
1,2,3-Trichlorobenzene	ND	* F1 F2	36.3	50900	E F1 F2	ug/Kg	☼	14017	60 - 135	77	30
1,2,3-Trichloropropane	ND	F1 F2	36.3	54900	E F1 F2	ug/Kg	☼	15114	65 - 130	95	30
1,2,4-Trichlorobenzene	ND	* F1 F2	36.3	52600	E F1 F2	ug/Kg	☼	14487	65 - 130	81	30
1,2,4-Trimethylbenzene	ND	F1 F2	36.3	55500	E F1 F2	ug/Kg	☼	15279	65 - 135	99	30
1,2-Dibromo-3-Chloropropane	ND	F1 F2	36.3	58100	E F1 F2	ug/Kg	☼	15975	40 - 135	92	30
1,2-Dibromoethane	ND	F1	36.3	369	E F1	ug/Kg	☼	1015	70 - 125	15	30
1,2-Dichlorobenzene	ND	F1 F2	36.3	53400	E F1 F2	ug/Kg	☼	14682	75 - 120	94	30
1,2-Dichloroethane	ND	F2 F1	36.3	50700	E F1 F2	ug/Kg	☼	13940	70 - 135	38	30
1,2-Dichloropropane	ND	F2 F1	36.3	49400	E F1 F2	ug/Kg	☼	13593	70 - 120	45	30
1,3,5-Trimethylbenzene	ND	F1 F2	36.3	57600	E F1 F2	ug/Kg	☼	15853	65 - 135	100	30
1,3-Dichlorobenzene	ND	F1 F2	36.3	53900	E F1 F2	ug/Kg	☼	14832	70 - 125	95	30
1,3-Dichloropropane	ND	F1	36.3	343	E F1	ug/Kg	☼	944	75 - 125	16	30
1,4-Dichlorobenzene	ND	F1 F2	36.3	52800	E F1 F2	ug/Kg	☼	14536	70 - 125	94	30
2,2-Dichloropropane	ND	F2 F1	36.3	58300	E F1 F2	ug/Kg	☼	16033	65 - 135	60	30
2-Chlorotoluene	ND	F1 F2	36.3	54900	E F1 F2	ug/Kg	☼	15117	70 - 130	100	30
4-Chlorotoluene	ND	F1 F2	36.3	53900	E F1 F2	ug/Kg	☼	14835	75 - 125	97	30

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Isopropyltoluene	ND	F1 F2	36.3	53900	E F1 F2	ug/Kg	✱	14844	75 - 135	97	30
Benzene	ND	F2 F1	36.3	51500	E F1 F2	ug/Kg	✱	14162	75 - 125	46	30
Bromobenzene	ND	F1 F2	36.3	57400	E F1 F2	ug/Kg	✱	15796	65 - 120	99	30
Bromochloromethane	ND	F2 F1	36.3	51800	E F1 F2	ug/Kg	✱	14258	70 - 125	43	30
Bromodichloromethane	ND	F2 F1	36.3	51800	E F1 F2	ug/Kg	✱	14261	70 - 130	42	30
Bromoform	ND	F1	36.3	359	E F1	ug/Kg	✱	989	55 - 135	10	30
Bromomethane	ND	F2 F1	36.3	32400	E F1 F2	ug/Kg	✱	89252	30 - 160	58	30
Carbon tetrachloride	ND	F2 F1	36.3	61000	E F1 F2	ug/Kg	✱	16779	65 - 135	53	30
Chlorobenzene	ND	F1	36.3	362	E F1	ug/Kg	✱	996	75 - 125	18	30
Chloroethane	ND	F2 F1	36.3	27300	E F1 F2	ug/Kg	✱	75010	40 - 155	53	30
Chloroform	ND	F2 F1	36.3	53100	E F1 F2	ug/Kg	✱	14599	70 - 125	45	30
Chloromethane	ND	F2 F1 ^	36.3	29000	E F1 F2	ug/Kg	✱	79850	50 - 130	53	30
cis-1,2-Dichloroethene	ND	F2 F1	36.3	50400	E F1 F2	ug/Kg	✱	13882	65 - 125	48	30
cis-1,3-Dichloropropene	ND	F1	36.3	382	E F1	ug/Kg	✱	1052	70 - 125	20	30
Dibromochloromethane	ND	F1	36.3	385	E F1	ug/Kg	✱	1060	65 - 130	16	30
Dibromomethane	ND	F2 F1	36.3	52200	E F1 F2	ug/Kg	✱	14359	75 - 130	40	30
Dichlorodifluoromethane	ND	F2 F1	36.3	30800	E F1 F2	ug/Kg	✱	84894	35 - 135	60	30
Ethylbenzene	ND	F1	36.3	372	E F1	ug/Kg	✱	1023	75 - 125	20	30
Hexachlorobutadiene	ND	F1 F2	36.3	48400	E F1 F2	ug/Kg	✱	13329	55 - 140	72	30
Isopropylbenzene	ND	F1	36.3	370	E F1	ug/Kg	✱	1019	75 - 130	17	30
Methyl tert-butyl ether	ND	F2 F1	36.3	52000	E F1 F2	ug/Kg	✱	14299	59 - 137	44	30
Methylene Chloride	ND	F2 F1	36.3	49500	E F1 F2	ug/Kg	✱	13626	55 - 140	49	30
m-Xylene & p-Xylene	ND	F1	36.3	370	E F1	ug/Kg	✱	1017	80 - 125	18	30
Naphthalene	ND	F1 F2	36.3	56400	E F1 F2	ug/Kg	✱	15525	40 - 125	82	30
n-Butylbenzene	ND	F1 F2	36.3	50400	E F1 F2	ug/Kg	✱	13869	65 - 140	91	30
N-Propylbenzene	ND	F1 F2	36.3	56200	E F1 F2	ug/Kg	✱	15459	65 - 135	101	30
o-Xylene	ND	F1	36.3	361	E F1	ug/Kg	✱	994	75 - 125	18	30
sec-Butylbenzene	ND	F1 F2	36.3	56900	E F1 F2	ug/Kg	✱	15646	65 - 130	98	30
Styrene	ND	F1	36.3	353	E F1	ug/Kg	✱	971	75 - 125	14	30
t-Butylbenzene	ND	F1 F2	36.3	56500	E F1 F2	ug/Kg	✱	15535	65 - 130	100	30
Tetrachloroethene	ND	F1	36.3	402	E F1	ug/Kg	✱	1105	65 - 140	18	30
Toluene	ND	F1	36.3	372	E F1	ug/Kg	✱	1024	70 - 125	21	30
trans-1,2-Dichloroethene	ND	F2 F1	36.3	50600	E F1 F2	ug/Kg	✱	13924	65 - 135	50	30
trans-1,3-Dichloropropene	ND	* F1	36.3	407	E F1	ug/Kg	✱	1119	65 - 125	16	30

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185172

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	4.3	F2 F1	36.3	57000	E F1 F2	ug/Kg	✱	15691	75 - 125	48	30
Trichlorofluoromethane	ND	F2 F1	36.3	37500	E F1 F2	ug/Kg	✱	10323	25 - 185	59	30
Vinyl chloride	ND	F2 F1	36.3	31600	E F1 F2	ug/Kg	✱	87065	60 - 125	57	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	0	X	71 - 136								
4-Bromofluorobenzene (Surr)	0	X	70 - 120								
Dibromofluoromethane (Surr)	0	X	75 - 132								
Toluene-d8 (Surr)	0	X	80 - 120								
Trifluorotoluene (Surr)	155	X	65 - 140								

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-185250/1-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
1,2-Dichlorobenzene	ND		55		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
1,3-Dichlorobenzene	ND		50		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
1,4-Dichlorobenzene	ND		50		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
1-Methylnaphthalene	ND		30		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,4,5-Trichlorophenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,4,6-Trichlorophenol	ND		150		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,4-Dichlorophenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,4-Dimethylphenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,4-Dinitrophenol	ND	^	1000		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,4-Dinitrotoluene	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2,6-Dinitrotoluene	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2-Chloronaphthalene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2-Chlorophenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2-Methylnaphthalene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2-Methylphenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2-Nitroaniline	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
2-Nitrophenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
3 & 4 Methylphenol	ND		200		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
3,3'-Dichlorobenzidine	ND		200		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
3-Nitroaniline	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4,6-Dinitro-2-methylphenol	ND	^	1000		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4-Bromophenyl phenyl ether	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4-Chloro-3-methylphenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4-Chloroaniline	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4-Chlorophenyl phenyl ether	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4-Nitroaniline	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
4-Nitrophenol	ND		1000		ug/Kg		03/26/15 08:08	03/27/15 17:30	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185250/1-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Acenaphthylene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Anthracene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzo[a]anthracene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzo[a]pyrene	ND		30		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzo[b]fluoranthene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzo[g,h,i]perylene	ND		25		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzo[k]fluoranthene	ND		25		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzoic acid	ND		2500		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Benzyl alcohol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Bis(2-chloroethoxy)methane	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Bis(2-chloroethyl)ether	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
bis(chloroisopropyl) ether	ND		250		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Butyl benzyl phthalate	ND		200		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Carbazole	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Chrysene	ND		25		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Dibenz(a,h)anthracene	ND		40		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Dibenzofuran	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Diethyl phthalate	ND		200		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Dimethyl phthalate	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Di-n-butyl phthalate	ND		500		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Di-n-octyl phthalate	ND		500		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Fluoranthene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Fluorene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Hexachlorobenzene	ND		50		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Hexachlorobutadiene	ND		50		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Hexachlorocyclopentadiene	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Hexachloroethane	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Indeno[1,2,3-cd]pyrene	ND		40		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Isophorone	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Naphthalene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Nitrobenzene	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
N-Nitrosodi-n-propylamine	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
N-Nitrosodiphenylamine	ND		50		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Pentachlorophenol	ND		200		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Phenanthrene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Phenol	ND		100		ug/Kg		03/26/15 08:08	03/27/15 17:30	1
Pyrene	ND		20		ug/Kg		03/26/15 08:08	03/27/15 17:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	55		28 - 143	03/26/15 08:08	03/27/15 17:30	1
2-Fluorobiphenyl	83		42 - 140	03/26/15 08:08	03/27/15 17:30	1
2-Fluorophenol (Surr)	87		36 - 145	03/26/15 08:08	03/27/15 17:30	1
Nitrobenzene-d5 (Surr)	85		38 - 141	03/26/15 08:08	03/27/15 17:30	1
Phenol-d5 (Surr)	91		38 - 149	03/26/15 08:08	03/27/15 17:30	1
Terphenyl-d14 (Surr)	88		42 - 151	03/26/15 08:08	03/27/15 17:30	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185250/2-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	1000	911		ug/Kg		91	66 - 115
1,2-Dichlorobenzene	1000	870		ug/Kg		87	64 - 112
1,3-Dichlorobenzene	1000	905		ug/Kg		91	64 - 111
1,4-Dichlorobenzene	1000	908		ug/Kg		91	65 - 110
1-Methylnaphthalene	1000	943		ug/Kg		94	62 - 118
2,4,5-Trichlorophenol	1000	1010		ug/Kg		101	57 - 133
2,4,6-Trichlorophenol	1000	1010		ug/Kg		101	62 - 133
2,4-Dichlorophenol	1000	895		ug/Kg		90	68 - 125
2,4-Dimethylphenol	1000	710		ug/Kg		71	54 - 139
2,4-Dinitrophenol	2000	1430	^	ug/Kg		71	20 - 141
2,4-Dinitrotoluene	1000	1000		ug/Kg		100	68 - 121
2,6-Dinitrotoluene	1000	920		ug/Kg		92	66 - 123
2-Chloronaphthalene	1000	990		ug/Kg		99	68 - 112
2-Chlorophenol	1000	900		ug/Kg		90	68 - 117
2-Methylnaphthalene	1000	885		ug/Kg		88	64 - 119
2-Methylphenol	1000	872		ug/Kg		87	71 - 116
2-Nitroaniline	1000	914		ug/Kg		91	64 - 112
2-Nitrophenol	1000	995		ug/Kg		99	67 - 127
3 & 4 Methylphenol	1000	896		ug/Kg		90	70 - 116
3,3'-Dichlorobenzidine	2000	1110		ug/Kg		55	20 - 103
3-Nitroaniline	1000	741		ug/Kg		74	27 - 103
4,6-Dinitro-2-methylphenol	2000	1930	^	ug/Kg		97	48 - 130
4-Bromophenyl phenyl ether	1000	978		ug/Kg		98	68 - 122
4-Chloro-3-methylphenol	1000	868		ug/Kg		87	69 - 121
4-Chloroaniline	1000	455		ug/Kg		45	20 - 103
4-Chlorophenyl phenyl ether	1000	914		ug/Kg		91	75 - 108
4-Nitroaniline	1000	838		ug/Kg		84	58 - 108
4-Nitrophenol	2000	1700		ug/Kg		85	20 - 165
Acenaphthene	1000	900		ug/Kg		90	68 - 116
Acenaphthylene	1000	886		ug/Kg		89	68 - 120
Anthracene	1000	905		ug/Kg		91	73 - 116
Benzo[a]anthracene	1000	883		ug/Kg		88	76 - 119
Benzo[a]pyrene	1000	827		ug/Kg		83	72 - 117
Benzo[b]fluoranthene	1000	897		ug/Kg		90	63 - 132
Benzo[g,h,i]perylene	1000	935		ug/Kg		93	55 - 139
Benzo[k]fluoranthene	1000	1050		ug/Kg		105	63 - 119
Benzoic acid	2010	ND		ug/Kg		37	29 - 158
Benzyl alcohol	1000	848		ug/Kg		85	55 - 123
Bis(2-chloroethoxy)methane	1000	920		ug/Kg		92	69 - 107
Bis(2-chloroethyl)ether	1000	969		ug/Kg		97	62 - 110
Bis(2-ethylhexyl) phthalate	1000	780		ug/Kg		78	62 - 144
bis(chloroisopropyl) ether	1000	828		ug/Kg		83	41 - 126
Butyl benzyl phthalate	1000	981		ug/Kg		98	69 - 142
Carbazole	1000	889		ug/Kg		89	76 - 135
Chrysene	1000	1030		ug/Kg		103	75 - 114
Dibenz(a,h)anthracene	1000	683		ug/Kg		68	56 - 134
Dibenzofuran	1000	943		ug/Kg		94	72 - 109
Diethyl phthalate	1000	918		ug/Kg		92	73 - 116

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185250/2-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	1000	907		ug/Kg		91	78 - 117
Di-n-butyl phthalate	1000	872		ug/Kg		87	66 - 140
Di-n-octyl phthalate	1000	752		ug/Kg		75	65 - 141
Fluoranthene	1000	884		ug/Kg		88	73 - 125
Fluorene	1000	937		ug/Kg		94	70 - 121
Hexachlorobenzene	1000	981		ug/Kg		98	66 - 117
Hexachlorobutadiene	1000	944		ug/Kg		94	65 - 116
Hexachlorocyclopentadiene	1000	967		ug/Kg		97	46 - 131
Hexachloroethane	1000	1010		ug/Kg		101	62 - 120
Indeno[1,2,3-cd]pyrene	1000	724		ug/Kg		72	56 - 127
Isophorone	1000	941		ug/Kg		94	67 - 119
Naphthalene	1000	943		ug/Kg		94	62 - 112
Nitrobenzene	1000	908		ug/Kg		91	64 - 118
N-Nitrosodi-n-propylamine	1000	859		ug/Kg		86	62 - 116
N-Nitrosodiphenylamine	2010	1780		ug/Kg		89	73 - 115
Pentachlorophenol	2000	1420		ug/Kg		71	45 - 117
Phenanthrene	1000	900		ug/Kg		90	73 - 106
Phenol	1000	940		ug/Kg		94	63 - 111
Pyrene	1000	870		ug/Kg		87	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	99		36 - 145
Nitrobenzene-d5 (Surr)	89		38 - 141
Phenol-d5 (Surr)	92		38 - 149
Terphenyl-d14 (Surr)	95		42 - 151

Lab Sample ID: LCSD 580-185250/3-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2,4-Trichlorobenzene	1000	938		ug/Kg		94	66 - 115	3	28
1,2-Dichlorobenzene	1000	863		ug/Kg		86	64 - 112	1	30
1,3-Dichlorobenzene	1000	897		ug/Kg		90	64 - 111	1	30
1,4-Dichlorobenzene	1000	927		ug/Kg		93	65 - 110	2	30
1-Methylnaphthalene	1000	927		ug/Kg		93	62 - 118	2	30
2,4,5-Trichlorophenol	1000	1080		ug/Kg		108	57 - 133	7	30
2,4,6-Trichlorophenol	1000	1010		ug/Kg		101	62 - 133	0	30
2,4-Dichlorophenol	1000	891		ug/Kg		89	68 - 125	0	30
2,4-Dimethylphenol	1000	668		ug/Kg		67	54 - 139	6	30
2,4-Dinitrophenol	2000	1120	^	ug/Kg		56	20 - 141	24	36
2,4-Dinitrotoluene	1000	988		ug/Kg		99	68 - 121	1	30
2,6-Dinitrotoluene	1000	979		ug/Kg		98	66 - 123	6	30
2-Chloronaphthalene	1000	1030		ug/Kg		103	68 - 112	4	25
2-Chlorophenol	1000	871		ug/Kg		87	68 - 117	3	27
2-Methylnaphthalene	1000	856		ug/Kg		86	64 - 119	3	27

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185250/3-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	1000	932		ug/Kg		93	71 - 116	7	25
2-Nitroaniline	1000	1080		ug/Kg		108	64 - 112	16	22
2-Nitrophenol	1000	1010		ug/Kg		101	67 - 127	1	30
3 & 4 Methylphenol	1000	889		ug/Kg		89	70 - 116	1	27
3,3'-Dichlorobenzidine	2000	1040		ug/Kg		52	20 - 103	6	60
3-Nitroaniline	1000	762		ug/Kg		76	27 - 103	3	33
4,6-Dinitro-2-methylphenol	2000	1770	^	ug/Kg		88	48 - 130	9	22
4-Bromophenyl phenyl ether	1000	898		ug/Kg		90	68 - 122	9	30
4-Chloro-3-methylphenol	1000	861		ug/Kg		86	69 - 121	1	27
4-Chloroaniline	1000	402		ug/Kg		40	20 - 103	12	60
4-Chlorophenyl phenyl ether	1000	937		ug/Kg		94	75 - 108	3	30
4-Nitroaniline	1000	784		ug/Kg		78	58 - 108	7	32
4-Nitrophenol	2000	1710		ug/Kg		85	20 - 165	1	30
Acenaphthene	1000	942		ug/Kg		94	68 - 116	5	27
Acenaphthylene	1000	939		ug/Kg		94	68 - 120	6	28
Anthracene	1000	858		ug/Kg		86	73 - 116	5	27
Benzo[a]anthracene	1000	898		ug/Kg		90	76 - 119	2	27
Benzo[a]pyrene	1000	807		ug/Kg		81	72 - 117	2	30
Benzo[b]fluoranthene	1000	861		ug/Kg		86	63 - 132	4	30
Benzo[g,h,i]perylene	1000	958		ug/Kg		96	55 - 139	2	28
Benzo[k]fluoranthene	1000	1160		ug/Kg		116	63 - 119	10	30
Benzoic acid	2010	762	J	ug/Kg		38	29 - 158	3	28
Benzyl alcohol	1000	849		ug/Kg		85	55 - 123	0	60
Bis(2-chloroethoxy)methane	1000	904		ug/Kg		90	69 - 107	2	30
Bis(2-chloroethyl)ether	1000	929		ug/Kg		93	62 - 110	4	22
Bis(2-ethylhexyl) phthalate	1000	803		ug/Kg		80	62 - 144	3	30
bis(chloroisopropyl) ether	1000	856		ug/Kg		86	41 - 126	3	57
Butyl benzyl phthalate	1000	1030		ug/Kg		103	69 - 142	5	30
Carbazole	1000	863		ug/Kg		86	76 - 135	3	30
Chrysene	1000	1040		ug/Kg		104	75 - 114	1	26
Dibenz(a,h)anthracene	1000	770		ug/Kg		77	56 - 134	12	30
Dibenzofuran	1000	969		ug/Kg		97	72 - 109	3	30
Diethyl phthalate	1000	954		ug/Kg		95	73 - 116	4	26
Dimethyl phthalate	1000	923		ug/Kg		92	78 - 117	2	30
Di-n-butyl phthalate	1000	866		ug/Kg		87	66 - 140	1	30
Di-n-octyl phthalate	1000	728		ug/Kg		73	65 - 141	3	30
Fluoranthene	1000	849		ug/Kg		85	73 - 125	4	30
Fluorene	1000	983		ug/Kg		98	70 - 121	5	30
Hexachlorobenzene	1000	971		ug/Kg		97	66 - 117	1	30
Hexachlorobutadiene	1000	899		ug/Kg		90	65 - 116	5	30
Hexachlorocyclopentadiene	1000	1000		ug/Kg		100	46 - 131	4	29
Hexachloroethane	1000	970		ug/Kg		97	62 - 120	4	30
Indeno[1,2,3-cd]pyrene	1000	781		ug/Kg		78	56 - 127	8	29
Isophorone	1000	940		ug/Kg		94	67 - 119	0	30
Naphthalene	1000	916		ug/Kg		92	62 - 112	3	26
Nitrobenzene	1000	928		ug/Kg		93	64 - 118	2	30
N-Nitrosodi-n-propylamine	1000	848		ug/Kg		85	62 - 116	1	28
N-Nitrosodiphenylamine	2010	1700		ug/Kg		85	73 - 115	5	30

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185250/3-A

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	2000	1450		ug/Kg		72	45 - 117	2	23
Phenanthrene	1000	879		ug/Kg		88	73 - 106	2	28
Phenol	1000	917		ug/Kg		92	63 - 111	2	26
Pyrene	1000	848		ug/Kg		85	70 - 120	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		28 - 143
2-Fluorobiphenyl	96		42 - 140
2-Fluorophenol (Surr)	99		36 - 145
Nitrobenzene-d5 (Surr)	90		38 - 141
Phenol-d5 (Surr)	95		38 - 149
Terphenyl-d14 (Surr)	93		42 - 151

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		1090	982		ug/Kg	☼	90	66 - 115
1,2-Dichlorobenzene	ND		1090	931		ug/Kg	☼	86	64 - 112
1,3-Dichlorobenzene	ND		1090	945		ug/Kg	☼	87	64 - 111
1,4-Dichlorobenzene	ND		1090	921		ug/Kg	☼	85	65 - 110
1-Methylnaphthalene	ND		1090	976		ug/Kg	☼	90	62 - 118
2,4,5-Trichlorophenol	ND		1090	1060		ug/Kg	☼	97	57 - 133
2,4,6-Trichlorophenol	ND		1090	1040		ug/Kg	☼	96	62 - 133
2,4-Dichlorophenol	ND		1090	960		ug/Kg	☼	88	68 - 125
2,4-Dimethylphenol	ND		1090	919		ug/Kg	☼	84	54 - 139
2,4-Dinitrophenol	ND	^	2180	1430	^	ug/Kg	☼	66	20 - 141
2,4-Dinitrotoluene	ND		1090	1050		ug/Kg	☼	97	68 - 121
2,6-Dinitrotoluene	ND		1090	989		ug/Kg	☼	91	66 - 123
2-Chloronaphthalene	ND		1090	1040		ug/Kg	☼	95	68 - 112
2-Chlorophenol	ND		1090	946		ug/Kg	☼	87	68 - 117
2-Methylnaphthalene	ND		1090	927		ug/Kg	☼	85	64 - 119
2-Methylphenol	ND		1090	975		ug/Kg	☼	90	71 - 116
2-Nitroaniline	ND		1090	1040		ug/Kg	☼	96	64 - 112
2-Nitrophenol	ND		1090	1070		ug/Kg	☼	98	67 - 127
3 & 4 Methylphenol	ND		1090	950		ug/Kg	☼	87	70 - 116
3,3'-Dichlorobenzidine	ND		2180	1190		ug/Kg	☼	54	20 - 103
3-Nitroaniline	ND		1090	813		ug/Kg	☼	75	27 - 103
4,6-Dinitro-2-methylphenol	ND	^	2180	2100	^	ug/Kg	☼	97	48 - 130
4-Bromophenyl phenyl ether	ND		1090	945		ug/Kg	☼	87	68 - 122
4-Chloro-3-methylphenol	ND		1090	946		ug/Kg	☼	87	69 - 121
4-Chloroaniline	ND		1090	577		ug/Kg	☼	53	20 - 103
4-Chlorophenyl phenyl ether	ND		1090	929		ug/Kg	☼	85	75 - 108
4-Nitroaniline	ND		1090	922		ug/Kg	☼	85	58 - 108
4-Nitrophenol	ND		2180	2040		ug/Kg	☼	94	20 - 165
Acenaphthene	ND		1090	966		ug/Kg	☼	89	68 - 116
Acenaphthylene	ND		1090	951		ug/Kg	☼	87	68 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	ND		1090	950		ug/Kg	✱	87	73 - 116
Benzo[a]anthracene	ND		1090	978		ug/Kg	✱	90	76 - 119
Benzo[a]pyrene	ND		1090	884		ug/Kg	✱	81	72 - 117
Benzo[b]fluoranthene	ND		1090	963		ug/Kg	✱	89	63 - 132
Benzo[g,h,i]perylene	ND		1090	1030		ug/Kg	✱	94	55 - 139
Benzo[k]fluoranthene	ND		1090	1170		ug/Kg	✱	107	63 - 119
Benzoic acid	ND		2180	ND		ug/Kg	✱	104	29 - 158
Benzyl alcohol	ND		1090	884		ug/Kg	✱	81	55 - 123
Bis(2-chloroethoxy)methane	ND		1090	973		ug/Kg	✱	89	69 - 107
Bis(2-chloroethyl)ether	ND		1090	1010		ug/Kg	✱	93	62 - 110
Bis(2-ethylhexyl) phthalate	ND		1090	1060		ug/Kg	✱	86	62 - 144
bis(chloroisopropyl) ether	ND		1090	889		ug/Kg	✱	82	41 - 126
Butyl benzyl phthalate	ND		1090	1170		ug/Kg	✱	107	69 - 142
Carbazole	ND		1090	953		ug/Kg	✱	88	76 - 135
Chrysene	ND		1090	1100		ug/Kg	✱	101	75 - 114
Dibenz(a,h)anthracene	ND		1090	837		ug/Kg	✱	77	56 - 134
Dibenzofuran	ND		1090	949		ug/Kg	✱	87	72 - 109
Diethyl phthalate	ND		1090	964		ug/Kg	✱	86	73 - 116
Dimethyl phthalate	ND		1090	961		ug/Kg	✱	88	78 - 117
Di-n-butyl phthalate	ND		1090	958		ug/Kg	✱	88	66 - 140
Di-n-octyl phthalate	ND		1090	923		ug/Kg	✱	85	65 - 141
Fluoranthene	ND		1090	954		ug/Kg	✱	88	73 - 125
Fluorene	ND		1090	1020		ug/Kg	✱	94	70 - 121
Hexachlorobenzene	ND		1090	1050		ug/Kg	✱	97	66 - 117
Hexachlorobutadiene	ND		1090	909		ug/Kg	✱	84	65 - 116
Hexachlorocyclopentadiene	ND		1090	1030		ug/Kg	✱	95	46 - 131
Hexachloroethane	ND		1090	1010		ug/Kg	✱	93	62 - 120
Indeno[1,2,3-cd]pyrene	ND		1090	865		ug/Kg	✱	79	56 - 127
Isophorone	ND		1090	986		ug/Kg	✱	91	67 - 119
Naphthalene	ND		1090	971		ug/Kg	✱	89	62 - 112
Nitrobenzene	ND		1090	986		ug/Kg	✱	91	64 - 118
N-Nitrosodi-n-propylamine	ND		1090	882		ug/Kg	✱	81	62 - 116
N-Nitrosodiphenylamine	ND		2180	1880		ug/Kg	✱	86	73 - 115
Pentachlorophenol	ND		2180	1930		ug/Kg	✱	89	45 - 117
Phenanthrene	ND		1090	939		ug/Kg	✱	86	73 - 106
Phenol	ND		1090	987		ug/Kg	✱	91	63 - 111
Pyrene	ND		1090	931		ug/Kg	✱	86	70 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	93		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	96		36 - 145
Nitrobenzene-d5 (Surr)	90		38 - 141
Phenol-d5 (Surr)	95		38 - 149
Terphenyl-d14 (Surr)	96		42 - 151

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND		1090	942		ug/Kg	☼	87	66 - 115	4	28
1,2-Dichlorobenzene	ND		1090	902		ug/Kg	☼	83	64 - 112	3	60
1,3-Dichlorobenzene	ND		1090	935		ug/Kg	☼	86	64 - 111	1	60
1,4-Dichlorobenzene	ND		1090	891		ug/Kg	☼	82	65 - 110	3	32
1-Methylnaphthalene	ND		1090	1010		ug/Kg	☼	93	62 - 118	3	30
2,4,5-Trichlorophenol	ND		1090	1120		ug/Kg	☼	104	57 - 133	6	60
2,4,6-Trichlorophenol	ND		1090	1080		ug/Kg	☼	99	62 - 133	4	60
2,4-Dichlorophenol	ND		1090	1020		ug/Kg	☼	94	68 - 125	6	60
2,4-Dimethylphenol	ND		1090	939		ug/Kg	☼	87	54 - 139	2	60
2,4-Dinitrophenol	ND	^	2170	1820	^	ug/Kg	☼	84	20 - 141	24	60
2,4-Dinitrotoluene	ND		1090	1040		ug/Kg	☼	96	68 - 121	1	31
2,6-Dinitrotoluene	ND		1090	986		ug/Kg	☼	91	66 - 123	0	60
2-Chloronaphthalene	ND		1090	1030		ug/Kg	☼	95	68 - 112	0	25
2-Chlorophenol	ND		1090	910		ug/Kg	☼	84	68 - 117	4	27
2-Methylnaphthalene	ND		1090	895		ug/Kg	☼	82	64 - 119	4	27
2-Methylphenol	ND		1090	933		ug/Kg	☼	86	71 - 116	4	25
2-Nitroaniline	ND		1090	1020		ug/Kg	☼	94	64 - 112	2	60
2-Nitrophenol	ND		1090	1060		ug/Kg	☼	98	67 - 127	0	60
3 & 4 Methylphenol	ND		1090	899		ug/Kg	☼	83	70 - 116	5	27
3,3'-Dichlorobenzidine	ND		2170	1200		ug/Kg	☼	55	20 - 103	1	60
3-Nitroaniline	ND		1090	857		ug/Kg	☼	79	27 - 103	5	60
4,6-Dinitro-2-methylphenol	ND	^	2170	2290	^	ug/Kg	☼	105	48 - 130	8	60
4-Bromophenyl phenyl ether	ND		1090	1050		ug/Kg	☼	97	68 - 122	11	60
4-Chloro-3-methylphenol	ND		1090	940		ug/Kg	☼	87	69 - 121	1	27
4-Chloroaniline	ND		1090	581		ug/Kg	☼	53	20 - 103	1	60
4-Chlorophenyl phenyl ether	ND		1090	975		ug/Kg	☼	90	75 - 108	5	60
4-Nitroaniline	ND		1090	938		ug/Kg	☼	86	58 - 108	2	60
4-Nitrophenol	ND		2170	1810		ug/Kg	☼	83	20 - 165	12	33
Acenaphthene	ND		1090	997		ug/Kg	☼	92	68 - 116	3	27
Acenaphthylene	ND		1090	949		ug/Kg	☼	87	68 - 120	0	28
Anthracene	ND		1090	982		ug/Kg	☼	90	73 - 116	3	27
Benzo[a]anthracene	ND		1090	1000		ug/Kg	☼	92	76 - 119	2	27
Benzo[a]pyrene	ND		1090	920		ug/Kg	☼	85	72 - 117	4	30
Benzo[b]fluoranthene	ND		1090	976		ug/Kg	☼	90	63 - 132	1	31
Benzo[g,h,i]perylene	ND		1090	1010		ug/Kg	☼	93	55 - 139	1	28
Benzo[k]fluoranthene	ND		1090	1120		ug/Kg	☼	103	63 - 119	4	31
Benzoic acid	ND		2180	ND		ug/Kg	☼	110	29 - 158	5	60
Benzyl alcohol	ND		1090	861		ug/Kg	☼	79	55 - 123	3	60
Bis(2-chloroethoxy)methane	ND		1090	988		ug/Kg	☼	91	69 - 107	2	60
Bis(2-chloroethyl)ether	ND		1090	972		ug/Kg	☼	90	62 - 110	3	60
Bis(2-ethylhexyl) phthalate	ND		1090	1100		ug/Kg	☼	89	62 - 144	3	60
bis(chloroisopropyl) ether	ND		1090	894		ug/Kg	☼	82	41 - 126	1	60
Butyl benzyl phthalate	ND		1090	1170		ug/Kg	☼	108	69 - 142	0	60
Carbazole	ND		1090	972		ug/Kg	☼	90	76 - 135	2	60
Chrysene	ND		1090	1110		ug/Kg	☼	102	75 - 114	1	26
Dibenz(a,h)anthracene	ND		1090	840		ug/Kg	☼	77	56 - 134	0	30
Dibenzofuran	ND		1090	1000		ug/Kg	☼	92	72 - 109	5	60
Diethyl phthalate	ND		1090	977		ug/Kg	☼	87	73 - 116	1	26

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185404

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185250

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dimethyl phthalate	ND		1090	944		ug/Kg	✱	87	78 - 117	2	60
Di-n-butyl phthalate	ND		1090	976		ug/Kg	✱	90	66 - 140	2	60
Di-n-octyl phthalate	ND		1090	971		ug/Kg	✱	89	65 - 141	5	31
Fluoranthene	ND		1090	976		ug/Kg	✱	90	73 - 125	2	36
Fluorene	ND		1090	1020		ug/Kg	✱	94	70 - 121	0	31
Hexachlorobenzene	ND		1090	1050		ug/Kg	✱	97	66 - 117	0	60
Hexachlorobutadiene	ND		1090	933		ug/Kg	✱	86	65 - 116	3	60
Hexachlorocyclopentadiene	ND		1090	1020		ug/Kg	✱	94	46 - 131	1	60
Hexachloroethane	ND		1090	960		ug/Kg	✱	88	62 - 120	5	60
Indeno[1,2,3-cd]pyrene	ND		1090	867		ug/Kg	✱	80	56 - 127	0	29
Isophorone	ND		1090	1000		ug/Kg	✱	92	67 - 119	2	60
Naphthalene	ND		1090	966		ug/Kg	✱	89	62 - 112	0	26
Nitrobenzene	ND		1090	993		ug/Kg	✱	91	64 - 118	1	60
N-Nitrosodi-n-propylamine	ND		1090	887		ug/Kg	✱	82	62 - 116	1	28
N-Nitrosodiphenylamine	ND		2180	1870		ug/Kg	✱	86	73 - 115	0	60
Pentachlorophenol	ND		2170	2010		ug/Kg	✱	93	45 - 117	4	68
Phenanthrene	ND		1090	948		ug/Kg	✱	87	73 - 106	1	28
Phenol	ND		1090	994		ug/Kg	✱	92	63 - 111	1	26
Pyrene	ND		1090	959		ug/Kg	✱	88	70 - 120	3	31

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	91		36 - 145
Nitrobenzene-d5 (Surr)	85		38 - 141
Phenol-d5 (Surr)	91		38 - 149
Terphenyl-d14 (Surr)	93		42 - 151

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-185005/1-A

Matrix: Solid

Analysis Batch: 185007

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		03/23/15 14:58	03/23/15 15:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150	03/23/15 14:58	03/23/15 15:15	1

Lab Sample ID: LCS 580-185005/2-A

Matrix: Solid

Analysis Batch: 185007

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	40.2		mg/Kg		101	68 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-185005/2-A

Matrix: Solid

Analysis Batch: 185007

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185005

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		50 - 150

Lab Sample ID: LCSD 580-185005/3-A

Matrix: Solid

Analysis Batch: 185007

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185005

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	42.8		mg/Kg		107	68 - 120	6	25

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185007

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	ND		104	111		mg/Kg	✱	106	50 - 150

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		50 - 150

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185007

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	ND		104	112		mg/Kg	✱	106	50 - 150	1	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-185251/1-A

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
4,4'-DDE	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
4,4'-DDT	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Aldrin	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
alpha-BHC	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
alpha-Chlordane	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
beta-BHC	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
delta-BHC	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-185251/1-A

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dieldrin	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Endosulfan I	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Endosulfan II	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Endosulfan sulfate	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Endrin	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Endrin aldehyde	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Endrin ketone	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
gamma-Chlordane	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Heptachlor	ND		2.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Heptachlor epoxide	ND		1.0		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Methoxychlor	ND		10		ug/Kg		03/26/15 08:15	03/27/15 04:25	1
Toxaphene	ND		100		ug/Kg		03/26/15 08:15	03/27/15 04:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		60 - 128	03/26/15 08:15	03/27/15 04:25	1
Tetrachloro-m-xylene	40		35 - 129	03/26/15 08:15	03/27/15 04:25	1

Lab Sample ID: LCS 580-185251/2-A

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	20.0	19.2		ug/Kg		96	48 - 136
4,4'-DDE	20.0	18.3		ug/Kg		91	50 - 138
4,4'-DDT	20.0	19.1		ug/Kg		96	53 - 132
Aldrin	20.0	13.4		ug/Kg		67	59 - 127
alpha-BHC	20.0	11.8		ug/Kg		59	48 - 132
alpha-Chlordane	20.0	17.9		ug/Kg		90	52 - 137
beta-BHC	20.0	14.0		ug/Kg		70	45 - 122
delta-BHC	20.0	12.9		ug/Kg		65	27 - 124
Dieldrin	20.0	18.2		ug/Kg		91	53 - 145
Endosulfan I	20.0	17.4		ug/Kg		87	57 - 140
Endosulfan II	20.0	19.4		ug/Kg		97	58 - 144
Endosulfan sulfate	20.0	18.3		ug/Kg		91	55 - 125
Endrin	20.0	18.2		ug/Kg		91	51 - 143
Endrin aldehyde	20.0	18.4		ug/Kg		92	45 - 130
Endrin ketone	20.0	18.7		ug/Kg		93	53 - 139
gamma-BHC (Lindane)	20.0	13.4		ug/Kg		67	47 - 127
gamma-Chlordane	20.0	18.1		ug/Kg		91	52 - 137
Heptachlor	20.0	13.3		ug/Kg		66	43 - 141
Heptachlor epoxide	20.0	16.1		ug/Kg		80	47 - 143
Methoxychlor	20.0	20.0		ug/Kg		100	56 - 137

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	78		60 - 128
Tetrachloro-m-xylene	47		35 - 129

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-185251/3-A

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185251

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	20.0	20.3		ug/Kg		101	48 - 136	5	18
4,4'-DDE	20.0	19.9		ug/Kg		99	50 - 138	9	17
4,4'-DDT	20.0	20.3		ug/Kg		102	53 - 132	6	20
Aldrin	20.0	16.1		ug/Kg		80	59 - 127	18	19
alpha-BHC	20.0	14.6	*	ug/Kg		73	48 - 132	22	17
alpha-Chlordane	20.0	19.6		ug/Kg		98	52 - 137	9	17
beta-BHC	20.0	16.0		ug/Kg		80	45 - 122	13	18
delta-BHC	20.0	14.5		ug/Kg		72	27 - 124	12	19
Dieldrin	20.0	19.7		ug/Kg		99	53 - 145	8	18
Endosulfan I	20.0	19.3		ug/Kg		96	57 - 140	10	19
Endosulfan II	20.0	20.5		ug/Kg		102	58 - 144	5	19
Endosulfan sulfate	20.0	19.4		ug/Kg		97	55 - 125	6	18
Endrin	20.0	19.6		ug/Kg		98	51 - 143	8	18
Endrin aldehyde	20.0	19.8		ug/Kg		99	45 - 130	7	21
Endrin ketone	20.0	19.7		ug/Kg		99	53 - 139	5	17
gamma-BHC (Lindane)	20.0	16.2	*	ug/Kg		81	47 - 127	19	17
gamma-Chlordane	20.0	20.0		ug/Kg		100	52 - 137	10	17
Heptachlor	20.0	16.3	*	ug/Kg		81	43 - 141	20	18
Heptachlor epoxide	20.0	18.0		ug/Kg		90	47 - 143	11	17
Methoxychlor	20.0	20.3		ug/Kg		102	56 - 137	2	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	79		60 - 128
Tetrachloro-m-xylene	63		35 - 129

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		21.9	21.0		ug/Kg	✱	96	48 - 136
4,4'-DDE	ND		21.9	21.1		ug/Kg	✱	97	50 - 138
4,4'-DDT	ND		21.9	20.7		ug/Kg	✱	95	53 - 132
Aldrin	ND		21.9	18.4		ug/Kg	✱	84	59 - 127
alpha-BHC	ND	*	21.9	17.6		ug/Kg	✱	81	48 - 132
alpha-Chlordane	ND		21.9	20.8		ug/Kg	✱	95	52 - 137
beta-BHC	ND		21.9	19.1		ug/Kg	✱	88	45 - 122
delta-BHC	ND		21.9	15.8		ug/Kg	✱	72	27 - 124
Dieldrin	ND		21.9	21.0		ug/Kg	✱	96	53 - 145
Endosulfan I	ND		21.9	20.8		ug/Kg	✱	95	57 - 140
Endosulfan II	ND		21.9	21.0		ug/Kg	✱	96	58 - 144
Endosulfan sulfate	ND		21.9	19.9		ug/Kg	✱	91	55 - 125
Endrin	ND		21.9	21.6		ug/Kg	✱	99	51 - 143
Endrin aldehyde	ND		21.9	22.2		ug/Kg	✱	102	45 - 130
Endrin ketone	ND		21.9	20.5		ug/Kg	✱	94	53 - 139
gamma-BHC (Lindane)	ND	*	21.9	19.5		ug/Kg	✱	89	47 - 127
gamma-Chlordane	ND		21.9	21.7		ug/Kg	✱	99	52 - 137
Heptachlor	ND	*	21.9	19.5		ug/Kg	✱	89	43 - 141

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185251

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Heptachlor epoxide	ND		21.9	19.3		ug/Kg	☼	88	47 - 143		
Methoxychlor	ND		21.9	21.1		ug/Kg	☼	96	56 - 137		
Surrogate	MS %Recovery	MS Qualifier	Limits								
DCB Decachlorobiphenyl	68		60 - 128								
Tetrachloro-m-xylene	63		35 - 129								

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185333

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185251

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
4,4'-DDD	ND		22.0	19.6		ug/Kg	☼	89	48 - 136	7	18
4,4'-DDE	ND		22.0	19.8		ug/Kg	☼	90	50 - 138	7	17
4,4'-DDT	ND		22.0	19.2		ug/Kg	☼	87	53 - 132	8	20
Aldrin	ND		22.0	17.0		ug/Kg	☼	77	59 - 127	8	19
alpha-BHC	ND	*	22.0	15.9		ug/Kg	☼	72	48 - 132	10	17
alpha-Chlordane	ND		22.0	19.5		ug/Kg	☼	88	52 - 137	6	17
beta-BHC	ND		22.0	18.2		ug/Kg	☼	82	45 - 122	5	18
delta-BHC	ND		22.0	15.0		ug/Kg	☼	68	27 - 124	5	19
Dieldrin	ND		22.0	19.6		ug/Kg	☼	89	53 - 145	7	18
Endosulfan I	ND		22.0	19.3		ug/Kg	☼	88	57 - 140	7	19
Endosulfan II	ND		22.0	19.6		ug/Kg	☼	89	58 - 144	7	19
Endosulfan sulfate	ND		22.0	18.5		ug/Kg	☼	84	55 - 125	7	18
Endrin	ND		22.0	20.2		ug/Kg	☼	92	51 - 143	7	18
Endrin aldehyde	ND		22.0	18.7		ug/Kg	☼	85	45 - 130	17	21
Endrin ketone	ND		22.0	19.2		ug/Kg	☼	87	53 - 139	7	17
gamma-BHC (Lindane)	ND	*	22.0	17.7		ug/Kg	☼	80	47 - 127	10	17
gamma-Chlordane	ND		22.0	20.4		ug/Kg	☼	92	52 - 137	6	17
Heptachlor	ND	*	22.0	17.7		ug/Kg	☼	80	43 - 141	10	18
Heptachlor epoxide	ND		22.0	17.6		ug/Kg	☼	80	47 - 143	9	17
Methoxychlor	ND		22.0	19.9		ug/Kg	☼	90	56 - 137	6	17
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
DCB Decachlorobiphenyl	67		60 - 128								
Tetrachloro-m-xylene	57		35 - 129								

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184930/1-A

Matrix: Solid

Analysis Batch: 184937

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		03/21/15 15:24	03/23/15 09:44	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		03/21/15 15:24	03/23/15 09:44	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-184930/1-A
Matrix: Solid
Analysis Batch: 184937

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184930

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150	03/21/15 15:24	03/23/15 09:44	1

Lab Sample ID: LCS 580-184930/2-A
Matrix: Solid
Analysis Batch: 184937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	428		mg/Kg		85	70 - 125
Motor Oil (>C24-C36)	502	433		mg/Kg		86	64 - 127
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
o-Terphenyl	85		50 - 150				

Lab Sample ID: LCSD 580-184930/3-A
Matrix: Solid
Analysis Batch: 184937

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184930

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	500	492		mg/Kg		98	70 - 125	14	16
Motor Oil (>C24-C36)	502	503		mg/Kg		100	64 - 127	15	17
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
o-Terphenyl	95		50 - 150						

Lab Sample ID: 580-48243-1 MS
Matrix: Solid
Analysis Batch: 184937

Client Sample ID: B4-1-9
Prep Type: Total/NA
Prep Batch: 184930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	ND		549	422		mg/Kg	☼	77	70 - 125
Motor Oil (>C24-C36)	ND		551	439		mg/Kg	☼	80	64 - 127
Surrogate	MS %Recovery	MS Qualifier	Limits						
o-Terphenyl	73		50 - 150						

Lab Sample ID: 580-48243-1 MSD
Matrix: Solid
Analysis Batch: 184937

Client Sample ID: B4-1-9
Prep Type: Total/NA
Prep Batch: 184930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	ND		564	402		mg/Kg	☼	71	70 - 125	5	16
Motor Oil (>C24-C36)	ND		566	409		mg/Kg	☼	72	64 - 127	7	17
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
o-Terphenyl	69		50 - 150								

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-185818/18-A

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185818

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Arsenic	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Beryllium	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Cadmium	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Chromium	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Copper	ND		0.40		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Lead	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Nickel	ND		0.50		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Selenium	ND		1.0		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Silver	ND		0.20		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Thallium	ND		0.40		mg/Kg		04/01/15 14:56	04/02/15 10:33	10
Zinc	ND		5.0		mg/Kg		04/01/15 14:56	04/02/15 10:33	10

Lab Sample ID: LCS 580-185818/19-A

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	150	160		mg/Kg		107	80 - 120
Arsenic	200	206		mg/Kg		103	80 - 120
Beryllium	5.00	5.22		mg/Kg		104	80 - 120
Cadmium	5.00	5.66		mg/Kg		113	80 - 120
Chromium	20.0	19.5		mg/Kg		97	80 - 120
Copper	25.0	26.0		mg/Kg		104	80 - 120
Lead	50.0	52.7		mg/Kg		105	80 - 120
Nickel	50.0	49.4		mg/Kg		99	80 - 120
Selenium	200	212		mg/Kg		106	80 - 120
Silver	30.0	35.0		mg/Kg		117	80 - 120
Thallium	200	208		mg/Kg		104	80 - 120
Zinc	200	204		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 580-185818/20-A

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	150	160		mg/Kg		107	80 - 120	0	20
Arsenic	200	206		mg/Kg		103	80 - 120	0	20
Beryllium	5.00	5.14		mg/Kg		103	80 - 120	2	20
Cadmium	5.00	5.64		mg/Kg		113	80 - 120	0	20
Chromium	20.0	19.8		mg/Kg		99	80 - 120	1	20
Copper	25.0	26.4		mg/Kg		106	80 - 120	2	20
Lead	50.0	52.9		mg/Kg		106	80 - 120	0	20
Nickel	50.0	50.0		mg/Kg		100	80 - 120	1	20
Selenium	200	210		mg/Kg		105	80 - 120	1	20
Silver	30.0	35.2		mg/Kg		117	80 - 120	1	20
Thallium	200	211		mg/Kg		105	80 - 120	1	20
Zinc	200	206		mg/Kg		103	80 - 120	1	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		136	139		mg/Kg	☼	102	80 - 120
Arsenic	2.7		181	193		mg/Kg	☼	105	80 - 120
Beryllium	ND		4.52	5.07		mg/Kg	☼	108	80 - 120
Cadmium	ND		4.52	5.07		mg/Kg	☼	109	80 - 120
Chromium	29	F1	18.1	55.9	F1	mg/Kg	☼	147	80 - 120
Copper	13	F1	22.6	41.3	F1	mg/Kg	☼	126	80 - 120
Lead	2.1		45.2	53.3		mg/Kg	☼	113	80 - 120
Nickel	44		45.2	95.6		mg/Kg	☼	114	80 - 120
Selenium	ND		181	191		mg/Kg	☼	106	80 - 120
Silver	ND		27.1	30.9		mg/Kg	☼	114	80 - 120
Thallium	ND		181	191		mg/Kg	☼	106	80 - 120
Zinc	30		181	220		mg/Kg	☼	105	80 - 120

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		131	128		mg/Kg	☼	97	80 - 120	8	20
Arsenic	2.7		175	177		mg/Kg	☼	100	80 - 120	8	20
Beryllium	ND		4.37	4.82		mg/Kg	☼	107	80 - 120	5	20
Cadmium	ND		4.37	4.63		mg/Kg	☼	102	80 - 120	9	20
Chromium	29	F1	17.5	57.8	F1	mg/Kg	☼	163	80 - 120	3	20
Copper	13	F1	21.8	38.3		mg/Kg	☼	117	80 - 120	7	20
Lead	2.1		43.7	48.7		mg/Kg	☼	107	80 - 120	9	20
Nickel	44		43.7	91.7		mg/Kg	☼	108	80 - 120	4	20
Selenium	ND		175	175		mg/Kg	☼	100	80 - 120	9	20
Silver	ND		26.2	28.8		mg/Kg	☼	110	80 - 120	7	20
Thallium	ND		175	172		mg/Kg	☼	99	80 - 120	10	20
Zinc	30		175	203		mg/Kg	☼	100	80 - 120	8	20

Lab Sample ID: 580-48243-1 DU

Matrix: Solid

Analysis Batch: 185935

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185818

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	ND		ND		mg/Kg	☼	NC	20
Arsenic	2.7		2.15	F3	mg/Kg	☼	21	20
Beryllium	ND		ND		mg/Kg	☼	NC	20
Cadmium	ND		ND		mg/Kg	☼	NC	20
Chromium	29	F1	22.7	F3	mg/Kg	☼	26	20
Copper	13	F1	9.97	F3	mg/Kg	☼	25	20
Lead	2.1		1.73	F3	mg/Kg	☼	21	20
Nickel	44		35.1	F3	mg/Kg	☼	23	20
Selenium	ND		ND		mg/Kg	☼	NC	20
Silver	ND		ND		mg/Kg	☼	NC	20
Thallium	ND		ND		mg/Kg	☼	NC	20
Zinc	30		23.2	F3	mg/Kg	☼	24	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-185652/22-A

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185652

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		03/31/15 11:29	03/31/15 13:24	1

Lab Sample ID: LCS 580-185652/23-A

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.165		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 580-185652/24-A

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.167	0.161		mg/Kg		97	80 - 120	2	20

Lab Sample ID: 580-48243-1 MS

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.029	F2	0.126	0.158		mg/Kg	✱	102	80 - 120

Lab Sample ID: 580-48243-1 MSD

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.029	F2	0.169	0.201	F2	mg/Kg	✱	102	80 - 120	24	20

Lab Sample ID: 580-48243-1 DU

Matrix: Solid

Analysis Batch: 185680

Client Sample ID: B4-1-9

Prep Type: Total/NA

Prep Batch: 185652

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	0.029	F2	0.0299		mg/Kg	✱	4	20

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Client Sample ID: B4-1-9

Date Collected: 03/18/15 15:50

Date Received: 03/19/15 08:05

Lab Sample ID: 580-48243-1

Matrix: Solid

Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			185198	03/19/15 12:50	SOC	TAL SEA
Total/NA	Analysis	8260C		1	185172	03/25/15 17:13	CJ	TAL SEA
Total/NA	Prep	3550B			185250	03/26/15 08:08	EKK	TAL SEA
Total/NA	Analysis	8270D		1	185404	03/27/15 18:48	AHP	TAL SEA
Total/NA	Prep	5035			185005	03/23/15 15:00	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	185007	03/23/15 18:53	IWH	TAL SEA
Total/NA	Prep	3550B			185251	03/26/15 08:15	EKK	TAL SEA
Total/NA	Analysis	8081B		1	185333	03/27/15 05:17	EKK	TAL SEA
Total/NA	Prep	3546			184930	03/21/15 15:25	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	184937	03/23/15 11:14	EKK	TAL SEA
Total/NA	Prep	3050B			185818	04/01/15 14:56	PAB	TAL SEA
Total/NA	Analysis	6020A		10	185935	04/02/15 10:50	FCW	TAL SEA
Total/NA	Prep	7471A			185652	03/31/15 11:29	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185680	03/31/15 13:32	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	185050	03/24/15 08:09	ERZ	TAL SEA

Client Sample ID: TB-031815-01

Date Collected: 03/18/15 00:01

Date Received: 03/19/15 08:05

Lab Sample ID: 580-48243-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			185198	03/19/15 12:50	SOC	TAL SEA
Total/NA	Analysis	8260C		1	185172	03/25/15 13:46	CJ	TAL SEA
Total/NA	Prep	5035			185005	03/23/15 14:58	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	185007	03/23/15 17:19	IWH	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550B	Solid	1,2,4-Trichlorobenzene
8270D	3550B	Solid	bis(chloroisopropyl) ether
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Sample Summary

Client: ERM-West
Project/Site: K2 Facility, Vashon, WA

TestAmerica Job ID: 580-48243-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48243-1	B4-1-9	Solid	03/18/15 15:50	03/19/15 08:05
580-48243-2	TB-031815-01	Solid	03/18/15 00:01	03/19/15 08:05

Client ERM Client Contact Mike Arnold Date 3/18/15 Chain of Custody Number 27473

Address 1218 3rd Ave Ste. 1412 Telephone Number (Area Code)/Fax Number 425 462 8591 Lab Number Page 1 of 1

City Seattle State WA Zip Code 98101 Sampler M. Horine Lab Contact David Park

Project Name and Location (State) K2 Facility, Vashon, WA Billing Contact David Park

Contract/Purchase Order/Quote No. 266125

Sample ID and Location/Description (Containers for each sample may be combined on one line)

B4-1-9 Date 3/18/15 Time 1550 Matrix Air Containers & Preservatives TPH-6-x

TR-031815-01 Date 3/18/15 Time 1200 Matrix Aqueous Containers & Preservatives TPH-0/HO

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48243-1

Login Number: 48243

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

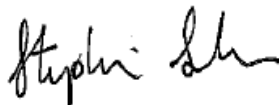
TestAmerica Job ID: 580-48257-1

Client Project/Site: K2 Site Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:
4/6/2015 10:36:40 AM

Stephanie Sanders, Project Manager I
(303)736-0196
stephanie.sanders@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Job ID: 580-48257-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/20/2015 4:46 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.2° C and 5.7° C.

Except:

2 containers for the following sample were received broken: MW1-1-032015 (580-48257-1). The samples froze in the cooler. 4 vials remained intact.

Received 2 extra 125 ml HCl ambers for this sample. MW3-1-032015 (580-48257-3).

GC/MS VOA

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 185075 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 185075 recovered above the upper control limit for trans-1,3-Dichloropropene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-185075/2).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 185075 recovered outside acceptance criteria, low biased, for 1,2,3-Trichlorobenzene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 185375 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS/LCSD associated with prep batch 184969: 4-Chloroaniline, Bis(2-ethylhexyl)phthalate, Benzoic acid and N-Nitrosodiphenylamine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Affected samples: (580-48257-1), (580-48257-2), (580-48257-3), (LCS 580-184969/2-A), (LCSD 580-184969/3-A), MW1-1-032015 (580-48257-1), MW1-1-032015RB (580-48257-2), MW3-1-032015 (580-48257-3)

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 184969 recovered outside control limits for the following analytes: Bis(2-ethylhexyl)phthalate, Hexachlorocyclopentadiene, 4-Chloroaniline and Hexachlorobutadiene.

Method(s) 8270D: Surrogate recovery for the following sample(s) was outside control limits: (580-48257-1), MW1-1-032015 (580-48257-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Case Narrative

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Job ID: 580-48257-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
*	RPD of the LCS and LCSD exceeds the control limits
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015

Lab Sample ID: 580-48257-1

Date Collected: 03/20/15 11:50

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 18:28	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/24/15 18:28	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 18:28	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/24/15 18:28	1
1,1-Dichloroethane	ND		0.20		ug/L			03/24/15 18:28	1
1,1-Dichloroethene	ND		0.10		ug/L			03/24/15 18:28	1
1,1-Dichloropropene	ND		0.10		ug/L			03/24/15 18:28	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/24/15 18:28	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/24/15 18:28	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/24/15 18:28	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/24/15 18:28	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/24/15 18:28	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/24/15 18:28	1
1,2-Dichloroethane	ND		0.20		ug/L			03/24/15 18:28	1
1,2-Dichloropropane	ND		0.20		ug/L			03/24/15 18:28	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/24/15 18:28	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/24/15 18:28	1
1,3-Dichloropropane	ND		0.20		ug/L			03/24/15 18:28	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/24/15 18:28	1
2,2-Dichloropropane	ND		0.50		ug/L			03/24/15 18:28	1
2-Chlorotoluene	ND		0.50		ug/L			03/24/15 18:28	1
4-Chlorotoluene	ND		0.30		ug/L			03/24/15 18:28	1
4-Isopropyltoluene	ND		0.30		ug/L			03/24/15 18:28	1
Benzene	ND		0.20		ug/L			03/24/15 18:28	1
Bromobenzene	ND		0.20		ug/L			03/24/15 18:28	1
Bromoform	ND		0.50		ug/L			03/24/15 18:28	1
Bromomethane	ND		1.0		ug/L			03/24/15 18:28	1
Carbon tetrachloride	ND		0.20		ug/L			03/24/15 18:28	1
Chlorobenzene	ND		0.20		ug/L			03/24/15 18:28	1
Chlorobromomethane	ND		0.20		ug/L			03/24/15 18:28	1
Chlorodibromomethane	ND		0.20		ug/L			03/24/15 18:28	1
Chloroethane	ND		0.50		ug/L			03/24/15 18:28	1
Chloroform	ND		0.20		ug/L			03/24/15 18:28	1
Chloromethane	ND		0.30		ug/L			03/24/15 18:28	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 18:28	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/24/15 18:28	1
Dibromomethane	ND		0.20		ug/L			03/24/15 18:28	1
Dichlorobromomethane	ND		0.20		ug/L			03/24/15 18:28	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/24/15 18:28	1
Ethylbenzene	ND		0.20		ug/L			03/24/15 18:28	1
Ethylene Dibromide	ND		0.10		ug/L			03/24/15 18:28	1
Hexachlorobutadiene	ND		0.50		ug/L			03/24/15 18:28	1
Isopropylbenzene	ND		0.50		ug/L			03/24/15 18:28	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/24/15 18:28	1
Methylene Chloride	ND		0.50		ug/L			03/24/15 18:28	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/24/15 18:28	1
Naphthalene	ND		0.50		ug/L			03/24/15 18:28	1
n-Butylbenzene	ND		0.50		ug/L			03/24/15 18:28	1
N-Propylbenzene	ND		0.20		ug/L			03/24/15 18:28	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015

Lab Sample ID: 580-48257-1

Date Collected: 03/20/15 11:50

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/24/15 18:28	1
sec-Butylbenzene	ND		0.50		ug/L			03/24/15 18:28	1
Styrene	ND		0.50		ug/L			03/24/15 18:28	1
tert-Butylbenzene	ND		0.50		ug/L			03/24/15 18:28	1
Tetrachloroethene	ND		0.50		ug/L			03/24/15 18:28	1
Toluene	ND		0.20		ug/L			03/24/15 18:28	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 18:28	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/24/15 18:28	1
Trichloroethene	1.5		0.20		ug/L			03/24/15 18:28	1
Trichlorofluoromethane	ND		0.50		ug/L			03/24/15 18:28	1
Vinyl chloride	ND		0.020		ug/L			03/24/15 18:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 128		03/24/15 18:28	1
4-Bromofluorobenzene (Surr)	99		75 - 120		03/24/15 18:28	1
Dibromofluoromethane (Surr)	102		85 - 115		03/24/15 18:28	1
Toluene-d8 (Surr)	99		75 - 125		03/24/15 18:28	1
Trifluorotoluene (Surr)	109		80 - 127		03/24/15 18:28	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
2-Methylnaphthalene	ND		0.013		ug/L		03/23/15 10:38	03/27/15 21:26	1
Acenaphthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Acenaphthylene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Benzo[a]anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Benzo[a]pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Benzo[b]fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Benzo[g,h,i]perylene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Benzo[k]fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Chrysene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Dibenz(a,h)anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Fluorene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Indeno[1,2,3-cd]pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Naphthalene	0.012		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Phenanthrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1
Pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		64 - 150	03/23/15 10:38	03/27/15 21:26	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
1,2-Dichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
1,3-Dichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
1,4-Dichlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
1-Methylnaphthalene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015

Lab Sample ID: 580-48257-1

Date Collected: 03/20/15 11:50

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2,4,6-Trichlorophenol	ND		0.62		ug/L		03/23/15 10:38	03/27/15 21:04	1
2,4-Dichlorophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2,4-Dimethylphenol	ND		2.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
2,4-Dinitrophenol	ND		5.2		ug/L		03/23/15 10:38	03/27/15 21:04	1
2,4-Dinitrotoluene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2,6-Dinitrotoluene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2-Chloronaphthalene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
2-Chlorophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2-Methylnaphthalene	ND		0.21		ug/L		03/23/15 10:38	03/27/15 21:04	1
2-Methylphenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2-Nitroaniline	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
2-Nitrophenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
3 & 4 Methylphenol	ND		0.82		ug/L		03/23/15 10:38	03/27/15 21:04	1
3,3'-Dichlorobenzidine	ND		2.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
3-Nitroaniline	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
4,6-Dinitro-2-methylphenol	ND		4.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
4-Bromophenyl phenyl ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
4-Chloro-3-methylphenol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
4-Chloroaniline	ND *		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
4-Nitroaniline	ND		0.62		ug/L		03/23/15 10:38	03/27/15 21:04	1
4-Nitrophenol	ND		3.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
Acenaphthene	ND		0.10		ug/L		03/23/15 10:38	03/27/15 21:04	1
Acenaphthylene	ND		0.082		ug/L		03/23/15 10:38	03/27/15 21:04	1
Anthracene	ND		0.041		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzo[a]anthracene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzo[a]pyrene	ND		0.041		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzo[b]fluoranthene	ND		0.082		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzo[g,h,i]perylene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzo[k]fluoranthene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzoic acid	ND *		3.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
Benzyl alcohol	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Bis(2-chloroethoxy)methane	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Bis(2-chloroethyl)ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Bis(2-ethylhexyl) phthalate	ND *		3.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
bis(chloroisopropyl) ether	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Butyl benzyl phthalate	ND		0.62		ug/L		03/23/15 10:38	03/27/15 21:04	1
Carbazole	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Chrysene	ND		0.041		ug/L		03/23/15 10:38	03/27/15 21:04	1
Dibenz(a,h)anthracene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
Dibenzofuran	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Diethyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Dimethyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Di-n-butyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Di-n-octyl phthalate	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Fluoranthene	ND		0.052		ug/L		03/23/15 10:38	03/27/15 21:04	1
Fluorene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
Hexachlorobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015

Lab Sample ID: 580-48257-1

Date Collected: 03/20/15 11:50

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND	*	0.62		ug/L		03/23/15 10:38	03/27/15 21:04	1
Hexachlorocyclopentadiene	ND	*	2.1		ug/L		03/23/15 10:38	03/27/15 21:04	1
Hexachloroethane	ND		0.62		ug/L		03/23/15 10:38	03/27/15 21:04	1
Indeno[1,2,3-cd]pyrene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1
Isophorone	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Naphthalene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Nitrobenzene	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
N-Nitrosodi-n-propylamine	ND		0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
N-Nitrosodiphenylamine	ND	*	0.41		ug/L		03/23/15 10:38	03/27/15 21:04	1
Pentachlorophenol	ND		0.72		ug/L		03/23/15 10:38	03/27/15 21:04	1
Phenanthrene	ND		0.082		ug/L		03/23/15 10:38	03/27/15 21:04	1
Phenol	ND		0.62		ug/L		03/23/15 10:38	03/27/15 21:04	1
Pyrene	ND		0.062		ug/L		03/23/15 10:38	03/27/15 21:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	70		44 - 125	03/23/15 10:38	03/27/15 21:04	1
2-Fluorobiphenyl	51		50 - 120	03/23/15 10:38	03/27/15 21:04	1
2-Fluorophenol (Surr)	42		30 - 134	03/23/15 10:38	03/27/15 21:04	1
Nitrobenzene-d5 (Surr)	57	X	59 - 120	03/23/15 10:38	03/27/15 21:04	1
Phenol-d5 (Surr)	48	X	52 - 120	03/23/15 10:38	03/27/15 21:04	1
Terphenyl-d14 (Surr)	80		64 - 150	03/23/15 10:38	03/27/15 21:04	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/25/15 21:52	03/26/15 21:00	1
Motor Oil (>C24-C36)	ND		0.26		mg/L		03/25/15 21:52	03/26/15 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	57		50 - 150	03/25/15 21:52	03/26/15 21:00	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:23	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:23	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:23	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:23	5
Chromium	0.0029		0.0020		mg/L		04/02/15 16:33	04/03/15 13:23	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 13:23	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:23	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 13:23	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:23	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:23	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:23	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 13:23	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:43	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015RB

Lab Sample ID: 580-48257-2

Date Collected: 03/20/15 12:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 18:55	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/24/15 18:55	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 18:55	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/24/15 18:55	1
1,1-Dichloroethane	ND		0.20		ug/L			03/24/15 18:55	1
1,1-Dichloroethene	ND		0.10		ug/L			03/24/15 18:55	1
1,1-Dichloropropene	ND		0.10		ug/L			03/24/15 18:55	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/24/15 18:55	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/24/15 18:55	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/24/15 18:55	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/24/15 18:55	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/24/15 18:55	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/24/15 18:55	1
1,2-Dichloroethane	ND		0.20		ug/L			03/24/15 18:55	1
1,2-Dichloropropane	ND		0.20		ug/L			03/24/15 18:55	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/24/15 18:55	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/24/15 18:55	1
1,3-Dichloropropane	ND		0.20		ug/L			03/24/15 18:55	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/24/15 18:55	1
2,2-Dichloropropane	ND		0.50		ug/L			03/24/15 18:55	1
2-Chlorotoluene	ND		0.50		ug/L			03/24/15 18:55	1
4-Chlorotoluene	ND		0.30		ug/L			03/24/15 18:55	1
4-Isopropyltoluene	ND		0.30		ug/L			03/24/15 18:55	1
Benzene	ND		0.20		ug/L			03/24/15 18:55	1
Bromobenzene	ND		0.20		ug/L			03/24/15 18:55	1
Bromoform	ND		0.50		ug/L			03/24/15 18:55	1
Bromomethane	ND		1.0		ug/L			03/24/15 18:55	1
Carbon tetrachloride	ND		0.20		ug/L			03/24/15 18:55	1
Chlorobenzene	ND		0.20		ug/L			03/24/15 18:55	1
Chlorobromomethane	ND		0.20		ug/L			03/24/15 18:55	1
Chlorodibromomethane	ND		0.20		ug/L			03/24/15 18:55	1
Chloroethane	ND		0.50		ug/L			03/24/15 18:55	1
Chloroform	ND		0.20		ug/L			03/24/15 18:55	1
Chloromethane	ND		0.30		ug/L			03/24/15 18:55	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 18:55	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/24/15 18:55	1
Dibromomethane	ND		0.20		ug/L			03/24/15 18:55	1
Dichlorobromomethane	ND		0.20		ug/L			03/24/15 18:55	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/24/15 18:55	1
Ethylbenzene	ND		0.20		ug/L			03/24/15 18:55	1
Ethylene Dibromide	ND		0.10		ug/L			03/24/15 18:55	1
Hexachlorobutadiene	ND		0.50		ug/L			03/24/15 18:55	1
Isopropylbenzene	ND		0.50		ug/L			03/24/15 18:55	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/24/15 18:55	1
Methylene Chloride	ND		0.50		ug/L			03/24/15 18:55	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/24/15 18:55	1
Naphthalene	ND		0.50		ug/L			03/24/15 18:55	1
n-Butylbenzene	ND		0.50		ug/L			03/24/15 18:55	1
N-Propylbenzene	ND		0.20		ug/L			03/24/15 18:55	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015RB

Lab Sample ID: 580-48257-2

Date Collected: 03/20/15 12:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/24/15 18:55	1
sec-Butylbenzene	ND		0.50		ug/L			03/24/15 18:55	1
Styrene	ND		0.50		ug/L			03/24/15 18:55	1
tert-Butylbenzene	ND		0.50		ug/L			03/24/15 18:55	1
Tetrachloroethene	ND		0.50		ug/L			03/24/15 18:55	1
Toluene	ND		0.20		ug/L			03/24/15 18:55	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 18:55	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/24/15 18:55	1
Trichloroethene	ND		0.20		ug/L			03/24/15 18:55	1
Trichlorofluoromethane	ND		0.50		ug/L			03/24/15 18:55	1
Vinyl chloride	ND		0.020		ug/L			03/24/15 18:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 128		03/24/15 18:55	1
4-Bromofluorobenzene (Surr)	100		75 - 120		03/24/15 18:55	1
Dibromofluoromethane (Surr)	104		85 - 115		03/24/15 18:55	1
Toluene-d8 (Surr)	99		75 - 125		03/24/15 18:55	1
Trifluorotoluene (Surr)	108		80 - 127		03/24/15 18:55	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
2-Methylnaphthalene	ND		0.014		ug/L		03/23/15 10:38	03/27/15 21:48	1
Acenaphthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Acenaphthylene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Benzo[a]anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Benzo[a]pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Benzo[b]fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Benzo[g,h,i]perylene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Benzo[k]fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Chrysene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Dibenz(a,h)anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Fluorene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Indeno[1,2,3-cd]pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Naphthalene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Phenanthrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1
Pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		64 - 150	03/23/15 10:38	03/27/15 21:48	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
1,2-Dichlorobenzene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
1,3-Dichlorobenzene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
1,4-Dichlorobenzene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
1-Methylnaphthalene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015RB

Lab Sample ID: 580-48257-2

Date Collected: 03/20/15 12:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2,4,6-Trichlorophenol	ND		0.63		ug/L		03/23/15 10:38	03/27/15 21:29	1
2,4-Dichlorophenol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2,4-Dimethylphenol	ND		2.1		ug/L		03/23/15 10:38	03/27/15 21:29	1
2,4-Dinitrophenol	ND		5.2		ug/L		03/23/15 10:38	03/27/15 21:29	1
2,4-Dinitrotoluene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2,6-Dinitrotoluene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2-Chloronaphthalene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
2-Chlorophenol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2-Methylnaphthalene	ND		0.21		ug/L		03/23/15 10:38	03/27/15 21:29	1
2-Methylphenol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2-Nitroaniline	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
2-Nitrophenol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
3 & 4 Methylphenol	ND		0.84		ug/L		03/23/15 10:38	03/27/15 21:29	1
3,3'-Dichlorobenzidine	ND		2.1		ug/L		03/23/15 10:38	03/27/15 21:29	1
3-Nitroaniline	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
4,6-Dinitro-2-methylphenol	ND		4.2		ug/L		03/23/15 10:38	03/27/15 21:29	1
4-Bromophenyl phenyl ether	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
4-Chloro-3-methylphenol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
4-Chloroaniline	ND *		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
4-Chlorophenyl phenyl ether	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
4-Nitroaniline	ND		0.63		ug/L		03/23/15 10:38	03/27/15 21:29	1
4-Nitrophenol	ND		3.1		ug/L		03/23/15 10:38	03/27/15 21:29	1
Acenaphthene	ND		0.10		ug/L		03/23/15 10:38	03/27/15 21:29	1
Acenaphthylene	ND		0.084		ug/L		03/23/15 10:38	03/27/15 21:29	1
Anthracene	ND		0.042		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzo[a]anthracene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzo[a]pyrene	ND		0.042		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzo[b]fluoranthene	ND		0.084		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzo[g,h,i]perylene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzo[k]fluoranthene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzoic acid	ND *		3.1		ug/L		03/23/15 10:38	03/27/15 21:29	1
Benzyl alcohol	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Bis(2-chloroethoxy)methane	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Bis(2-chloroethyl)ether	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Bis(2-ethylhexyl) phthalate	ND *		3.1		ug/L		03/23/15 10:38	03/27/15 21:29	1
bis(chloroisopropyl) ether	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Butyl benzyl phthalate	ND		0.63		ug/L		03/23/15 10:38	03/27/15 21:29	1
Carbazole	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Chrysene	ND		0.042		ug/L		03/23/15 10:38	03/27/15 21:29	1
Dibenz(a,h)anthracene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
Dibenzofuran	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Diethyl phthalate	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Dimethyl phthalate	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Di-n-butyl phthalate	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Di-n-octyl phthalate	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Fluoranthene	ND		0.052		ug/L		03/23/15 10:38	03/27/15 21:29	1
Fluorene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
Hexachlorobenzene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015RB

Lab Sample ID: 580-48257-2

Date Collected: 03/20/15 12:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND	*	0.63		ug/L		03/23/15 10:38	03/27/15 21:29	1
Hexachlorocyclopentadiene	ND	*	2.1		ug/L		03/23/15 10:38	03/27/15 21:29	1
Hexachloroethane	ND		0.63		ug/L		03/23/15 10:38	03/27/15 21:29	1
Indeno[1,2,3-cd]pyrene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1
Isophorone	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Naphthalene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Nitrobenzene	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
N-Nitrosodi-n-propylamine	ND		0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
N-Nitrosodiphenylamine	ND	*	0.42		ug/L		03/23/15 10:38	03/27/15 21:29	1
Pentachlorophenol	ND		0.73		ug/L		03/23/15 10:38	03/27/15 21:29	1
Phenanthrene	ND		0.084		ug/L		03/23/15 10:38	03/27/15 21:29	1
Phenol	ND		0.63		ug/L		03/23/15 10:38	03/27/15 21:29	1
Pyrene	ND		0.063		ug/L		03/23/15 10:38	03/27/15 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	64		44 - 125	03/23/15 10:38	03/27/15 21:29	1
2-Fluorobiphenyl	60		50 - 120	03/23/15 10:38	03/27/15 21:29	1
2-Fluorophenol (Surr)	58		30 - 134	03/23/15 10:38	03/27/15 21:29	1
Nitrobenzene-d5 (Surr)	70		59 - 120	03/23/15 10:38	03/27/15 21:29	1
Phenol-d5 (Surr)	63		52 - 120	03/23/15 10:38	03/27/15 21:29	1
Terphenyl-d14 (Surr)	84		64 - 150	03/23/15 10:38	03/27/15 21:29	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
4,4'-DDE	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
4,4'-DDT	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
Aldrin	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
alpha-BHC	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
alpha-Chlordane	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
beta-BHC	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
delta-BHC	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
Dieldrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
Endosulfan I	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
Endosulfan II	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
Endosulfan sulfate	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
Endrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
Endrin aldehyde	ND		0.050		ug/L		03/26/15 15:03	03/31/15 11:48	1
Endrin ketone	ND		0.020		ug/L		03/26/15 15:03	03/31/15 11:48	1
gamma-BHC (Lindane)	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
gamma-Chlordane	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
Heptachlor	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
Heptachlor epoxide	ND		0.0099		ug/L		03/26/15 15:03	03/31/15 11:48	1
Methoxychlor	ND		0.099		ug/L		03/26/15 15:03	03/31/15 11:48	1
Toxaphene	ND		0.99		ug/L		03/26/15 15:03	03/31/15 11:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		33 - 133	03/26/15 15:03	03/31/15 11:48	1
Tetrachloro-m-xylene	73		45 - 123	03/26/15 15:03	03/31/15 11:48	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015RB

Lab Sample ID: 580-48257-2

Date Collected: 03/20/15 12:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/25/15 21:52	03/26/15 21:18	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/25/15 21:52	03/26/15 21:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	67		50 - 150				03/25/15 21:52	03/26/15 21:18	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:27	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:27	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:27	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:27	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:27	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 13:27	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:27	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 13:27	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:27	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:27	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:27	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 13:27	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:46	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW3-1-032015

Lab Sample ID: 580-48257-3

Date Collected: 03/20/15 14:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 19:21	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/24/15 19:21	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 19:21	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/24/15 19:21	1
1,1-Dichloroethane	ND		0.20		ug/L			03/24/15 19:21	1
1,1-Dichloroethene	ND		0.10		ug/L			03/24/15 19:21	1
1,1-Dichloropropene	ND		0.10		ug/L			03/24/15 19:21	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/24/15 19:21	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/24/15 19:21	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/24/15 19:21	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/24/15 19:21	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/24/15 19:21	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/24/15 19:21	1
1,2-Dichloroethane	ND		0.20		ug/L			03/24/15 19:21	1
1,2-Dichloropropane	ND		0.20		ug/L			03/24/15 19:21	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/24/15 19:21	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/24/15 19:21	1
1,3-Dichloropropane	ND		0.20		ug/L			03/24/15 19:21	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/24/15 19:21	1
2,2-Dichloropropane	ND		0.50		ug/L			03/24/15 19:21	1
2-Chlorotoluene	ND		0.50		ug/L			03/24/15 19:21	1
4-Chlorotoluene	ND		0.30		ug/L			03/24/15 19:21	1
4-Isopropyltoluene	ND		0.30		ug/L			03/24/15 19:21	1
Benzene	ND		0.20		ug/L			03/24/15 19:21	1
Bromobenzene	ND		0.20		ug/L			03/24/15 19:21	1
Bromoform	ND		0.50		ug/L			03/24/15 19:21	1
Bromomethane	ND		1.0		ug/L			03/24/15 19:21	1
Carbon tetrachloride	ND		0.20		ug/L			03/24/15 19:21	1
Chlorobenzene	ND		0.20		ug/L			03/24/15 19:21	1
Chlorobromomethane	ND		0.20		ug/L			03/24/15 19:21	1
Chlorodibromomethane	ND		0.20		ug/L			03/24/15 19:21	1
Chloroethane	ND		0.50		ug/L			03/24/15 19:21	1
Chloroform	ND		0.20		ug/L			03/24/15 19:21	1
Chloromethane	ND		0.30		ug/L			03/24/15 19:21	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 19:21	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/24/15 19:21	1
Dibromomethane	ND		0.20		ug/L			03/24/15 19:21	1
Dichlorobromomethane	ND		0.20		ug/L			03/24/15 19:21	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/24/15 19:21	1
Ethylbenzene	ND		0.20		ug/L			03/24/15 19:21	1
Ethylene Dibromide	ND		0.10		ug/L			03/24/15 19:21	1
Hexachlorobutadiene	ND		0.50		ug/L			03/24/15 19:21	1
Isopropylbenzene	ND		0.50		ug/L			03/24/15 19:21	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/24/15 19:21	1
Methylene Chloride	ND		0.50		ug/L			03/24/15 19:21	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/24/15 19:21	1
Naphthalene	ND		0.50		ug/L			03/24/15 19:21	1
n-Butylbenzene	ND		0.50		ug/L			03/24/15 19:21	1
N-Propylbenzene	ND		0.20		ug/L			03/24/15 19:21	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW3-1-032015

Lab Sample ID: 580-48257-3

Date Collected: 03/20/15 14:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/24/15 19:21	1
sec-Butylbenzene	ND		0.50		ug/L			03/24/15 19:21	1
Styrene	ND		0.50		ug/L			03/24/15 19:21	1
tert-Butylbenzene	ND		0.50		ug/L			03/24/15 19:21	1
Tetrachloroethene	ND		0.50		ug/L			03/24/15 19:21	1
Toluene	ND		0.20		ug/L			03/24/15 19:21	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 19:21	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/24/15 19:21	1
Trichloroethene	ND		0.20		ug/L			03/24/15 19:21	1
Trichlorofluoromethane	ND		0.50		ug/L			03/24/15 19:21	1
Vinyl chloride	ND		0.020		ug/L			03/24/15 19:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 128		03/24/15 19:21	1
4-Bromofluorobenzene (Surr)	99		75 - 120		03/24/15 19:21	1
Dibromofluoromethane (Surr)	101		85 - 115		03/24/15 19:21	1
Toluene-d8 (Surr)	101		75 - 125		03/24/15 19:21	1
Trifluorotoluene (Surr)	111		80 - 127		03/24/15 19:21	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
2-Methylnaphthalene	ND		0.012		ug/L		03/23/15 10:38	03/27/15 22:09	1
Acenaphthene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Acenaphthylene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Anthracene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Benzo[a]anthracene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Benzo[a]pyrene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Benzo[b]fluoranthene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Benzo[g,h,i]perylene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Benzo[k]fluoranthene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Chrysene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Dibenz(a,h)anthracene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Fluoranthene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Fluorene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Indeno[1,2,3-cd]pyrene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Naphthalene	0.010		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Phenanthrene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1
Pyrene	ND		0.0095		ug/L		03/23/15 10:38	03/27/15 22:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		64 - 150	03/23/15 10:38	03/27/15 22:09	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
1,2-Dichlorobenzene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
1,3-Dichlorobenzene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
1,4-Dichlorobenzene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
1-Methylnaphthalene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW3-1-032015

Lab Sample ID: 580-48257-3

Date Collected: 03/20/15 14:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2,4,6-Trichlorophenol	ND		0.57		ug/L		03/23/15 10:38	03/27/15 21:55	1
2,4-Dichlorophenol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2,4-Dimethylphenol	ND		1.9		ug/L		03/23/15 10:38	03/27/15 21:55	1
2,4-Dinitrophenol	ND		4.7		ug/L		03/23/15 10:38	03/27/15 21:55	1
2,4-Dinitrotoluene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2,6-Dinitrotoluene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2-Chloronaphthalene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
2-Chlorophenol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2-Methylnaphthalene	ND		0.19		ug/L		03/23/15 10:38	03/27/15 21:55	1
2-Methylphenol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2-Nitroaniline	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
2-Nitrophenol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
3 & 4 Methylphenol	ND		0.76		ug/L		03/23/15 10:38	03/27/15 21:55	1
3,3'-Dichlorobenzidine	ND		1.9		ug/L		03/23/15 10:38	03/27/15 21:55	1
3-Nitroaniline	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
4,6-Dinitro-2-methylphenol	ND		3.8		ug/L		03/23/15 10:38	03/27/15 21:55	1
4-Bromophenyl phenyl ether	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
4-Chloro-3-methylphenol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
4-Chloroaniline	ND *		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
4-Chlorophenyl phenyl ether	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
4-Nitroaniline	ND		0.57		ug/L		03/23/15 10:38	03/27/15 21:55	1
4-Nitrophenol	ND		2.8		ug/L		03/23/15 10:38	03/27/15 21:55	1
Acenaphthene	ND		0.095		ug/L		03/23/15 10:38	03/27/15 21:55	1
Acenaphthylene	ND		0.076		ug/L		03/23/15 10:38	03/27/15 21:55	1
Anthracene	ND		0.038		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzo[a]anthracene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzo[a]pyrene	ND		0.038		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzo[b]fluoranthene	ND		0.076		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzo[g,h,i]perylene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzo[k]fluoranthene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzoic acid	ND *		2.8		ug/L		03/23/15 10:38	03/27/15 21:55	1
Benzyl alcohol	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Bis(2-chloroethoxy)methane	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Bis(2-chloroethyl)ether	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Bis(2-ethylhexyl) phthalate	ND *		2.8		ug/L		03/23/15 10:38	03/27/15 21:55	1
bis(chloroisopropyl) ether	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Butyl benzyl phthalate	ND		0.57		ug/L		03/23/15 10:38	03/27/15 21:55	1
Carbazole	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Chrysene	ND		0.038		ug/L		03/23/15 10:38	03/27/15 21:55	1
Dibenz(a,h)anthracene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
Dibenzofuran	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Diethyl phthalate	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Dimethyl phthalate	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Di-n-butyl phthalate	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Di-n-octyl phthalate	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Fluoranthene	ND		0.047		ug/L		03/23/15 10:38	03/27/15 21:55	1
Fluorene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
Hexachlorobenzene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW3-1-032015

Lab Sample ID: 580-48257-3

Date Collected: 03/20/15 14:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND	*	0.57		ug/L		03/23/15 10:38	03/27/15 21:55	1
Hexachlorocyclopentadiene	ND	*	1.9		ug/L		03/23/15 10:38	03/27/15 21:55	1
Hexachloroethane	ND		0.57		ug/L		03/23/15 10:38	03/27/15 21:55	1
Indeno[1,2,3-cd]pyrene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1
Isophorone	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Naphthalene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Nitrobenzene	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
N-Nitrosodi-n-propylamine	ND		0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
N-Nitrosodiphenylamine	ND	*	0.38		ug/L		03/23/15 10:38	03/27/15 21:55	1
Pentachlorophenol	ND		0.66		ug/L		03/23/15 10:38	03/27/15 21:55	1
Phenanthrene	ND		0.076		ug/L		03/23/15 10:38	03/27/15 21:55	1
Phenol	ND		0.57		ug/L		03/23/15 10:38	03/27/15 21:55	1
Pyrene	ND		0.057		ug/L		03/23/15 10:38	03/27/15 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	92		44 - 125	03/23/15 10:38	03/27/15 21:55	1
2-Fluorobiphenyl	63		50 - 120	03/23/15 10:38	03/27/15 21:55	1
2-Fluorophenol (Surr)	59		30 - 134	03/23/15 10:38	03/27/15 21:55	1
Nitrobenzene-d5 (Surr)	71		59 - 120	03/23/15 10:38	03/27/15 21:55	1
Phenol-d5 (Surr)	66		52 - 120	03/23/15 10:38	03/27/15 21:55	1
Terphenyl-d14 (Surr)	97		64 - 150	03/23/15 10:38	03/27/15 21:55	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/25/15 21:52	03/26/15 21:36	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/25/15 21:52	03/26/15 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150	03/25/15 21:52	03/26/15 21:36	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:31	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:31	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:31	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:31	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:31	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 13:31	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:31	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 13:31	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:31	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:31	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:31	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 13:31	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:48	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: TB-032015-01

Lab Sample ID: 580-48257-4

Date Collected: 03/20/15 00:01

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 14:58	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/24/15 14:58	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 14:58	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/24/15 14:58	1
1,1-Dichloroethane	ND		0.20		ug/L			03/24/15 14:58	1
1,1-Dichloroethene	ND		0.10		ug/L			03/24/15 14:58	1
1,1-Dichloropropene	ND		0.10		ug/L			03/24/15 14:58	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/24/15 14:58	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/24/15 14:58	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/24/15 14:58	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/24/15 14:58	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/24/15 14:58	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/24/15 14:58	1
1,2-Dichloroethane	ND		0.20		ug/L			03/24/15 14:58	1
1,2-Dichloropropane	ND		0.20		ug/L			03/24/15 14:58	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/24/15 14:58	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/24/15 14:58	1
1,3-Dichloropropane	ND		0.20		ug/L			03/24/15 14:58	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/24/15 14:58	1
2,2-Dichloropropane	ND		0.50		ug/L			03/24/15 14:58	1
2-Chlorotoluene	ND		0.50		ug/L			03/24/15 14:58	1
4-Chlorotoluene	ND		0.30		ug/L			03/24/15 14:58	1
4-Isopropyltoluene	ND		0.30		ug/L			03/24/15 14:58	1
Benzene	ND		0.20		ug/L			03/24/15 14:58	1
Bromobenzene	ND		0.20		ug/L			03/24/15 14:58	1
Bromoform	ND		0.50		ug/L			03/24/15 14:58	1
Bromomethane	ND		1.0		ug/L			03/24/15 14:58	1
Carbon tetrachloride	ND		0.20		ug/L			03/24/15 14:58	1
Chlorobenzene	ND		0.20		ug/L			03/24/15 14:58	1
Chlorobromomethane	ND		0.20		ug/L			03/24/15 14:58	1
Chlorodibromomethane	ND		0.20		ug/L			03/24/15 14:58	1
Chloroethane	ND		0.50		ug/L			03/24/15 14:58	1
Chloroform	ND		0.20		ug/L			03/24/15 14:58	1
Chloromethane	ND		0.30		ug/L			03/24/15 14:58	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 14:58	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/24/15 14:58	1
Dibromomethane	ND		0.20		ug/L			03/24/15 14:58	1
Dichlorobromomethane	ND		0.20		ug/L			03/24/15 14:58	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/24/15 14:58	1
Ethylbenzene	ND		0.20		ug/L			03/24/15 14:58	1
Ethylene Dibromide	ND		0.10		ug/L			03/24/15 14:58	1
Hexachlorobutadiene	ND		0.50		ug/L			03/24/15 14:58	1
Isopropylbenzene	ND		0.50		ug/L			03/24/15 14:58	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/24/15 14:58	1
Methylene Chloride	ND		0.50		ug/L			03/24/15 14:58	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/24/15 14:58	1
Naphthalene	ND		0.50		ug/L			03/24/15 14:58	1
n-Butylbenzene	ND		0.50		ug/L			03/24/15 14:58	1
N-Propylbenzene	ND		0.20		ug/L			03/24/15 14:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: TB-032015-01

Lab Sample ID: 580-48257-4

Date Collected: 03/20/15 00:01

Matrix: Water

Date Received: 03/20/15 16:46

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/24/15 14:58	1
sec-Butylbenzene	ND		0.50		ug/L			03/24/15 14:58	1
Styrene	ND		0.50		ug/L			03/24/15 14:58	1
tert-Butylbenzene	ND		0.50		ug/L			03/24/15 14:58	1
Tetrachloroethene	ND		0.50		ug/L			03/24/15 14:58	1
Toluene	ND		0.20		ug/L			03/24/15 14:58	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 14:58	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/24/15 14:58	1
Trichloroethene	ND		0.20		ug/L			03/24/15 14:58	1
Trichlorofluoromethane	ND		0.50		ug/L			03/24/15 14:58	1
Vinyl chloride	ND		0.020		ug/L			03/24/15 14:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 128		03/24/15 14:58	1
4-Bromofluorobenzene (Surr)	104		75 - 120		03/24/15 14:58	1
Dibromofluoromethane (Surr)	105		85 - 115		03/24/15 14:58	1
Toluene-d8 (Surr)	101		75 - 125		03/24/15 14:58	1
Trifluorotoluene (Surr)	106		80 - 127		03/24/15 14:58	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-185075/5

Matrix: Water

Analysis Batch: 185075

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 12:22	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/24/15 12:22	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/24/15 12:22	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/24/15 12:22	1
1,1-Dichloroethane	ND		0.20		ug/L			03/24/15 12:22	1
1,1-Dichloroethene	ND		0.10		ug/L			03/24/15 12:22	1
1,1-Dichloropropene	ND		0.10		ug/L			03/24/15 12:22	1
1,2,3-Trichlorobenzene	ND	^	0.50		ug/L			03/24/15 12:22	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/24/15 12:22	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			03/24/15 12:22	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/24/15 12:22	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/24/15 12:22	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/24/15 12:22	1
1,2-Dichloroethane	ND		0.20		ug/L			03/24/15 12:22	1
1,2-Dichloropropane	ND		0.20		ug/L			03/24/15 12:22	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/24/15 12:22	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/24/15 12:22	1
1,3-Dichloropropane	ND		0.20		ug/L			03/24/15 12:22	1
1,4-Dichlorobenzene	ND		0.30		ug/L			03/24/15 12:22	1
2,2-Dichloropropane	ND		0.50		ug/L			03/24/15 12:22	1
2-Chlorotoluene	ND		0.50		ug/L			03/24/15 12:22	1
4-Chlorotoluene	ND		0.30		ug/L			03/24/15 12:22	1
4-Isopropyltoluene	ND		0.30		ug/L			03/24/15 12:22	1
Benzene	ND		0.20		ug/L			03/24/15 12:22	1
Bromobenzene	ND		0.20		ug/L			03/24/15 12:22	1
Bromoform	ND		0.50		ug/L			03/24/15 12:22	1
Bromomethane	ND		1.0		ug/L			03/24/15 12:22	1
Carbon tetrachloride	ND		0.20		ug/L			03/24/15 12:22	1
Chlorobenzene	ND		0.20		ug/L			03/24/15 12:22	1
Chlorobromomethane	ND		0.20		ug/L			03/24/15 12:22	1
Chlorodibromomethane	ND		0.20		ug/L			03/24/15 12:22	1
Chloroethane	ND		0.50		ug/L			03/24/15 12:22	1
Chloroform	ND		0.20		ug/L			03/24/15 12:22	1
Chloromethane	ND		0.30		ug/L			03/24/15 12:22	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 12:22	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/24/15 12:22	1
Dibromomethane	ND		0.20		ug/L			03/24/15 12:22	1
Dichlorobromomethane	ND		0.20		ug/L			03/24/15 12:22	1
Dichlorodifluoromethane	ND		0.40		ug/L			03/24/15 12:22	1
Ethylbenzene	ND		0.20		ug/L			03/24/15 12:22	1
Ethylene Dibromide	ND		0.10		ug/L			03/24/15 12:22	1
Hexachlorobutadiene	ND		0.50		ug/L			03/24/15 12:22	1
Isopropylbenzene	ND		0.50		ug/L			03/24/15 12:22	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/24/15 12:22	1
Methylene Chloride	ND		0.50		ug/L			03/24/15 12:22	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/24/15 12:22	1
Naphthalene	ND		0.50		ug/L			03/24/15 12:22	1
n-Butylbenzene	ND		0.50		ug/L			03/24/15 12:22	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185075/5

Matrix: Water

Analysis Batch: 185075

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/24/15 12:22	1
o-Xylene	ND		0.50		ug/L			03/24/15 12:22	1
sec-Butylbenzene	ND		0.50		ug/L			03/24/15 12:22	1
Styrene	ND		0.50		ug/L			03/24/15 12:22	1
tert-Butylbenzene	ND		0.50		ug/L			03/24/15 12:22	1
Tetrachloroethene	ND		0.50		ug/L			03/24/15 12:22	1
Toluene	ND		0.20		ug/L			03/24/15 12:22	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/24/15 12:22	1
trans-1,3-Dichloropropene	ND	^	0.20		ug/L			03/24/15 12:22	1
Trichloroethene	ND		0.20		ug/L			03/24/15 12:22	1
Trichlorofluoromethane	ND		0.50		ug/L			03/24/15 12:22	1
Vinyl chloride	ND		0.020		ug/L			03/24/15 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 128		03/24/15 12:22	1
4-Bromofluorobenzene (Surr)	103		75 - 120		03/24/15 12:22	1
Dibromofluoromethane (Surr)	106		85 - 115		03/24/15 12:22	1
Toluene-d8 (Surr)	99		75 - 125		03/24/15 12:22	1
Trifluorotoluene (Surr)	109		80 - 127		03/24/15 12:22	1

Lab Sample ID: LCS 580-185075/6

Matrix: Water

Analysis Batch: 185075

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.37		ug/L		107	75 - 125
1,1,1-Trichloroethane	5.00	5.67		ug/L		113	80 - 140
1,1,2,2-Tetrachloroethane	5.00	4.79		ug/L		96	75 - 125
1,1,2-Trichloroethane	5.00	4.99		ug/L		100	80 - 130
1,1-Dichloroethane	5.00	5.46		ug/L		109	75 - 135
1,1-Dichloroethene	5.00	5.05		ug/L		101	70 - 150
1,1-Dichloropropene	5.00	6.20		ug/L		124	80 - 130
1,2,3-Trichlorobenzene	5.00	3.64	^	ug/L		73	60 - 125
1,2,3-Trichloropropane	5.00	5.48		ug/L		110	75 - 120
1,2,4-Trichlorobenzene	5.00	4.19		ug/L		84	60 - 125
1,2,4-Trimethylbenzene	5.00	5.49		ug/L		110	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	4.89		ug/L		98	55 - 120
1,2-Dichlorobenzene	5.00	4.83		ug/L		97	80 - 130
1,2-Dichloroethane	5.00	5.40		ug/L		108	80 - 140
1,2-Dichloropropane	5.00	5.36		ug/L		107	80 - 120
1,3,5-Trimethylbenzene	5.00	5.71		ug/L		114	80 - 125
1,3-Dichlorobenzene	5.00	4.91		ug/L		98	80 - 120
1,3-Dichloropropane	5.00	4.96		ug/L		99	80 - 130
1,4-Dichlorobenzene	5.00	4.81		ug/L		96	80 - 120
2,2-Dichloropropane	5.00	5.73		ug/L		115	60 - 150
2-Chlorotoluene	5.00	5.46		ug/L		109	75 - 130
4-Chlorotoluene	5.00	5.38		ug/L		108	75 - 130
4-Isopropyltoluene	5.00	5.02		ug/L		100	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185075/6

Matrix: Water

Analysis Batch: 185075

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.27		ug/L		105	80 - 120
Bromobenzene	5.00	5.30		ug/L		106	80 - 130
Bromoform	5.00	4.83		ug/L		97	65 - 130
Bromomethane	5.00	6.41		ug/L		128	70 - 135
Carbon tetrachloride	5.00	6.07		ug/L		121	75 - 140
Chlorobenzene	5.00	4.89		ug/L		98	80 - 120
Chlorobromomethane	5.00	5.46		ug/L		109	80 - 125
Chlorodibromomethane	5.00	5.63		ug/L		113	70 - 120
Chloroethane	5.00	6.01		ug/L		120	75 - 140
Chloroform	5.00	5.24		ug/L		105	80 - 130
Chloromethane	5.00	5.46		ug/L		109	50 - 140
cis-1,2-Dichloroethene	5.00	5.19		ug/L		104	80 - 130
cis-1,3-Dichloropropene	5.00	5.90		ug/L		118	70 - 120
Dibromomethane	5.00	5.55		ug/L		111	80 - 130
Dichlorobromomethane	5.00	5.65		ug/L		113	80 - 125
Dichlorodifluoromethane	5.00	5.33		ug/L		107	30 - 180
Ethylbenzene	5.00	5.16		ug/L		103	80 - 125
Ethylene Dibromide	5.00	5.24		ug/L		105	70 - 130
Hexachlorobutadiene	5.00	4.36		ug/L		87	75 - 135
Isopropylbenzene	5.00	5.67		ug/L		113	75 - 120
Methyl tert-butyl ether	5.00	5.84		ug/L		117	75 - 120
Methylene Chloride	5.00	5.47		ug/L		109	60 - 145
m-Xylene & p-Xylene	5.00	5.37		ug/L		107	80 - 130
Naphthalene	5.00	4.27		ug/L		85	45 - 130
n-Butylbenzene	5.00	5.21		ug/L		104	75 - 125
N-Propylbenzene	5.00	5.56		ug/L		111	80 - 120
o-Xylene	5.00	5.43		ug/L		109	80 - 120
sec-Butylbenzene	5.00	5.64		ug/L		113	80 - 125
Styrene	5.00	5.47		ug/L		109	75 - 130
tert-Butylbenzene	5.00	5.78		ug/L		116	80 - 130
Tetrachloroethene	5.00	5.92		ug/L		118	40 - 180
Toluene	5.00	5.11		ug/L		102	80 - 120
trans-1,2-Dichloroethene	5.00	5.38		ug/L		108	80 - 140
trans-1,3-Dichloropropene	5.00	6.46	^	ug/L		129	60 - 140
Trichloroethene	5.00	5.63		ug/L		113	80 - 130
Trichlorofluoromethane	5.00	5.33		ug/L		107	30 - 180
Vinyl chloride	5.00	6.14		ug/L		123	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 128
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	103		85 - 115
Toluene-d8 (Surr)	98		75 - 125
Trifluorotoluene (Surr)	106		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185075/7

Matrix: Water

Analysis Batch: 185075

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.44		ug/L		109	75 - 125	1	20
1,1,1-Trichloroethane	5.00	5.80		ug/L		116	80 - 140	2	20
1,1,2,2-Tetrachloroethane	5.00	4.80		ug/L		96	75 - 125	0	20
1,1,2-Trichloroethane	5.00	4.79		ug/L		96	80 - 130	4	20
1,1-Dichloroethane	5.00	5.44		ug/L		109	75 - 135	0	20
1,1-Dichloroethene	5.00	4.83		ug/L		97	70 - 150	4	20
1,1-Dichloropropene	5.00	6.17		ug/L		123	80 - 130	0	20
1,2,3-Trichlorobenzene	5.00	3.45	^	ug/L		69	60 - 125	6	20
1,2,3-Trichloropropane	5.00	5.19		ug/L		104	75 - 120	5	20
1,2,4-Trichlorobenzene	5.00	4.03		ug/L		81	60 - 125	4	20
1,2,4-Trimethylbenzene	5.00	5.38		ug/L		108	80 - 125	2	20
1,2-Dibromo-3-Chloropropane	5.00	4.79		ug/L		96	55 - 120	2	20
1,2-Dichlorobenzene	5.00	4.78		ug/L		96	80 - 130	1	20
1,2-Dichloroethane	5.00	5.10		ug/L		102	80 - 140	6	20
1,2-Dichloropropane	5.00	5.18		ug/L		104	80 - 120	3	20
1,3,5-Trimethylbenzene	5.00	5.60		ug/L		112	80 - 125	2	20
1,3-Dichlorobenzene	5.00	4.91		ug/L		98	80 - 120	0	20
1,3-Dichloropropane	5.00	4.71		ug/L		94	80 - 130	5	20
1,4-Dichlorobenzene	5.00	4.78		ug/L		96	80 - 120	1	20
2,2-Dichloropropane	5.00	6.21		ug/L		124	60 - 150	8	20
2-Chlorotoluene	5.00	5.38		ug/L		108	75 - 130	1	20
4-Chlorotoluene	5.00	5.27		ug/L		105	75 - 130	2	20
4-Isopropyltoluene	5.00	4.88		ug/L		98	80 - 120	3	20
Benzene	5.00	5.30		ug/L		106	80 - 120	1	20
Bromobenzene	5.00	5.13		ug/L		103	80 - 130	3	20
Bromoform	5.00	4.89		ug/L		98	65 - 130	1	20
Bromomethane	5.00	6.44		ug/L		129	70 - 135	0	20
Carbon tetrachloride	5.00	6.02		ug/L		120	75 - 140	1	20
Chlorobenzene	5.00	4.82		ug/L		96	80 - 120	1	20
Chlorobromomethane	5.00	5.56		ug/L		111	80 - 125	2	20
Chlorodibromomethane	5.00	5.45		ug/L		109	70 - 120	3	20
Chloroethane	5.00	5.75		ug/L		115	75 - 140	4	20
Chloroform	5.00	5.37		ug/L		107	80 - 130	3	20
Chloromethane	5.00	5.43		ug/L		109	50 - 140	0	20
cis-1,2-Dichloroethene	5.00	5.44		ug/L		109	80 - 130	5	20
cis-1,3-Dichloropropene	5.00	5.61		ug/L		112	70 - 120	5	20
Dibromomethane	5.00	5.23		ug/L		105	80 - 130	6	20
Dichlorobromomethane	5.00	5.48		ug/L		110	80 - 125	3	20
Dichlorodifluoromethane	5.00	5.18		ug/L		104	30 - 180	3	20
Ethylbenzene	5.00	5.22		ug/L		104	80 - 125	1	20
Ethylene Dibromide	5.00	4.92		ug/L		98	70 - 130	6	20
Hexachlorobutadiene	5.00	4.26		ug/L		85	75 - 135	2	20
Isopropylbenzene	5.00	5.77		ug/L		115	75 - 120	2	20
Methyl tert-butyl ether	5.00	6.00		ug/L		120	75 - 120	3	20
Methylene Chloride	5.00	5.64		ug/L		113	60 - 145	3	20
m-Xylene & p-Xylene	5.00	5.43		ug/L		109	80 - 130	1	20
Naphthalene	5.00	4.10		ug/L		82	45 - 130	4	20
n-Butylbenzene	5.00	4.98		ug/L		100	75 - 125	5	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185075/7

Matrix: Water

Analysis Batch: 185075

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.36		ug/L		107	80 - 120	4	20
o-Xylene	5.00	5.52		ug/L		110	80 - 120	2	20
sec-Butylbenzene	5.00	5.46		ug/L		109	80 - 125	3	20
Styrene	5.00	5.48		ug/L		110	75 - 130	0	20
tert-Butylbenzene	5.00	5.59		ug/L		112	80 - 130	3	20
Tetrachloroethene	5.00	6.22		ug/L		124	40 - 180	5	20
Toluene	5.00	5.12		ug/L		102	80 - 120	0	20
trans-1,2-Dichloroethene	5.00	5.52		ug/L		110	80 - 140	3	20
trans-1,3-Dichloropropene	5.00	5.95	^	ug/L		119	60 - 140	8	20
Trichloroethene	5.00	5.58		ug/L		112	80 - 130	1	20
Trichlorofluoromethane	5.00	6.01		ug/L		120	30 - 180	12	20
Vinyl chloride	5.00	6.21		ug/L		124	65 - 140	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 128
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	106		85 - 115
Toluene-d8 (Surr)	99		75 - 125
Trifluorotoluene (Surr)	108		80 - 127

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1,2-Dichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1,3-Dichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1,4-Dichlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
1-Methylnaphthalene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dichlorophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dinitrophenol	ND		5.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,4-Dinitrotoluene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2,6-Dinitrotoluene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Chloronaphthalene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Chlorophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Methylnaphthalene	ND		0.20		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Methylphenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Nitroaniline	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
2-Nitrophenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
3 & 4 Methylphenol	ND		0.80		ug/L		03/23/15 10:38	03/27/15 14:44	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
3-Nitroaniline	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		4.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Chloroaniline	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Nitroaniline	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
4-Nitrophenol	ND		3.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
Acenaphthene	ND		0.10		ug/L		03/23/15 10:38	03/27/15 14:44	1
Acenaphthylene	ND		0.080		ug/L		03/23/15 10:38	03/27/15 14:44	1
Anthracene	ND		0.040		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[a]anthracene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[a]pyrene	ND		0.040		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[b]fluoranthene	ND		0.080		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzo[k]fluoranthene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzoic acid	ND		3.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
Benzyl alcohol	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Bis(2-ethylhexyl) phthalate	ND		3.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Butyl benzyl phthalate	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Carbazole	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Chrysene	ND		0.040		ug/L		03/23/15 10:38	03/27/15 14:44	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Dibenzofuran	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Diethyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Dimethyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Di-n-butyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Di-n-octyl phthalate	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Fluoranthene	ND		0.050		ug/L		03/23/15 10:38	03/27/15 14:44	1
Fluorene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachlorobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachlorobutadiene	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		03/23/15 10:38	03/27/15 14:44	1
Hexachloroethane	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1
Isophorone	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Naphthalene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Nitrobenzene	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		03/23/15 10:38	03/27/15 14:44	1
Pentachlorophenol	ND		0.70		ug/L		03/23/15 10:38	03/27/15 14:44	1
Phenanthrene	ND		0.080		ug/L		03/23/15 10:38	03/27/15 14:44	1
Phenol	ND		0.60		ug/L		03/23/15 10:38	03/27/15 14:44	1
Pyrene	ND		0.060		ug/L		03/23/15 10:38	03/27/15 14:44	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	68		44 - 125	03/23/15 10:38	03/27/15 14:44	1
2-Fluorobiphenyl	73		50 - 120	03/23/15 10:38	03/27/15 14:44	1
2-Fluorophenol (Surr)	61		30 - 134	03/23/15 10:38	03/27/15 14:44	1
Nitrobenzene-d5 (Surr)	81		59 - 120	03/23/15 10:38	03/27/15 14:44	1
Phenol-d5 (Surr)	69		52 - 120	03/23/15 10:38	03/27/15 14:44	1
Terphenyl-d14 (Surr)	92		64 - 150	03/23/15 10:38	03/27/15 14:44	1

Lab Sample ID: LCS 580-184969/2-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.27		ug/L		64	40 - 125
1,2-Dichlorobenzene	2.00	1.31		ug/L		65	44 - 125
1,3-Dichlorobenzene	2.00	1.20		ug/L		60	40 - 125
1,4-Dichlorobenzene	2.00	1.25		ug/L		62	40 - 125
1-Methylnaphthalene	2.00	1.48		ug/L		74	54 - 125
2,4,5-Trichlorophenol	2.00	1.63		ug/L		82	66 - 130
2,4,6-Trichlorophenol	2.00	1.62		ug/L		81	55 - 140
2,4-Dichlorophenol	2.00	1.56		ug/L		78	50 - 140
2,4-Dimethylphenol	2.00	1.23	J	ug/L		61	30 - 135
2,4-Dinitrophenol	4.00	ND		ug/L		25	24 - 146
2,4-Dinitrotoluene	2.00	1.60		ug/L		80	73 - 126
2,6-Dinitrotoluene	2.00	1.62		ug/L		81	67 - 134
2-Chloronaphthalene	2.00	1.48		ug/L		74	55 - 125
2-Chlorophenol	2.00	1.61		ug/L		80	57 - 125
2-Methylnaphthalene	2.00	1.41		ug/L		70	56 - 125
2-Methylphenol	2.00	1.53		ug/L		77	60 - 130
2-Nitroaniline	2.00	1.74		ug/L		87	52 - 140
2-Nitrophenol	2.00	1.52		ug/L		76	55 - 140
3 & 4 Methylphenol	2.00	1.59		ug/L		80	60 - 130
3,3'-Dichlorobenzidine	4.00	1.84	J	ug/L		46	20 - 175
3-Nitroaniline	2.00	1.34		ug/L		67	22 - 124
4,6-Dinitro-2-methylphenol	4.00	2.23	J	ug/L		56	50 - 136
4-Bromophenyl phenyl ether	2.00	1.57		ug/L		79	62 - 132
4-Chloro-3-methylphenol	2.00	1.69		ug/L		84	65 - 145
4-Chloroaniline	2.00	0.337	J *	ug/L		17	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.44		ug/L		72	59 - 125
4-Nitroaniline	2.00	1.31		ug/L		66	49 - 125
4-Nitrophenol	4.00	3.08		ug/L		77	35 - 153
Acenaphthene	2.00	1.57		ug/L		79	63 - 125
Acenaphthylene	2.00	1.54		ug/L		77	62 - 125
Anthracene	2.00	1.47		ug/L		73	50 - 125
Benzo[a]anthracene	2.00	1.71		ug/L		85	65 - 125
Benzo[a]pyrene	2.00	1.52		ug/L		76	45 - 125
Benzo[b]fluoranthene	2.00	1.80		ug/L		90	70 - 129
Benzo[g,h,i]perylene	2.00	1.79		ug/L		90	65 - 153
Benzo[k]fluoranthene	2.00	1.83		ug/L		92	70 - 123

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-184969/2-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	4.00	ND	*	ug/L		10	20 - 144
Benzyl alcohol	2.00	1.79		ug/L		89	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.43		ug/L		72	59 - 125
Bis(2-chloroethyl)ether	2.00	1.37		ug/L		69	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	4.29	*	ug/L		214	70 - 185
bis(chloroisopropyl) ether	2.00	1.45		ug/L		72	44 - 130
Butyl benzyl phthalate	2.00	2.11		ug/L		106	60 - 167
Carbazole	2.00	1.77		ug/L		89	75 - 142
Chrysene	2.00	1.69		ug/L		84	70 - 125
Dibenz(a,h)anthracene	2.00	1.75		ug/L		87	69 - 154
Dibenzofuran	2.00	1.53		ug/L		76	60 - 125
Diethyl phthalate	2.00	1.78		ug/L		89	60 - 150
Dimethyl phthalate	2.00	1.71		ug/L		85	65 - 155
Di-n-butyl phthalate	2.00	2.06		ug/L		103	55 - 167
Di-n-octyl phthalate	2.00	2.01		ug/L		100	55 - 150
Fluoranthene	2.00	1.75		ug/L		88	70 - 145
Fluorene	2.00	1.59		ug/L		79	69 - 125
Hexachlorobenzene	2.00	1.60		ug/L		80	61 - 125
Hexachlorobutadiene	2.00	1.05		ug/L		53	25 - 125
Hexachlorocyclopentadiene	2.00	0.426	J	ug/L		21	20 - 125
Hexachloroethane	2.00	1.09		ug/L		54	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.82		ug/L		91	70 - 136
Isophorone	2.00	1.78		ug/L		89	64 - 125
Naphthalene	2.00	1.52		ug/L		76	56 - 125
Nitrobenzene	2.00	1.67		ug/L		83	62 - 125
N-Nitrosodi-n-propylamine	2.00	1.52		ug/L		76	60 - 120
N-Nitrosodiphenylamine	2.00	2.74	*	ug/L		137	40 - 135
Pentachlorophenol	4.00	1.38		ug/L		35	20 - 145
Phenanthrene	2.00	1.43		ug/L		72	70 - 125
Phenol	2.00	1.37		ug/L		69	53 - 130
Pyrene	2.00	1.67		ug/L		84	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	76		44 - 125
2-Fluorobiphenyl	67		50 - 120
2-Fluorophenol (Surr)	61		30 - 134
Nitrobenzene-d5 (Surr)	74		59 - 120
Phenol-d5 (Surr)	69		52 - 120
Terphenyl-d14 (Surr)	84		64 - 150

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2,4-Trichlorobenzene	2.00	1.44		ug/L		72	40 - 125	12	20
1,2-Dichlorobenzene	2.00	1.41		ug/L		71	44 - 125	8	20
1,3-Dichlorobenzene	2.00	1.30		ug/L		65	40 - 125	8	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	2.00	1.39		ug/L		70	40 - 125	11	20
1-Methylnaphthalene	2.00	1.66		ug/L		83	54 - 125	11	20
2,4,5-Trichlorophenol	2.00	1.66		ug/L		83	66 - 130	1	20
2,4,6-Trichlorophenol	2.00	1.58		ug/L		79	55 - 140	2	20
2,4-Dichlorophenol	2.00	1.61		ug/L		80	50 - 140	3	20
2,4-Dimethylphenol	2.00	1.06	J	ug/L		53	30 - 135	15	20
2,4-Dinitrophenol	4.00	1.00	J	ug/L		25	24 - 146	1	20
2,4-Dinitrotoluene	2.00	1.65		ug/L		82	73 - 126	3	20
2,6-Dinitrotoluene	2.00	1.69		ug/L		85	67 - 134	4	20
2-Chloronaphthalene	2.00	1.51		ug/L		75	55 - 125	2	20
2-Chlorophenol	2.00	1.59		ug/L		80	57 - 125	1	20
2-Methylnaphthalene	2.00	1.51		ug/L		75	56 - 125	7	20
2-Methylphenol	2.00	1.52		ug/L		76	60 - 130	1	20
2-Nitroaniline	2.00	1.80		ug/L		90	52 - 140	3	20
2-Nitrophenol	2.00	1.57		ug/L		79	55 - 140	3	20
3 & 4 Methylphenol	2.00	1.56		ug/L		78	60 - 130	2	20
3,3'-Dichlorobenzidine	4.00	2.16		ug/L		54	20 - 175	16	20
3-Nitroaniline	2.00	1.38		ug/L		69	22 - 124	3	20
4,6-Dinitro-2-methylphenol	4.00	2.62	J	ug/L		65	50 - 136	16	20
4-Bromophenyl phenyl ether	2.00	1.73		ug/L		87	62 - 132	10	20
4-Chloro-3-methylphenol	2.00	1.83		ug/L		91	65 - 145	8	20
4-Chloroaniline	2.00	0.454	*	ug/L		23	20 - 150	29	20
4-Chlorophenyl phenyl ether	2.00	1.46		ug/L		73	59 - 125	1	20
4-Nitroaniline	2.00	1.48		ug/L		74	49 - 125	12	20
4-Nitrophenol	4.00	3.02		ug/L		75	35 - 153	2	20
Acenaphthene	2.00	1.65		ug/L		83	63 - 125	5	20
Acenaphthylene	2.00	1.57		ug/L		78	62 - 125	2	20
Anthracene	2.00	1.57		ug/L		78	50 - 125	6	20
Benzo[a]anthracene	2.00	1.90		ug/L		95	65 - 125	11	20
Benzo[a]pyrene	2.00	1.66		ug/L		83	45 - 125	9	20
Benzo[b]fluoranthene	2.00	1.87		ug/L		94	70 - 129	4	20
Benzo[g,h,i]perylene	2.00	1.91		ug/L		95	65 - 153	6	20
Benzo[k]fluoranthene	2.00	2.06		ug/L		103	70 - 123	12	20
Benzoic acid	4.00	ND	*	ug/L		8	20 - 144	17	20
Benzyl alcohol	2.00	1.82		ug/L		91	41 - 144	2	20
Bis(2-chloroethoxy)methane	2.00	1.57		ug/L		79	59 - 125	9	20
Bis(2-chloroethyl)ether	2.00	1.47		ug/L		74	55 - 125	7	20
Bis(2-ethylhexyl) phthalate	2.00	2.52	J *	ug/L		126	70 - 185	52	20
bis(chloroisopropyl) ether	2.00	1.46		ug/L		73	44 - 130	1	20
Butyl benzyl phthalate	2.00	2.46		ug/L		123	60 - 167	15	20
Carbazole	2.00	1.90		ug/L		95	75 - 142	7	20
Chrysene	2.00	1.83		ug/L		91	70 - 125	8	20
Dibenz(a,h)anthracene	2.00	1.83		ug/L		91	69 - 154	5	20
Dibenzofuran	2.00	1.61		ug/L		80	60 - 125	5	20
Diethyl phthalate	2.00	1.85		ug/L		92	60 - 150	4	20
Dimethyl phthalate	2.00	1.81		ug/L		90	65 - 155	6	20
Di-n-butyl phthalate	2.00	2.19		ug/L		110	55 - 167	6	20
Di-n-octyl phthalate	2.00	2.18		ug/L		109	55 - 150	8	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	2.00	1.88		ug/L		94	70 - 145	7	20
Fluorene	2.00	1.62		ug/L		81	69 - 125	2	20
Hexachlorobenzene	2.00	1.74		ug/L		87	61 - 125	8	20
Hexachlorobutadiene	2.00	1.30	*	ug/L		65	25 - 125	21	20
Hexachlorocyclopentadiene	2.00	0.596	J *	ug/L		30	20 - 125	33	20
Hexachloroethane	2.00	1.28		ug/L		64	30 - 125	17	20
Indeno[1,2,3-cd]pyrene	2.00	2.03		ug/L		101	70 - 136	11	20
Isophorone	2.00	1.90		ug/L		95	64 - 125	6	20
Naphthalene	2.00	1.62		ug/L		81	56 - 125	7	20
Nitrobenzene	2.00	1.75		ug/L		87	62 - 125	5	20
N-Nitrosodi-n-propylamine	2.00	1.58		ug/L		79	60 - 120	4	20
N-Nitrosodiphenylamine	2.00	2.99	*	ug/L		149	40 - 135	9	20
Pentachlorophenol	4.00	1.61		ug/L		40	20 - 145	15	20
Phenanthrene	2.00	1.58		ug/L		79	70 - 125	10	20
Phenol	2.00	1.32		ug/L		66	53 - 130	4	20
Pyrene	2.00	1.81		ug/L		91	70 - 133	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	78		44 - 125
2-Fluorobiphenyl	64		50 - 120
2-Fluorophenol (Surr)	54		30 - 134
Nitrobenzene-d5 (Surr)	73		59 - 120
Phenol-d5 (Surr)	65		52 - 120
Terphenyl-d14 (Surr)	84		64 - 150

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185378

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
2-Methylnaphthalene	ND		0.013		ug/L		03/23/15 10:38	03/27/15 13:26	1
Acenaphthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Acenaphthylene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Benzo[a]anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Benzo[a]pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Benzo[b]fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Benzo[g,h,i]perylene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Benzo[k]fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Chrysene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Dibenz[a,h]anthracene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Fluoranthene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Fluorene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Indeno[1,2,3-cd]pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Naphthalene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-184969/1-A

Matrix: Water

Analysis Batch: 185378

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 184969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Pyrene	ND		0.010		ug/L		03/23/15 10:38	03/27/15 13:26	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	89		64 - 150				03/23/15 10:38	03/27/15 13:26	1

Lab Sample ID: LCS 580-184969/2-A

Matrix: Water

Analysis Batch: 185378

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	2.00	1.55		ug/L		78	54 - 125
2-Methylnaphthalene	2.00	1.46		ug/L		73	56 - 125
Acenaphthene	2.00	1.67		ug/L		84	63 - 125
Acenaphthylene	2.00	1.54		ug/L		77	62 - 125
Anthracene	2.00	1.58		ug/L		79	50 - 125
Benzo[a]anthracene	2.00	1.62		ug/L		81	65 - 125
Benzo[a]pyrene	2.00	1.28		ug/L		64	45 - 125
Benzo[b]fluoranthene	2.00	1.54		ug/L		77	70 - 129
Benzo[g,h,i]perylene	2.00	1.56		ug/L		78	65 - 153
Benzo[k]fluoranthene	2.00	1.47		ug/L		73	70 - 123
Chrysene	2.00	1.65		ug/L		83	70 - 125
Dibenz(a,h)anthracene	2.00	1.65		ug/L		82	69 - 154
Fluoranthene	2.00	1.69		ug/L		84	70 - 145
Fluorene	2.00	1.51		ug/L		75	69 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.62		ug/L		81	70 - 136
Naphthalene	2.00	1.57		ug/L		78	56 - 125
Phenanthrene	2.00	1.65		ug/L		82	70 - 125
Pyrene	2.00	1.72		ug/L		86	70 - 133
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Terphenyl-d14	75		64 - 150				

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185378

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	2.00	1.65		ug/L		82	54 - 125	6	20
2-Methylnaphthalene	2.00	1.61		ug/L		81	56 - 125	10	20
Acenaphthene	2.00	1.81		ug/L		90	63 - 125	8	20
Acenaphthylene	2.00	1.60		ug/L		80	62 - 125	4	20
Anthracene	2.00	1.67		ug/L		83	50 - 125	5	20
Benzo[a]anthracene	2.00	1.76		ug/L		88	65 - 125	8	20
Benzo[a]pyrene	2.00	1.41		ug/L		70	45 - 125	10	20
Benzo[b]fluoranthene	2.00	1.65		ug/L		82	70 - 129	7	20
Benzo[g,h,i]perylene	2.00	1.52		ug/L		76	65 - 153	3	20
Benzo[k]fluoranthene	2.00	1.58		ug/L		79	70 - 123	8	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-184969/3-A

Matrix: Water

Analysis Batch: 185378

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 184969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	2.00	1.77		ug/L		88	70 - 125	7	20
Dibenz(a,h)anthracene	2.00	1.61		ug/L		81	69 - 154	2	20
Fluoranthene	2.00	1.81		ug/L		91	70 - 145	7	20
Fluorene	2.00	1.66		ug/L		83	69 - 125	9	20
Indeno[1,2,3-cd]pyrene	2.00	1.65		ug/L		82	70 - 136	2	20
Naphthalene	2.00	1.67		ug/L		83	56 - 125	6	20
Phenanthrene	2.00	1.77		ug/L		88	70 - 125	7	20
Pyrene	2.00	1.83		ug/L		91	70 - 133	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	76		64 - 150

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-185311/1-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
4,4'-DDE	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
4,4'-DDT	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Aldrin	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
alpha-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
alpha-Chlordane	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
beta-BHC	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
delta-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Dieldrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan I	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan II	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan sulfate	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin aldehyde	ND		0.050		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin ketone	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
gamma-BHC (Lindane)	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
gamma-Chlordane	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Heptachlor	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Heptachlor epoxide	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Methoxychlor	ND		0.10		ug/L		03/26/15 15:03	03/31/15 10:39	1
Toxaphene	ND		1.0		ug/L		03/26/15 15:03	03/31/15 10:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	81		33 - 133	03/26/15 15:03	03/31/15 10:39	1
Tetrachloro-m-xylene	65		45 - 123	03/26/15 15:03	03/31/15 10:39	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-185311/2-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.160	0.103		ug/L		65	48 - 147
4,4'-DDE	0.160	0.103		ug/L		64	61 - 131
4,4'-DDT	0.160	0.105		ug/L		65	47 - 143
Aldrin	0.160	0.0942		ug/L		59	56 - 124
alpha-BHC	0.160	0.0899		ug/L		56	41 - 126
alpha-Chlordane	0.160	0.106		ug/L		66	58 - 133
beta-BHC	0.160	0.107		ug/L		67	56 - 114
delta-BHC	0.160	0.0581		ug/L		36	30 - 130
Dieldrin	0.160	0.107		ug/L		67	63 - 140
Endosulfan I	0.160	0.107		ug/L		67	54 - 151
Endosulfan II	0.160	0.110		ug/L		69	53 - 144
Endosulfan sulfate	0.160	0.0999		ug/L		62	45 - 130
Endrin	0.160	0.104		ug/L		65	57 - 137
Endrin aldehyde	0.160	0.129		ug/L		80	52 - 139
Endrin ketone	0.160	0.109		ug/L		68	52 - 150
gamma-BHC (Lindane)	0.160	0.0942		ug/L		59	46 - 127
gamma-Chlordane	0.160	0.108		ug/L		68	61 - 130
Heptachlor	0.160	0.0982		ug/L		61	46 - 138
Heptachlor epoxide	0.160	0.102		ug/L		64	58 - 142
Methoxychlor	0.160	0.111		ug/L		70	51 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	70		33 - 133
Tetrachloro-m-xylene	57		45 - 123

Lab Sample ID: LCSD 580-185311/3-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
4,4'-DDD	0.160	0.101		ug/L		63	48 - 147	2	52
4,4'-DDE	0.160	0.101		ug/L		63	61 - 131	2	50
4,4'-DDT	0.160	0.138		ug/L		86	47 - 143	27	52
Aldrin	0.160	0.0930		ug/L		58	56 - 124	1	52
alpha-BHC	0.160	0.0926		ug/L		58	41 - 126	3	53
alpha-Chlordane	0.160	0.101		ug/L		63	58 - 133	5	52
beta-BHC	0.160	0.0941		ug/L		59	56 - 114	13	50
delta-BHC	0.160	0.0557		ug/L		35	30 - 130	4	56
Dieldrin	0.160	0.104		ug/L		65	63 - 140	2	51
Endosulfan I	0.160	0.102		ug/L		64	54 - 151	4	55
Endosulfan II	0.160	0.107		ug/L		67	53 - 144	3	19
Endosulfan sulfate	0.160	0.0980		ug/L		61	45 - 130	2	52
Endrin	0.160	0.124		ug/L		77	57 - 137	17	52
Endrin aldehyde	0.160	0.125		ug/L		78	52 - 139	2	51
Endrin ketone	0.160	0.107		ug/L		67	52 - 150	1	50
gamma-BHC (Lindane)	0.160	0.0951		ug/L		59	46 - 127	1	50
gamma-Chlordane	0.160	0.108		ug/L		68	61 - 130	0	51
Heptachlor	0.160	0.0974		ug/L		61	46 - 138	1	50

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-185311/3-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	0.160	0.0992		ug/L		62	58 - 142	3	49
Methoxychlor	0.160	0.112		ug/L		70	51 - 147	1	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	72		33 - 133
Tetrachloro-m-xylene	56		45 - 123

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-185238/1-A

Matrix: Water

Analysis Batch: 185242

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185238

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/25/15 21:52	03/26/15 17:22	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/25/15 21:52	03/26/15 17:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	70		50 - 150	03/25/15 21:52	03/26/15 17:22	1

Lab Sample ID: LCS 580-185238/2-A

Matrix: Water

Analysis Batch: 185242

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185238

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	4.00	3.70		mg/L		92	59 - 120
Motor Oil (>C24-C36)	4.02	3.98		mg/L		99	71 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	78		50 - 150

Lab Sample ID: LCSD 580-185238/3-A

Matrix: Water

Analysis Batch: 185242

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185238

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4.00	3.78		mg/L		94	59 - 120	2	27
Motor Oil (>C24-C36)	4.02	4.04		mg/L		101	71 - 140	1	27

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	79		50 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-185930/20-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Arsenic	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Beryllium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Cadmium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Chromium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Copper	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:08	1
Lead	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Nickel	ND		0.0030		mg/L		04/02/15 16:33	04/03/15 12:08	1
Selenium	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Silver	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Thallium	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Zinc	ND		0.0070		mg/L		04/02/15 16:33	04/03/15 12:08	1

Lab Sample ID: LCS 580-185930/21-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	3.09		mg/L		103	80 - 120
Arsenic	4.00	4.03		mg/L		101	80 - 120
Beryllium	0.100	0.0997		mg/L		100	80 - 120
Cadmium	0.100	0.107		mg/L		107	80 - 120
Chromium	0.400	0.401		mg/L		100	80 - 120
Copper	0.500	0.509		mg/L		102	80 - 120
Lead	1.00	1.07		mg/L		107	80 - 120
Nickel	1.00	1.02		mg/L		102	80 - 120
Selenium	4.00	4.06		mg/L		101	80 - 120
Silver	0.600	0.692		mg/L		115	80 - 120
Thallium	4.00	4.23		mg/L		106	80 - 120
Zinc	4.00	4.08		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-185930/22-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.00	3.05		mg/L		102	80 - 120	1	20
Arsenic	4.00	4.05		mg/L		101	80 - 120	0	20
Beryllium	0.100	0.0953		mg/L		95	80 - 120	5	20
Cadmium	0.100	0.108		mg/L		108	80 - 120	2	20
Chromium	0.400	0.401		mg/L		100	80 - 120	0	20
Copper	0.500	0.510		mg/L		102	80 - 120	0	20
Lead	1.00	1.07		mg/L		107	80 - 120	0	20
Nickel	1.00	1.03		mg/L		103	80 - 120	1	20
Selenium	4.00	4.08		mg/L		102	80 - 120	0	20
Silver	0.600	0.676		mg/L		113	80 - 120	2	20
Thallium	4.00	4.17		mg/L		104	80 - 120	1	20
Zinc	4.00	4.11		mg/L		103	80 - 120	1	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-185784/21-A
Matrix: Water
Analysis Batch: 185823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:13	1

Lab Sample ID: LCS 580-185784/22-A
Matrix: Water
Analysis Batch: 185823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185784

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00180		mg/L		90	80 - 120

Lab Sample ID: LCSD 580-185784/23-A
Matrix: Water
Analysis Batch: 185823

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185784

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.00200	0.00179		mg/L		90	80 - 120	1	20

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW1-1-032015

Date Collected: 03/20/15 11:50

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185075	03/24/15 18:28	TL1	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	185375	03/27/15 21:04	AHP	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM		1	185378	03/27/15 21:26	AHP	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/26/15 21:00	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:23	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 14:43	FCW	TAL SEA

Client Sample ID: MW1-1-032015RB

Date Collected: 03/20/15 12:00

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185075	03/24/15 18:55	TL1	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	185375	03/27/15 21:29	AHP	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM		1	185378	03/27/15 21:48	AHP	TAL SEA
Total/NA	Prep	3510C			185311	03/26/15 15:03	RBL	TAL SEA
Total/NA	Analysis	8081B		1	185623	03/31/15 11:48	EKK	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/26/15 21:18	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:27	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 14:46	FCW	TAL SEA

Client Sample ID: MW3-1-032015

Date Collected: 03/20/15 14:00

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185075	03/24/15 19:21	TL1	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	185375	03/27/15 21:55	AHP	TAL SEA
Total/NA	Prep	3520C			184969	03/23/15 10:38	ZMR	TAL SEA
Total/NA	Analysis	8270D SIM		1	185378	03/27/15 22:09	AHP	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/26/15 21:36	EKK	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Client Sample ID: MW3-1-032015

Lab Sample ID: 580-48257-3

Date Collected: 03/20/15 14:00

Matrix: Water

Date Received: 03/20/15 16:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:31	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 14:48	FCW	TAL SEA

Client Sample ID: TB-032015-01

Lab Sample ID: 580-48257-4

Date Collected: 03/20/15 00:01

Matrix: Water

Date Received: 03/20/15 16:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185075	03/24/15 14:58	TL1	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	bis(chloroisopropyl) ether

Sample Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48257-1	MW1-1-032015	Water	03/20/15 11:50	03/20/15 16:46
580-48257-2	MW1-1-032015RB	Water	03/20/15 12:00	03/20/15 16:46
580-48257-3	MW3-1-032015	Water	03/20/15 14:00	03/20/15 16:46
580-48257-4	TB-032015-01	Water	03/20/15 00:01	03/20/15 16:46

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Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48257-1

Login Number: 48257

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle

5755 8th Street East

Tacoma, WA 98424

Tel: (253)922-2310

TestAmerica Job ID: 580-48257-2

Client Project/Site: K2 Site Vashon, WA

For:

ERM-West

1218 3rd Ave

Suite 1412

Seattle, Washington 98101

Attn: Matthew Horine

David Burk

Authorized for release by:

3/24/2015 4:10:53 PM

David Burk, Project Manager I

(253)248-4972

david.burk@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Job ID: 580-48257-2

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/20/2015 4:46 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.2° C and 5.7° C.

Except:

2 containers for the following sample were received broken: MW1-1-032015 (580-48257-1). The samples froze in the cooler. Sufficient sample volume remains for requested analysis.

Received 2 extra 125 ml HCl ambers for this sample. This may be additional volume for MS/MSD but is not indicated on the chain of custody. PMA will follow up with client.

MW3-1-032015 (580-48257-3)

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Client Sample ID: MW1-1-032015

Lab Sample ID: 580-48257-1

Date Collected: 03/20/15 11:50

Matrix: Water

Date Received: 03/20/15 16:46

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/23/15 22:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/23/15 22:27	1
Trifluorotoluene (Surr)	107		50 - 150					03/23/15 22:27	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Client Sample ID: MW1-1-032015RB

Lab Sample ID: 580-48257-2

Date Collected: 03/20/15 12:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/23/15 23:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150					03/23/15 23:00	1
Trifluorotoluene (Surr)	108		50 - 150					03/23/15 23:00	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Client Sample ID: MW3-1-032015

Lab Sample ID: 580-48257-3

Date Collected: 03/20/15 14:00

Matrix: Water

Date Received: 03/20/15 16:46

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/23/15 23:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/23/15 23:33	1
Trifluorotoluene (Surr)	109		50 - 150					03/23/15 23:33	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Client Sample ID: TB-032015-01

Lab Sample ID: 580-48257-4

Date Collected: 03/20/15 00:01

Matrix: Water

Date Received: 03/20/15 16:46

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/23/15 14:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		50 - 150					03/23/15 14:46	1
Trifluorotoluene (Surr)	103		50 - 150					03/23/15 14:46	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-184994/4

Matrix: Water

Analysis Batch: 184994

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.10		mg/L			03/23/15 13:08	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					03/23/15 13:08	1
Trifluorotoluene (Surr)	112		50 - 150					03/23/15 13:08	1

Lab Sample ID: LCS 580-184994/5

Matrix: Water

Analysis Batch: 184994

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.826		mg/L		83	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	101		50 - 150				
Trifluorotoluene (Surr)	102		50 - 150				

Lab Sample ID: LCSD 580-184994/6

Matrix: Water

Analysis Batch: 184994

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.807		mg/L		81	79 - 110	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		50 - 150						
Trifluorotoluene (Surr)	98		50 - 150						

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Client Sample ID: MW1-1-032015

Date Collected: 03/20/15 11:50

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184994	03/23/15 22:27	CJ	TAL SEA

Client Sample ID: MW1-1-032015RB

Date Collected: 03/20/15 12:00

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184994	03/23/15 23:00	CJ	TAL SEA

Client Sample ID: MW3-1-032015

Date Collected: 03/20/15 14:00

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184994	03/23/15 23:33	CJ	TAL SEA

Client Sample ID: TB-032015-01

Date Collected: 03/20/15 00:01

Date Received: 03/20/15 16:46

Lab Sample ID: 580-48257-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	184994	03/23/15 14:46	CJ	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

Analysis Method	Prep Method	Matrix	Analyte

Sample Summary

Client: ERM-West
Project/Site: K2 Site Vashon, WA

TestAmerica Job ID: 580-48257-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48257-1	MW1-1-032015	Water	03/20/15 11:50	03/20/15 16:46
580-48257-2	MW1-1-032015RB	Water	03/20/15 12:00	03/20/15 16:46
580-48257-3	MW3-1-032015	Water	03/20/15 14:00	03/20/15 16:46
580-48257-4	TB-032015-01	Water	03/20/15 00:01	03/20/15 16:46

Page 13 of 14

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48257-2

Login Number: 48257

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

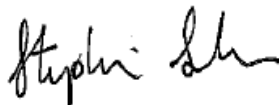
TestAmerica Job ID: 580-48349-1

Client Project/Site: K2 Site, Vashon WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:
4/15/2015 4:12:29 PM

Stephanie Sanders, Project Manager I
(303)736-0196
stephanie.sanders@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Job ID: 580-48349-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/24/2015 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.8° C, 0.9° C, 0.9° C and 3.2° C.

Except:

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): DUP-032315-02 (580-48349-5), MW6-1-032315 (580-48349-6). The samples were logged in according to the chain of custody.

Sample 05: Only 1 - 1L unpreserved amber was received. Also, the COC lists 15 containers should be received for this sample, but only 12 were received.

Sample -06: 1 - 250ml unpreserved amber lists "MW6" on the container label, while the COC lists "MW6-1-032315." The sample was logged in per the COC.

One of the two 1L unpreserved ambers received for the following sample was received only half full: MW2-1-032315 (580-48349-3).

The following samples were collected in an improper container: DUP-032315-02 (580-48349-5), MW4-1-032315 (580-48349-8). 250ml unpreserved containers were received for 8081 analysis instead of 125ml containers. The lab is proceeding with analyzing the Pesticides from a 250 mL amber.

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). Analysis was not added to the Trip Blank.

GC/MS VOA

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 185382 was outside criteria for the following analyte(s): Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 185382 recovered outside acceptance criteria, low biased, for 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene, 4-Isopropyltoluene, Naphthalene, Dichlorodifluoromethane, Tetrachloroethene, Trichlorofluoromethane, 1,4-Dichlorobenzene, Hexachlorobutadiene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270C, 8270D: Multiple analyte(s) recovered outside control limits for the LCS and/or LCSD associated with pre batch 185203. These analytes were outside the Marginal Exceedance limits; therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported. Affected samples: MW3-2-032315 (580-48349-1), MW5-1-032315 (580-48349-2), MW2-1-032315 (580-48349-3), DUP-032315-01 (580-48349-4), DUP-032315-02 (580-48349-5), MW6-1-032315 (580-48349-6), FB-032315-01 (580-48349-7), MW4-1-032315 (580-48349-8), MW7-1-032315 (580-48349-9), MW7-1-032315 (580-48349-9[MS]), MW7-1-032315 (580-48349-9[MSD]), (LCS 580-185203/2-A) and (LCSD 580-185203/3-A)

Method(s) 8270C, 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 185203 recovered outside control limits for multiple analytes.

Method(s) 8270C, 8270D: Surrogate recovery for the method blank and following samples was outside control limits: MW5-1-032315 (580-48349-2), DUP-032315-01 (580-48349-4), MW4-1-032315 (580-48349-8), MW7-1-032315 (580-48349-9) and (MB 580-185203/1-A). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 186128 recovered above the upper control limit for 2,4-Dinitrophenol, Diethyl phthalate and 4,6-Dinitro-2-methylphenol. Method 8270D allows <20% of compounds to fail the criteria; therefore, the data have been qualified and reported. The following samples are impacted: MW3-2-032315 (580-48349-1), MW5-1-032315 (580-48349-2), MW2-1-032315 (580-48349-3), DUP-032315-01 (580-48349-4), DUP-032315-02 (580-48349-5), MW6-1-032315

Case Narrative

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Job ID: 580-48349-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

(580-48349-6), FB-032315-01 (580-48349-7), MW4-1-032315 (580-48349-8), MW7-1-032315 (580-48349-9), (CCVIS 580-186128/3), (LCS 580-185203/2-A), (LCSD 580-185203/3-A) and (MB 580-185203/1-A).

Method(s) 8270D: Diethyl phthalate was detected above the reporting limit (RL) in the method blank associated with prep batch 185203 as well as in sample 580-48349-9. The affected sample was re-extracted and/or re-analyzed outside of holding time. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 580-186668 recovered above the upper control limit for Hexachlorocyclopentadiene and 2,4,6-Tribromophenol. Method 8270D allows <20% of compounds to fail the criteria; therefore, the data have been qualified and reported. The following samples are impacted: MW3-2-032315 (580-48349-1), MW5-1-032315 (580-48349-2), MW2-1-032315 (580-48349-3), DUP-032315-01 (580-48349-4), MW6-1-032315 (580-48349-6), FB-032315-01 (580-48349-7), MW4-1-032315 (580-48349-8), MW7-1-032315 (580-48349-9), (CCVIS 580-186668/3), (LCS 580-186383/2-A), (LCSD 580-186383/3-A) and (MB 580-186383/1-A).

Method(s) 8270D: Hexachlorocyclopentadiene recovered outside control limits for the LCS/LCSD associated with prep batch 580-186383. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. In addition, Bis(2-ethylhexyl)phthalate recovered above the calibration range in the LCS. This analyte was not detected in the associated samples; therefore, re-extraction and/or re-analysis was not performed. Affected samples: MW3-2-032315 (580-48349-1), MW5-1-032315 (580-48349-2), MW2-1-032315 (580-48349-3), DUP-032315-01 (580-48349-4), MW6-1-032315 (580-48349-6), FB-032315-01 (580-48349-7), MW4-1-032315 (580-48349-8), MW7-1-032315 (580-48349-9), (LCS 580-186383/2-A) and (LCSD 580-186383/3-A).

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-186383 recovered outside control limits for the following analytes: Bis(2-ethylhexyl)phthalate, Benzoic acid, Hexachlorocyclopentadiene and 4-Chloroaniline.

Method(s) 8270C SIM: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-185203 recovered outside control limits for multiple analytes.

Method(s) 8270C SIM: In analytical batch 580-185983, surrogate recovery for the following sample was outside control limits: MW5-1-032315 (580-48349-2). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270C SIM: Surrogate recovery for the following sample was outside of acceptance limits: MW7-1-032315 (580-48349-9[MSD]). There was insufficient sample to perform a re-extraction; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: In analysis batch 185242, the following sample from preparation batch 185238 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: MW2-1-032315 (580-48349-3).

Method(s) NWTPH-Dx: In analysis batch 185950, the following samples from preparation batch 185944 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: MW6-1-032315 (580-48349-6) and MW7-1-032315 (580-48349-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: In preparation batch 185311, a deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: 250 mL unpreserved ambers were received from the client for extraction.

Case Narrative

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Job ID: 580-48349-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Method(s) 3520C: There is no extra volume to re-extract the following samples: DUP-032315-02 (580-48349-5)

Method(s) 3520C: In batch 186383, the following samples was prepared outside of preparation holding time due to low LSCD recoveries in the original batch : MW3-2-032315 (580-48349-1), MW5-1-032315 (580-48349-2), MW2-1-032315 (580-48349-3), DUP-032315-01 (580-48349-4), MW6-1-032315 (580-48349-6), FB-032315-01 (580-48349-7), MW4-1-032315 (580-48349-8) and MW7-1-032315 (580-48349-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 16:31	1
1,1,1-Trichloroethane	2.4		0.20		ug/L			03/27/15 16:31	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 16:31	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 16:31	1
1,1-Dichloroethane	0.57		0.20		ug/L			03/27/15 16:31	1
1,1-Dichloroethene	0.66		0.10		ug/L			03/27/15 16:31	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 16:31	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 16:31	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 16:31	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 16:31	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 16:31	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 16:31	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 16:31	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 16:31	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 16:31	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 16:31	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 16:31	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 16:31	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 16:31	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 16:31	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 16:31	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 16:31	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 16:31	1
Benzene	ND		0.20		ug/L			03/27/15 16:31	1
Bromobenzene	ND		0.20		ug/L			03/27/15 16:31	1
Bromoform	ND		0.50		ug/L			03/27/15 16:31	1
Bromomethane	ND		1.0		ug/L			03/27/15 16:31	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 16:31	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 16:31	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 16:31	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 16:31	1
Chloroethane	ND		0.50		ug/L			03/27/15 16:31	1
Chloroform	ND		0.20		ug/L			03/27/15 16:31	1
Chloromethane	ND		0.30		ug/L			03/27/15 16:31	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 16:31	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 16:31	1
Dibromomethane	ND		0.20		ug/L			03/27/15 16:31	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 16:31	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 16:31	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 16:31	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 16:31	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 16:31	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 16:31	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 16:31	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 16:31	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 16:31	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 16:31	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 16:31	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 16:31	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 16:31	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 16:31	1
Styrene	ND		0.50		ug/L			03/27/15 16:31	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 16:31	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 16:31	1
Toluene	ND		0.20		ug/L			03/27/15 16:31	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 16:31	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 16:31	1
Trichloroethene	3.6		0.20		ug/L			03/27/15 16:31	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 16:31	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 128		03/27/15 16:31	1
4-Bromofluorobenzene (Surr)	98		75 - 120		03/27/15 16:31	1
Dibromofluoromethane (Surr)	98		85 - 115		03/27/15 16:31	1
Toluene-d8 (Surr)	98		75 - 125		03/27/15 16:31	1
Trifluorotoluene (Surr)	108		80 - 127		03/27/15 16:31	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/25/15 13:20	04/03/15 17:38	1
1-Methylnaphthalene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Acenaphthylene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Acenaphthene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Fluorene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Phenanthrene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Benzo[a]anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Chrysene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Benzo[a]pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		64 - 150	03/25/15 13:20	04/03/15 17:38	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
2-Methylnaphthalene	ND	H	0.027		ug/L		04/08/15 16:19	04/14/15 12:24	1
1-Methylnaphthalene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Acenaphthylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Acenaphthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Phenanthrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Benzo[a]anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Chrysene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Benzo[b]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Benzo[k]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Benzo[a]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Indeno[1,2,3-cd]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Dibenz(a,h)anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1
Benzo[g,h,i]perylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 12:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	111		64 - 150	04/08/15 16:19	04/14/15 12:24	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
1,2-Dichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
1,3-Dichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
1,4-Dichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
1-Methylnaphthalene	ND	*	0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,4,5-Trichlorophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,4,6-Trichlorophenol	ND	*	0.61		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,4-Dichlorophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,4-Dinitrophenol	ND	^ *	5.1		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,4-Dinitrotoluene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2,6-Dinitrotoluene	ND		0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2-Chloronaphthalene	ND	*	0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
2-Chlorophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2-Methylnaphthalene	ND	*	0.20		ug/L		03/25/15 13:20	04/06/15 15:52	1
2-Methylphenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2-Nitroaniline	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
2-Nitrophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
3 & 4 Methylphenol	ND	*	0.81		ug/L		03/25/15 13:20	04/06/15 15:52	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/25/15 13:20	04/06/15 15:52	1
3-Nitroaniline	ND		0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
4,6-Dinitro-2-methylphenol	ND	^ *	4.1		ug/L		03/25/15 13:20	04/06/15 15:52	1
4-Bromophenyl phenyl ether	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
4-Chloro-3-methylphenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
4-Chloroaniline	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
4-Nitroaniline	ND		0.61		ug/L		03/25/15 13:20	04/06/15 15:52	1
4-Nitrophenol	ND		3.1		ug/L		03/25/15 13:20	04/06/15 15:52	1
Acenaphthene	ND	*	0.10		ug/L		03/25/15 13:20	04/06/15 15:52	1
Acenaphthylene	ND	*	0.081		ug/L		03/25/15 13:20	04/06/15 15:52	1
Anthracene	ND		0.041		ug/L		03/25/15 13:20	04/06/15 15:52	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
Benzo[a]pyrene	ND		0.041		ug/L		03/25/15 13:20	04/06/15 15:52	1
Benzo[b]fluoranthene	ND		0.081		ug/L		03/25/15 13:20	04/06/15 15:52	1
Benzo[g,h,i]perylene	ND		0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
Benzo[k]fluoranthene	ND		0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
Benzoic acid	ND		3.1		ug/L		03/25/15 13:20	04/06/15 15:52	1
Benzyl alcohol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Bis(2-chloroethoxy)methane	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Bis(2-chloroethyl)ether	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Bis(2-ethylhexyl) phthalate	ND	*	3.1		ug/L		03/25/15 13:20	04/06/15 15:52	1
bis(chloroisopropyl) ether	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Butyl benzyl phthalate	ND		0.61		ug/L		03/25/15 13:20	04/06/15 15:52	1
Carbazole	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Chrysene	ND		0.041		ug/L		03/25/15 13:20	04/06/15 15:52	1
Dibenz(a,h)anthracene	ND		0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
Dibenzofuran	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Diethyl phthalate	ND	^	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Dimethyl phthalate	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Di-n-butyl phthalate	ND		0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Di-n-octyl phthalate	ND		0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Fluoranthene	ND		0.051		ug/L		03/25/15 13:20	04/06/15 15:52	1
Fluorene	ND	*	0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
Hexachlorobenzene	ND		0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Hexachlorobutadiene	ND	*	0.61		ug/L		03/25/15 13:20	04/06/15 15:52	1
Hexachlorocyclopentadiene	ND	*	2.0		ug/L		03/25/15 13:20	04/06/15 15:52	1
Hexachloroethane	ND	*	0.61		ug/L		03/25/15 13:20	04/06/15 15:52	1
Indeno[1,2,3-cd]pyrene	ND		0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1
Isophorone	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Naphthalene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Nitrobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
N-Nitrosodi-n-propylamine	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
N-Nitrosodiphenylamine	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 15:52	1
Pentachlorophenol	2.4		0.71		ug/L		03/25/15 13:20	04/06/15 15:52	1
Phenanthrene	ND	*	0.081		ug/L		03/25/15 13:20	04/06/15 15:52	1
Phenol	ND	*	0.61		ug/L		03/25/15 13:20	04/06/15 15:52	1
Pyrene	ND	*	0.061		ug/L		03/25/15 13:20	04/06/15 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	79		44 - 125	03/25/15 13:20	04/06/15 15:52	1
2-Fluorobiphenyl	61		50 - 120	03/25/15 13:20	04/06/15 15:52	1
2-Fluorophenol (Surr)	58		30 - 134	03/25/15 13:20	04/06/15 15:52	1
Nitrobenzene-d5 (Surr)	66		59 - 120	03/25/15 13:20	04/06/15 15:52	1
Phenol-d5 (Surr)	65		52 - 120	03/25/15 13:20	04/06/15 15:52	1
Terphenyl-d14 (Surr)	86		64 - 150	03/25/15 13:20	04/06/15 15:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
1,2-Dichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
1,3-Dichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
1-Methylnaphthalene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,4,5-Trichlorophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,4,6-Trichlorophenol	ND	H	0.63		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,4-Dichlorophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,4-Dimethylphenol	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,4-Dinitrophenol	ND	H	5.2		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,4-Dinitrotoluene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2,6-Dinitrotoluene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2-Chloronaphthalene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
2-Chlorophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2-Methylnaphthalene	ND	H	0.21		ug/L		04/08/15 16:19	04/13/15 16:58	1
2-Methylphenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2-Nitroaniline	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
2-Nitrophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
3 & 4 Methylphenol	ND	H	0.83		ug/L		04/08/15 16:19	04/13/15 16:58	1
3,3'-Dichlorobenzidine	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 16:58	1
3-Nitroaniline	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
4,6-Dinitro-2-methylphenol	ND	H	4.2		ug/L		04/08/15 16:19	04/13/15 16:58	1
4-Bromophenyl phenyl ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
4-Chloro-3-methylphenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
4-Chloroaniline	ND	H *	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
4-Chlorophenyl phenyl ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
4-Nitroaniline	ND	H	0.63		ug/L		04/08/15 16:19	04/13/15 16:58	1
4-Nitrophenol	ND	H	3.1		ug/L		04/08/15 16:19	04/13/15 16:58	1
Acenaphthene	ND	H	0.10		ug/L		04/08/15 16:19	04/13/15 16:58	1
Acenaphthylene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 16:58	1
Anthracene	ND	H	0.042		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzo[a]anthracene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzo[a]pyrene	ND	H	0.042		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzo[b]fluoranthene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzo[g,h,i]perylene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzo[k]fluoranthene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzoic acid	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 16:58	1
Benzyl alcohol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Bis(2-chloroethoxy)methane	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Bis(2-chloroethyl)ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 16:58	1
bis(chloroisopropyl) ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Butyl benzyl phthalate	ND	H	0.63		ug/L		04/08/15 16:19	04/13/15 16:58	1
Carbazole	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Chrysene	ND	H	0.042		ug/L		04/08/15 16:19	04/13/15 16:58	1
Dibenz(a,h)anthracene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
Dibenzofuran	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Diethyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Dimethyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Di-n-butyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Di-n-octyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Fluoranthene	ND	H	0.052		ug/L		04/08/15 16:19	04/13/15 16:58	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
Hexachlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Hexachlorobutadiene	ND	H	0.63		ug/L		04/08/15 16:19	04/13/15 16:58	1
Hexachlorocyclopentadiene	ND	H * ^	2.1		ug/L		04/08/15 16:19	04/13/15 16:58	1
Hexachloroethane	ND	H	0.63		ug/L		04/08/15 16:19	04/13/15 16:58	1
Indeno[1,2,3-cd]pyrene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1
Isophorone	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Naphthalene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Nitrobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
N-Nitrosodi-n-propylamine	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
N-Nitrosodiphenylamine	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 16:58	1
Pentachlorophenol	ND	H	0.73		ug/L		04/08/15 16:19	04/13/15 16:58	1
Phenanthrene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 16:58	1
Phenol	ND	H	0.63		ug/L		04/08/15 16:19	04/13/15 16:58	1
Pyrene	ND	H	0.063		ug/L		04/08/15 16:19	04/13/15 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	110	^	44 - 125	04/08/15 16:19	04/13/15 16:58	1
2-Fluorobiphenyl	79		50 - 120	04/08/15 16:19	04/13/15 16:58	1
2-Fluorophenol (Surr)	82		30 - 134	04/08/15 16:19	04/13/15 16:58	1
Nitrobenzene-d5 (Surr)	97		59 - 120	04/08/15 16:19	04/13/15 16:58	1
Phenol-d5 (Surr)	93		52 - 120	04/08/15 16:19	04/13/15 16:58	1
Terphenyl-d14 (Surr)	105		64 - 150	04/08/15 16:19	04/13/15 16:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/25/15 21:52	03/26/15 22:49	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/25/15 21:52	03/26/15 22:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	63		50 - 150	03/25/15 21:52	03/26/15 22:49	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:58	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 12:58	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:58	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:58	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:58	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 12:58	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:58	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 12:58	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 12:58	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:58	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 12:58	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 12:58	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 15:14	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW5-1-032315

Lab Sample ID: 580-48349-2

Date Collected: 03/23/15 09:45

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 16:57	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 16:57	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 16:57	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 16:57	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 16:57	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 16:57	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 16:57	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 16:57	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 16:57	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 16:57	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 16:57	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 16:57	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 16:57	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 16:57	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 16:57	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 16:57	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 16:57	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 16:57	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 16:57	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 16:57	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 16:57	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 16:57	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 16:57	1
Benzene	ND		0.20		ug/L			03/27/15 16:57	1
Bromobenzene	ND		0.20		ug/L			03/27/15 16:57	1
Bromoform	ND		0.50		ug/L			03/27/15 16:57	1
Bromomethane	ND		1.0		ug/L			03/27/15 16:57	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 16:57	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 16:57	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 16:57	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 16:57	1
Chloroethane	ND		0.50		ug/L			03/27/15 16:57	1
Chloroform	ND		0.20		ug/L			03/27/15 16:57	1
Chloromethane	ND		0.30		ug/L			03/27/15 16:57	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 16:57	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 16:57	1
Dibromomethane	ND		0.20		ug/L			03/27/15 16:57	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 16:57	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 16:57	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 16:57	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 16:57	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 16:57	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 16:57	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 16:57	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 16:57	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 16:57	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 16:57	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 16:57	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 16:57	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW5-1-032315

Lab Sample ID: 580-48349-2

Date Collected: 03/23/15 09:45

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 16:57	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 16:57	1
Styrene	ND		0.50		ug/L			03/27/15 16:57	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 16:57	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 16:57	1
Toluene	ND		0.20		ug/L			03/27/15 16:57	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 16:57	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 16:57	1
Trichloroethene	0.50		0.20		ug/L			03/27/15 16:57	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 16:57	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 128		03/27/15 16:57	1
4-Bromofluorobenzene (Surr)	101		75 - 120		03/27/15 16:57	1
Dibromofluoromethane (Surr)	101		85 - 115		03/27/15 16:57	1
Toluene-d8 (Surr)	97		75 - 125		03/27/15 16:57	1
Trifluorotoluene (Surr)	110		80 - 127		03/27/15 16:57	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
2-Methylnaphthalene	ND	*	0.027		ug/L		03/25/15 13:20	04/03/15 18:00	1
1-Methylnaphthalene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Acenaphthylene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Acenaphthene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Fluorene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Phenanthrene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Fluoranthene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Benzo[a]anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Chrysene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Benzo[b]fluoranthene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Benzo[k]fluoranthene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Benzo[a]pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Indeno[1,2,3-cd]pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Dibenz(a,h)anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1
Benzo[g,h,i]perylene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	63	X	64 - 150	03/25/15 13:20	04/03/15 18:00	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
2-Methylnaphthalene	ND	H	0.026		ug/L		04/08/15 16:19	04/14/15 12:46	1
1-Methylnaphthalene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Acenaphthylene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Acenaphthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW5-1-032315

Lab Sample ID: 580-48349-2

Date Collected: 03/23/15 09:45

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Phenanthrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Anthracene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Fluoranthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Pyrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Benzo[a]anthracene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Chrysene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Benzo[b]fluoranthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Benzo[k]fluoranthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Benzo[a]pyrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Indeno[1,2,3-cd]pyrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Dibenz(a,h)anthracene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1
Benzo[g,h,i]perylene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 12:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	108		64 - 150	04/08/15 16:19	04/14/15 12:46	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
1,2-Dichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
1,3-Dichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
1,4-Dichlorobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
1-Methylnaphthalene	ND	*	0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,4,5-Trichlorophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,4,6-Trichlorophenol	ND	*	0.62		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,4-Dichlorophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,4-Dimethylphenol	ND		2.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,4-Dinitrophenol	ND	^ *	5.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,4-Dinitrotoluene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2,6-Dinitrotoluene	ND		0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2-Chloronaphthalene	ND	*	0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
2-Chlorophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2-Methylnaphthalene	ND	*	0.21		ug/L		03/25/15 13:20	04/06/15 16:19	1
2-Methylphenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2-Nitroaniline	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
2-Nitrophenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
3 & 4 Methylphenol	ND	*	0.82		ug/L		03/25/15 13:20	04/06/15 16:19	1
3,3'-Dichlorobenzidine	ND		2.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
3-Nitroaniline	ND		0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
4,6-Dinitro-2-methylphenol	ND	^ *	4.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
4-Bromophenyl phenyl ether	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
4-Chloro-3-methylphenol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
4-Chloroaniline	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
4-Nitroaniline	ND		0.62		ug/L		03/25/15 13:20	04/06/15 16:19	1
4-Nitrophenol	ND		3.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
Acenaphthene	ND	*	0.10		ug/L		03/25/15 13:20	04/06/15 16:19	1
Acenaphthylene	ND	*	0.082		ug/L		03/25/15 13:20	04/06/15 16:19	1
Anthracene	ND		0.041		ug/L		03/25/15 13:20	04/06/15 16:19	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW5-1-032315

Lab Sample ID: 580-48349-2

Date Collected: 03/23/15 09:45

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
Benzo[a]pyrene	ND		0.041		ug/L		03/25/15 13:20	04/06/15 16:19	1
Benzo[b]fluoranthene	ND		0.082		ug/L		03/25/15 13:20	04/06/15 16:19	1
Benzo[g,h,i]perylene	ND		0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
Benzo[k]fluoranthene	ND		0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
Benzoic acid	ND		3.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
Benzyl alcohol	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Bis(2-chloroethoxy)methane	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Bis(2-chloroethyl)ether	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Bis(2-ethylhexyl) phthalate	ND	*	3.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
bis(chloroisopropyl) ether	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Butyl benzyl phthalate	ND		0.62		ug/L		03/25/15 13:20	04/06/15 16:19	1
Carbazole	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Chrysene	ND		0.041		ug/L		03/25/15 13:20	04/06/15 16:19	1
Dibenz(a,h)anthracene	ND		0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
Dibenzofuran	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Diethyl phthalate	ND	^	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Dimethyl phthalate	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Di-n-butyl phthalate	ND		0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Di-n-octyl phthalate	ND		0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Fluoranthene	ND		0.051		ug/L		03/25/15 13:20	04/06/15 16:19	1
Fluorene	ND	*	0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
Hexachlorobenzene	ND		0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Hexachlorobutadiene	ND	*	0.62		ug/L		03/25/15 13:20	04/06/15 16:19	1
Hexachlorocyclopentadiene	ND	*	2.1		ug/L		03/25/15 13:20	04/06/15 16:19	1
Hexachloroethane	ND	*	0.62		ug/L		03/25/15 13:20	04/06/15 16:19	1
Indeno[1,2,3-cd]pyrene	ND		0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1
Isophorone	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Naphthalene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Nitrobenzene	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
N-Nitrosodi-n-propylamine	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
N-Nitrosodiphenylamine	ND	*	0.41		ug/L		03/25/15 13:20	04/06/15 16:19	1
Pentachlorophenol	0.83		0.72		ug/L		03/25/15 13:20	04/06/15 16:19	1
Phenanthrene	ND	*	0.082		ug/L		03/25/15 13:20	04/06/15 16:19	1
Phenol	ND	*	0.62		ug/L		03/25/15 13:20	04/06/15 16:19	1
Pyrene	ND	*	0.062		ug/L		03/25/15 13:20	04/06/15 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	42	X	44 - 125	03/25/15 13:20	04/06/15 16:19	1
2-Fluorobiphenyl	39	X	50 - 120	03/25/15 13:20	04/06/15 16:19	1
2-Fluorophenol (Surr)	30		30 - 134	03/25/15 13:20	04/06/15 16:19	1
Nitrobenzene-d5 (Surr)	39	X	59 - 120	03/25/15 13:20	04/06/15 16:19	1
Phenol-d5 (Surr)	40	X	52 - 120	03/25/15 13:20	04/06/15 16:19	1
Terphenyl-d14 (Surr)	55	X	64 - 150	03/25/15 13:20	04/06/15 16:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
1,2-Dichlorobenzene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
1,3-Dichlorobenzene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW5-1-032315

Lab Sample ID: 580-48349-2

Date Collected: 03/23/15 09:45

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
1-Methylnaphthalene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,4,5-Trichlorophenol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,4,6-Trichlorophenol	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,4-Dichlorophenol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,4-Dimethylphenol	ND	H	2.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,4-Dinitrophenol	ND	H	5.1		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,4-Dinitrotoluene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2,6-Dinitrotoluene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2-Chloronaphthalene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
2-Chlorophenol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2-Methylnaphthalene	ND	H	0.20		ug/L		04/08/15 16:19	04/13/15 17:23	1
2-Methylphenol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2-Nitroaniline	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
2-Nitrophenol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
3 & 4 Methylphenol	ND	H	0.81		ug/L		04/08/15 16:19	04/13/15 17:23	1
3,3'-Dichlorobenzidine	ND	H	2.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
3-Nitroaniline	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
4,6-Dinitro-2-methylphenol	ND	H	4.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
4-Bromophenyl phenyl ether	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
4-Chloro-3-methylphenol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
4-Chloroaniline	ND	H *	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
4-Chlorophenyl phenyl ether	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
4-Nitroaniline	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 17:23	1
4-Nitrophenol	ND	H	3.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
Acenaphthene	ND	H	0.10		ug/L		04/08/15 16:19	04/13/15 17:23	1
Acenaphthylene	ND	H	0.081		ug/L		04/08/15 16:19	04/13/15 17:23	1
Anthracene	ND	H	0.040		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzo[a]anthracene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzo[a]pyrene	ND	H	0.040		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzo[b]fluoranthene	ND	H	0.081		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzo[g,h,i]perylene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzo[k]fluoranthene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzoic acid	ND	H *	3.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
Benzyl alcohol	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Bis(2-chloroethoxy)methane	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Bis(2-chloroethyl)ether	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
bis(chloroisopropyl) ether	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Butyl benzyl phthalate	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 17:23	1
Carbazole	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Chrysene	ND	H	0.040		ug/L		04/08/15 16:19	04/13/15 17:23	1
Dibenz(a,h)anthracene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
Dibenzofuran	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Diethyl phthalate	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Dimethyl phthalate	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Di-n-butyl phthalate	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Di-n-octyl phthalate	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Fluoranthene	ND	H	0.051		ug/L		04/08/15 16:19	04/13/15 17:23	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW5-1-032315

Lab Sample ID: 580-48349-2

Date Collected: 03/23/15 09:45

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
Hexachlorobenzene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Hexachlorobutadiene	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 17:23	1
Hexachlorocyclopentadiene	ND	H * ^	2.0		ug/L		04/08/15 16:19	04/13/15 17:23	1
Hexachloroethane	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 17:23	1
Indeno[1,2,3-cd]pyrene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1
Isophorone	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Naphthalene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Nitrobenzene	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
N-Nitrosodi-n-propylamine	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
N-Nitrosodiphenylamine	ND	H	0.40		ug/L		04/08/15 16:19	04/13/15 17:23	1
Pentachlorophenol	ND	H	0.71		ug/L		04/08/15 16:19	04/13/15 17:23	1
Phenanthrene	ND	H	0.081		ug/L		04/08/15 16:19	04/13/15 17:23	1
Phenol	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 17:23	1
Pyrene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	110	^	44 - 125	04/08/15 16:19	04/13/15 17:23	1
2-Fluorobiphenyl	79		50 - 120	04/08/15 16:19	04/13/15 17:23	1
2-Fluorophenol (Surr)	83		30 - 134	04/08/15 16:19	04/13/15 17:23	1
Nitrobenzene-d5 (Surr)	94		59 - 120	04/08/15 16:19	04/13/15 17:23	1
Phenol-d5 (Surr)	96		52 - 120	04/08/15 16:19	04/13/15 17:23	1
Terphenyl-d14 (Surr)	105		64 - 150	04/08/15 16:19	04/13/15 17:23	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/25/15 21:52	03/26/15 23:07	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/25/15 21:52	03/26/15 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	63		50 - 150	03/25/15 21:52	03/26/15 23:07	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 17:23	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 17:23	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 17:23	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 17:23	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 17:23	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 17:23	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 17:23	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 17:23	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 17:23	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 17:23	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 17:23	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 17:23	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 17:23	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 17:23	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 17:23	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 17:23	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 17:23	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 17:23	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 17:23	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 17:23	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 17:23	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 17:23	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 17:23	1
Benzene	ND		0.20		ug/L			03/27/15 17:23	1
Bromobenzene	ND		0.20		ug/L			03/27/15 17:23	1
Bromoform	ND		0.50		ug/L			03/27/15 17:23	1
Bromomethane	ND		1.0		ug/L			03/27/15 17:23	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 17:23	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 17:23	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 17:23	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 17:23	1
Chloroethane	ND		0.50		ug/L			03/27/15 17:23	1
Chloroform	2.6		0.20		ug/L			03/27/15 17:23	1
Chloromethane	ND		0.30		ug/L			03/27/15 17:23	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 17:23	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 17:23	1
Dibromomethane	ND		0.20		ug/L			03/27/15 17:23	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 17:23	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 17:23	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 17:23	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 17:23	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 17:23	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 17:23	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 17:23	1
Methylene Chloride	0.67		0.50		ug/L			03/27/15 17:23	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 17:23	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 17:23	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 17:23	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 17:23	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 17:23	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 17:23	1
Styrene	ND		0.50		ug/L			03/27/15 17:23	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 17:23	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 17:23	1
Toluene	ND		0.20		ug/L			03/27/15 17:23	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 17:23	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 17:23	1
Trichloroethene	ND		0.20		ug/L			03/27/15 17:23	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 17:23	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 128		03/27/15 17:23	1
4-Bromofluorobenzene (Surr)	98		75 - 120		03/27/15 17:23	1
Dibromofluoromethane (Surr)	101		85 - 115		03/27/15 17:23	1
Toluene-d8 (Surr)	96		75 - 125		03/27/15 17:23	1
Trifluorotoluene (Surr)	107		80 - 127		03/27/15 17:23	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
2-Methylnaphthalene	ND	*	0.052		ug/L		03/25/15 13:20	04/03/15 18:22	1
1-Methylnaphthalene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Acenaphthylene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Acenaphthene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Fluorene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Phenanthrene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Anthracene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Fluoranthene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Pyrene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Benzo[a]anthracene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Chrysene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Benzo[b]fluoranthene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Benzo[k]fluoranthene	ND	*	0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Benzo[a]pyrene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Indeno[1,2,3-cd]pyrene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Dibenz(a,h)anthracene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1
Benzo[g,h,i]perylene	ND		0.040		ug/L		03/25/15 13:20	04/03/15 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	93		64 - 150	03/25/15 13:20	04/03/15 18:22	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.025	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
2-Methylnaphthalene	ND	H	0.028		ug/L		04/08/15 16:19	04/14/15 13:07	1
1-Methylnaphthalene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Acenaphthylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Acenaphthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Phenanthrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Benzo[a]anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Chrysene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Benzo[b]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Benzo[k]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Benzo[a]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Indeno[1,2,3-cd]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Dibenz(a,h)anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1
Benzo[g,h,i]perylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	94		64 - 150	04/08/15 16:19	04/14/15 13:07	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
1,2-Dichlorobenzene	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
1,3-Dichlorobenzene	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
1,4-Dichlorobenzene	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
1-Methylnaphthalene	ND	*	0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,4,5-Trichlorophenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,4,6-Trichlorophenol	ND	*	1.2		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,4-Dichlorophenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,4-Dimethylphenol	ND		4.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,4-Dinitrophenol	ND	^ *	10		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,4-Dinitrotoluene	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2,6-Dinitrotoluene	ND		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2-Chloronaphthalene	ND	*	0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
2-Chlorophenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2-Methylnaphthalene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 16:45	1
2-Methylphenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2-Nitroaniline	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
2-Nitrophenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
3 & 4 Methylphenol	ND	*	1.6		ug/L		03/25/15 13:20	04/06/15 16:45	1
3,3'-Dichlorobenzidine	ND		4.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
3-Nitroaniline	ND		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
4,6-Dinitro-2-methylphenol	ND	^ *	8.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
4-Bromophenyl phenyl ether	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
4-Chloro-3-methylphenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
4-Chloroaniline	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
4-Chlorophenyl phenyl ether	ND		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
4-Nitroaniline	ND		1.2		ug/L		03/25/15 13:20	04/06/15 16:45	1
4-Nitrophenol	ND		6.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
Acenaphthene	ND	*	0.20		ug/L		03/25/15 13:20	04/06/15 16:45	1
Acenaphthylene	ND	*	0.16		ug/L		03/25/15 13:20	04/06/15 16:45	1
Anthracene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 16:45	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
Benzo[a]pyrene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 16:45	1
Benzo[b]fluoranthene	ND		0.16		ug/L		03/25/15 13:20	04/06/15 16:45	1
Benzo[g,h,i]perylene	ND		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
Benzo[k]fluoranthene	ND		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
Benzoic acid	ND		6.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
Benzyl alcohol	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Bis(2-chloroethoxy)methane	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Bis(2-chloroethyl)ether	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Bis(2-ethylhexyl) phthalate	ND *		6.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
bis(chloroisopropyl) ether	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Butyl benzyl phthalate	ND		1.2		ug/L		03/25/15 13:20	04/06/15 16:45	1
Carbazole	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Chrysene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 16:45	1
Dibenz(a,h)anthracene	ND		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
Dibenzofuran	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Diethyl phthalate	ND ^		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Dimethyl phthalate	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Di-n-butyl phthalate	ND		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Di-n-octyl phthalate	ND		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Fluoranthene	ND		0.10		ug/L		03/25/15 13:20	04/06/15 16:45	1
Fluorene	ND *		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
Hexachlorobenzene	ND		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Hexachlorobutadiene	ND *		1.2		ug/L		03/25/15 13:20	04/06/15 16:45	1
Hexachlorocyclopentadiene	ND *		4.0		ug/L		03/25/15 13:20	04/06/15 16:45	1
Hexachloroethane	ND *		1.2		ug/L		03/25/15 13:20	04/06/15 16:45	1
Indeno[1,2,3-cd]pyrene	ND		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1
Isophorone	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Naphthalene	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Nitrobenzene	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
N-Nitrosodi-n-propylamine	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
N-Nitrosodiphenylamine	ND *		0.80		ug/L		03/25/15 13:20	04/06/15 16:45	1
Pentachlorophenol	1.5		1.4		ug/L		03/25/15 13:20	04/06/15 16:45	1
Phenanthrene	ND *		0.16		ug/L		03/25/15 13:20	04/06/15 16:45	1
Phenol	ND *		1.2		ug/L		03/25/15 13:20	04/06/15 16:45	1
Pyrene	ND *		0.12		ug/L		03/25/15 13:20	04/06/15 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	94		44 - 125	03/25/15 13:20	04/06/15 16:45	1
2-Fluorobiphenyl	64		50 - 120	03/25/15 13:20	04/06/15 16:45	1
2-Fluorophenol (Surr)	55		30 - 134	03/25/15 13:20	04/06/15 16:45	1
Nitrobenzene-d5 (Surr)	68		59 - 120	03/25/15 13:20	04/06/15 16:45	1
Phenol-d5 (Surr)	70		52 - 120	03/25/15 13:20	04/06/15 16:45	1
Terphenyl-d14 (Surr)	93		64 - 150	03/25/15 13:20	04/06/15 16:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
1,2-Dichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
1,3-Dichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
1-Methylnaphthalene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,4,5-Trichlorophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,4,6-Trichlorophenol	ND	H	0.64		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,4-Dichlorophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,4-Dimethylphenol	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,4-Dinitrophenol	ND	H	5.3		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,4-Dinitrotoluene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2,6-Dinitrotoluene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2-Chloronaphthalene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
2-Chlorophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2-Methylnaphthalene	ND	H	0.21		ug/L		04/08/15 16:19	04/13/15 17:48	1
2-Methylphenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2-Nitroaniline	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
2-Nitrophenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
3 & 4 Methylphenol	ND	H	0.85		ug/L		04/08/15 16:19	04/13/15 17:48	1
3,3'-Dichlorobenzidine	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 17:48	1
3-Nitroaniline	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
4,6-Dinitro-2-methylphenol	ND	H	4.2		ug/L		04/08/15 16:19	04/13/15 17:48	1
4-Bromophenyl phenyl ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
4-Chloro-3-methylphenol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
4-Chloroaniline	ND	H *	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
4-Chlorophenyl phenyl ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
4-Nitroaniline	ND	H	0.64		ug/L		04/08/15 16:19	04/13/15 17:48	1
4-Nitrophenol	ND	H	3.2		ug/L		04/08/15 16:19	04/13/15 17:48	1
Acenaphthene	ND	H	0.11		ug/L		04/08/15 16:19	04/13/15 17:48	1
Acenaphthylene	ND	H	0.085		ug/L		04/08/15 16:19	04/13/15 17:48	1
Anthracene	ND	H	0.042		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzo[a]anthracene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzo[a]pyrene	ND	H	0.042		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzo[b]fluoranthene	ND	H	0.085		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzo[g,h,i]perylene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzo[k]fluoranthene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzoic acid	ND	H *	3.2		ug/L		04/08/15 16:19	04/13/15 17:48	1
Benzyl alcohol	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Bis(2-chloroethoxy)methane	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Bis(2-chloroethyl)ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.2		ug/L		04/08/15 16:19	04/13/15 17:48	1
bis(chloroisopropyl) ether	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Butyl benzyl phthalate	ND	H	0.64		ug/L		04/08/15 16:19	04/13/15 17:48	1
Carbazole	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Chrysene	ND	H	0.042		ug/L		04/08/15 16:19	04/13/15 17:48	1
Dibenz(a,h)anthracene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
Dibenzofuran	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Diethyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Dimethyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Di-n-butyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Di-n-octyl phthalate	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Fluoranthene	ND	H	0.053		ug/L		04/08/15 16:19	04/13/15 17:48	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
Hexachlorobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Hexachlorobutadiene	ND	H	0.64		ug/L		04/08/15 16:19	04/13/15 17:48	1
Hexachlorocyclopentadiene	ND	H * ^	2.1		ug/L		04/08/15 16:19	04/13/15 17:48	1
Hexachloroethane	ND	H	0.64		ug/L		04/08/15 16:19	04/13/15 17:48	1
Indeno[1,2,3-cd]pyrene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1
Isophorone	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Naphthalene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Nitrobenzene	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
N-Nitrosodi-n-propylamine	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
N-Nitrosodiphenylamine	ND	H	0.42		ug/L		04/08/15 16:19	04/13/15 17:48	1
Pentachlorophenol	ND	H	0.74		ug/L		04/08/15 16:19	04/13/15 17:48	1
Phenanthrene	ND	H	0.085		ug/L		04/08/15 16:19	04/13/15 17:48	1
Phenol	ND	H	0.64		ug/L		04/08/15 16:19	04/13/15 17:48	1
Pyrene	ND	H	0.064		ug/L		04/08/15 16:19	04/13/15 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	112	^	44 - 125	04/08/15 16:19	04/13/15 17:48	1
2-Fluorobiphenyl	78		50 - 120	04/08/15 16:19	04/13/15 17:48	1
2-Fluorophenol (Surr)	79		30 - 134	04/08/15 16:19	04/13/15 17:48	1
Nitrobenzene-d5 (Surr)	96		59 - 120	04/08/15 16:19	04/13/15 17:48	1
Phenol-d5 (Surr)	92		52 - 120	04/08/15 16:19	04/13/15 17:48	1
Terphenyl-d14 (Surr)	102		64 - 150	04/08/15 16:19	04/13/15 17:48	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.36	Y	0.13		mg/L		03/25/15 21:52	03/26/15 23:25	1
Motor Oil (>C24-C36)	ND		0.27		mg/L		03/25/15 21:52	03/26/15 23:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	71		50 - 150	03/25/15 21:52	03/26/15 23:25	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 17:49	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 17:49	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 17:49	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 17:49	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 17:49	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 17:49	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 17:49	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 17:49	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 17:49	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 17:49	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 17:49	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 17:49	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 17:49	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 17:49	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 17:49	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 17:49	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 17:49	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 17:49	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 17:49	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 17:49	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 17:49	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 17:49	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 17:49	1
Benzene	ND		0.20		ug/L			03/27/15 17:49	1
Bromobenzene	ND		0.20		ug/L			03/27/15 17:49	1
Bromoform	ND		0.50		ug/L			03/27/15 17:49	1
Bromomethane	ND		1.0		ug/L			03/27/15 17:49	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 17:49	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 17:49	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 17:49	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 17:49	1
Chloroethane	ND		0.50		ug/L			03/27/15 17:49	1
Chloroform	ND		0.20		ug/L			03/27/15 17:49	1
Chloromethane	ND		0.30		ug/L			03/27/15 17:49	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 17:49	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 17:49	1
Dibromomethane	ND		0.20		ug/L			03/27/15 17:49	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 17:49	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 17:49	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 17:49	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 17:49	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 17:49	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 17:49	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 17:49	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 17:49	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 17:49	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 17:49	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 17:49	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 17:49	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 17:49	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 17:49	1
Styrene	ND		0.50		ug/L			03/27/15 17:49	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 17:49	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 17:49	1
Toluene	ND		0.20		ug/L			03/27/15 17:49	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 17:49	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 17:49	1
Trichloroethene	0.51		0.20		ug/L			03/27/15 17:49	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 17:49	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 128		03/27/15 17:49	1
4-Bromofluorobenzene (Surr)	103		75 - 120		03/27/15 17:49	1
Dibromofluoromethane (Surr)	103		85 - 115		03/27/15 17:49	1
Toluene-d8 (Surr)	97		75 - 125		03/27/15 17:49	1
Trifluorotoluene (Surr)	104		80 - 127		03/27/15 17:49	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
2-Methylnaphthalene	ND	*	0.026		ug/L		03/25/15 13:20	04/03/15 18:44	1
1-Methylnaphthalene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Acenaphthylene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Acenaphthene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Fluorene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Phenanthrene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Benzo[a]anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Chrysene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Benzo[k]fluoranthene	ND	*	0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Benzo[a]pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	79		64 - 150	03/25/15 13:20	04/03/15 18:44	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
2-Methylnaphthalene	ND	H	0.027		ug/L		04/08/15 16:19	04/14/15 13:29	1
1-Methylnaphthalene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Acenaphthylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Acenaphthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Phenanthrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Benzo[a]anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Chrysene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Benzo[b]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Benzo[k]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Benzo[a]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Indeno[1,2,3-cd]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Dibenz(a,h)anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1
Benzo[g,h,i]perylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 13:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	101		64 - 150	04/08/15 16:19	04/14/15 13:29	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
1,2-Dichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
1,3-Dichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
1,4-Dichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
1-Methylnaphthalene	ND	*	0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,4,5-Trichlorophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,4,6-Trichlorophenol	ND	*	0.59		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,4-Dichlorophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,4-Dinitrophenol	ND	^ *	4.9		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,4-Dinitrotoluene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2,6-Dinitrotoluene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2-Chloronaphthalene	ND	*	0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
2-Chlorophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2-Methylnaphthalene	ND	*	0.20		ug/L		03/25/15 13:20	04/06/15 17:11	1
2-Methylphenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2-Nitroaniline	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
2-Nitrophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
3 & 4 Methylphenol	ND	*	0.79		ug/L		03/25/15 13:20	04/06/15 17:11	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
3-Nitroaniline	ND		0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
4,6-Dinitro-2-methylphenol	ND	^ *	4.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
4-Bromophenyl phenyl ether	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
4-Chloro-3-methylphenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
4-Chloroaniline	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
4-Nitroaniline	ND		0.59		ug/L		03/25/15 13:20	04/06/15 17:11	1
4-Nitrophenol	ND		3.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
Acenaphthene	ND	*	0.099		ug/L		03/25/15 13:20	04/06/15 17:11	1
Acenaphthylene	ND	*	0.079		ug/L		03/25/15 13:20	04/06/15 17:11	1
Anthracene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 17:11	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
Benzo[a]pyrene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 17:11	1
Benzo[b]fluoranthene	ND		0.079		ug/L		03/25/15 13:20	04/06/15 17:11	1
Benzo[g,h,i]perylene	ND		0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
Benzo[k]fluoranthene	ND		0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
Benzoic acid	ND		3.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
Benzyl alcohol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Bis(2-chloroethoxy)methane	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Bis(2-chloroethyl)ether	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Bis(2-ethylhexyl) phthalate	ND	*	3.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
bis(chloroisopropyl) ether	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Butyl benzyl phthalate	ND		0.59		ug/L		03/25/15 13:20	04/06/15 17:11	1
Carbazole	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Chrysene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 17:11	1
Dibenz(a,h)anthracene	ND		0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
Dibenzofuran	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Diethyl phthalate	ND	^	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Dimethyl phthalate	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Di-n-butyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Di-n-octyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Fluoranthene	ND		0.049		ug/L		03/25/15 13:20	04/06/15 17:11	1
Fluorene	ND	*	0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
Hexachlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Hexachlorobutadiene	ND	*	0.59		ug/L		03/25/15 13:20	04/06/15 17:11	1
Hexachlorocyclopentadiene	ND	*	2.0		ug/L		03/25/15 13:20	04/06/15 17:11	1
Hexachloroethane	ND	*	0.59		ug/L		03/25/15 13:20	04/06/15 17:11	1
Indeno[1,2,3-cd]pyrene	ND		0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1
Isophorone	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Naphthalene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Nitrobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
N-Nitrosodi-n-propylamine	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
N-Nitrosodiphenylamine	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 17:11	1
Pentachlorophenol	ND		0.69		ug/L		03/25/15 13:20	04/06/15 17:11	1
Phenanthrene	ND	*	0.079		ug/L		03/25/15 13:20	04/06/15 17:11	1
Phenol	ND	*	0.59		ug/L		03/25/15 13:20	04/06/15 17:11	1
Pyrene	ND	*	0.059		ug/L		03/25/15 13:20	04/06/15 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	69		44 - 125	03/25/15 13:20	04/06/15 17:11	1
2-Fluorobiphenyl	50		50 - 120	03/25/15 13:20	04/06/15 17:11	1
2-Fluorophenol (Surr)	42		30 - 134	03/25/15 13:20	04/06/15 17:11	1
Nitrobenzene-d5 (Surr)	54	X	59 - 120	03/25/15 13:20	04/06/15 17:11	1
Phenol-d5 (Surr)	54		52 - 120	03/25/15 13:20	04/06/15 17:11	1
Terphenyl-d14 (Surr)	78		64 - 150	03/25/15 13:20	04/06/15 17:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
1,2-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
1,3-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
1-Methylnaphthalene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,4,5-Trichlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,4,6-Trichlorophenol	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,4-Dichlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,4-Dimethylphenol	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,4-Dinitrophenol	ND	H	5.2		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,4-Dinitrotoluene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2,6-Dinitrotoluene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2-Chloronaphthalene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
2-Chlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2-Methylnaphthalene	ND	H	0.21		ug/L		04/08/15 16:19	04/13/15 18:13	1
2-Methylphenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2-Nitroaniline	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
2-Nitrophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
3 & 4 Methylphenol	ND	H	0.83		ug/L		04/08/15 16:19	04/13/15 18:13	1
3,3'-Dichlorobenzidine	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
3-Nitroaniline	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
4,6-Dinitro-2-methylphenol	ND	H	4.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
4-Bromophenyl phenyl ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
4-Chloro-3-methylphenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
4-Chloroaniline	ND	H *	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
4-Chlorophenyl phenyl ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
4-Nitroaniline	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 18:13	1
4-Nitrophenol	ND	H	3.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
Acenaphthene	ND	H	0.10		ug/L		04/08/15 16:19	04/13/15 18:13	1
Acenaphthylene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 18:13	1
Anthracene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzo[a]anthracene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzo[a]pyrene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzo[b]fluoranthene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzo[g,h,i]perylene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzo[k]fluoranthene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzoic acid	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
Benzyl alcohol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Bis(2-chloroethoxy)methane	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Bis(2-chloroethyl)ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
bis(chloroisopropyl) ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Butyl benzyl phthalate	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 18:13	1
Carbazole	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Chrysene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 18:13	1
Dibenz(a,h)anthracene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
Dibenzofuran	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Diethyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Dimethyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Di-n-butyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Di-n-octyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Fluoranthene	ND	H	0.052		ug/L		04/08/15 16:19	04/13/15 18:13	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
Hexachlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Hexachlorobutadiene	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 18:13	1
Hexachlorocyclopentadiene	ND	H * ^	2.1		ug/L		04/08/15 16:19	04/13/15 18:13	1
Hexachloroethane	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 18:13	1
Indeno[1,2,3-cd]pyrene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1
Isophorone	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Naphthalene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Nitrobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
N-Nitrosodi-n-propylamine	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
N-Nitrosodiphenylamine	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 18:13	1
Pentachlorophenol	ND	H	0.72		ug/L		04/08/15 16:19	04/13/15 18:13	1
Phenanthrene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 18:13	1
Phenol	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 18:13	1
Pyrene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	108	^	44 - 125	04/08/15 16:19	04/13/15 18:13	1
2-Fluorobiphenyl	78		50 - 120	04/08/15 16:19	04/13/15 18:13	1
2-Fluorophenol (Surr)	78		30 - 134	04/08/15 16:19	04/13/15 18:13	1
Nitrobenzene-d5 (Surr)	95		59 - 120	04/08/15 16:19	04/13/15 18:13	1
Phenol-d5 (Surr)	91		52 - 120	04/08/15 16:19	04/13/15 18:13	1
Terphenyl-d14 (Surr)	102		64 - 150	04/08/15 16:19	04/13/15 18:13	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/25/15 21:52	03/27/15 00:02	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/25/15 21:52	03/27/15 00:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	59		50 - 150	03/25/15 21:52	03/27/15 00:02	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 18:15	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 18:15	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 18:15	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 18:15	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 18:15	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 18:15	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 18:15	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 18:15	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 18:15	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 18:15	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 18:15	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 18:15	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 18:15	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 18:15	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 18:15	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 18:15	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 18:15	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 18:15	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 18:15	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 18:15	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 18:15	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 18:15	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 18:15	1
Benzene	ND		0.20		ug/L			03/27/15 18:15	1
Bromobenzene	ND		0.20		ug/L			03/27/15 18:15	1
Bromoform	ND		0.50		ug/L			03/27/15 18:15	1
Bromomethane	ND		1.0		ug/L			03/27/15 18:15	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 18:15	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 18:15	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 18:15	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 18:15	1
Chloroethane	ND		0.50		ug/L			03/27/15 18:15	1
Chloroform	ND		0.20		ug/L			03/27/15 18:15	1
Chloromethane	ND		0.30		ug/L			03/27/15 18:15	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 18:15	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 18:15	1
Dibromomethane	ND		0.20		ug/L			03/27/15 18:15	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 18:15	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 18:15	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 18:15	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 18:15	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 18:15	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 18:15	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 18:15	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 18:15	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 18:15	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 18:15	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 18:15	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 18:15	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 18:15	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 18:15	1
Styrene	ND		0.50		ug/L			03/27/15 18:15	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 18:15	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 18:15	1
Toluene	ND		0.20		ug/L			03/27/15 18:15	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 18:15	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 18:15	1
Trichloroethene	0.46		0.20		ug/L			03/27/15 18:15	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 18:15	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 128		03/27/15 18:15	1
4-Bromofluorobenzene (Surr)	99		75 - 120		03/27/15 18:15	1
Dibromofluoromethane (Surr)	100		85 - 115		03/27/15 18:15	1
Toluene-d8 (Surr)	97		75 - 125		03/27/15 18:15	1
Trifluorotoluene (Surr)	106		80 - 127		03/27/15 18:15	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
2-Methylnaphthalene	ND	*	0.027		ug/L		03/25/15 13:20	04/03/15 19:05	1
1-Methylnaphthalene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Acenaphthylene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Acenaphthene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Fluorene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Phenanthrene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Fluoranthene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Benzo[a]anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Chrysene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Benzo[b]fluoranthene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Benzo[k]fluoranthene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Benzo[a]pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Indeno[1,2,3-cd]pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Dibenz(a,h)anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1
Benzo[g,h,i]perylene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	101		64 - 150	03/25/15 13:20	04/03/15 19:05	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
1,2-Dichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
1,3-Dichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
1,4-Dichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
1-Methylnaphthalene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2,4,6-Trichlorophenol	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 17:38	1
2,4-Dichlorophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2,4-Dimethylphenol	ND		2.1		ug/L		03/25/15 13:20	04/06/15 17:38	1
2,4-Dinitrophenol	ND	^ *	5.2		ug/L		03/25/15 13:20	04/06/15 17:38	1
2,4-Dinitrotoluene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2,6-Dinitrotoluene	ND		0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2-Chloronaphthalene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
2-Chlorophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2-Methylnaphthalene	ND	*	0.21		ug/L		03/25/15 13:20	04/06/15 17:38	1
2-Methylphenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2-Nitroaniline	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
2-Nitrophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
3 & 4 Methylphenol	ND	*	0.84		ug/L		03/25/15 13:20	04/06/15 17:38	1
3,3'-Dichlorobenzidine	ND		2.1		ug/L		03/25/15 13:20	04/06/15 17:38	1
3-Nitroaniline	ND		0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
4,6-Dinitro-2-methylphenol	ND	^ *	4.2		ug/L		03/25/15 13:20	04/06/15 17:38	1
4-Bromophenyl phenyl ether	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
4-Chloro-3-methylphenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
4-Chloroaniline	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
4-Chlorophenyl phenyl ether	ND		0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
4-Nitroaniline	ND		0.63		ug/L		03/25/15 13:20	04/06/15 17:38	1
4-Nitrophenol	ND		3.1		ug/L		03/25/15 13:20	04/06/15 17:38	1
Acenaphthene	ND	*	0.10		ug/L		03/25/15 13:20	04/06/15 17:38	1
Acenaphthylene	ND	*	0.084		ug/L		03/25/15 13:20	04/06/15 17:38	1
Anthracene	ND		0.042		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzo[a]anthracene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzo[a]pyrene	ND		0.042		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzo[b]fluoranthene	ND		0.084		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzo[g,h,i]perylene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzo[k]fluoranthene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzoic acid	ND		3.1		ug/L		03/25/15 13:20	04/06/15 17:38	1
Benzyl alcohol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Bis(2-chloroethoxy)methane	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Bis(2-chloroethyl)ether	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Bis(2-ethylhexyl) phthalate	ND	*	3.1		ug/L		03/25/15 13:20	04/06/15 17:38	1
bis(chloroisopropyl) ether	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Butyl benzyl phthalate	ND		0.63		ug/L		03/25/15 13:20	04/06/15 17:38	1
Carbazole	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Chrysene	ND		0.042		ug/L		03/25/15 13:20	04/06/15 17:38	1
Dibenz(a,h)anthracene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
Dibenzofuran	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Diethyl phthalate	ND	^	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Dimethyl phthalate	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Di-n-butyl phthalate	ND		0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Di-n-octyl phthalate	ND		0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Fluoranthene	ND		0.052		ug/L		03/25/15 13:20	04/06/15 17:38	1
Fluorene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
Hexachlorobenzene	ND		0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 17:38	1
Hexachlorocyclopentadiene	ND	*	2.1		ug/L		03/25/15 13:20	04/06/15 17:38	1
Hexachloroethane	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 17:38	1
Indeno[1,2,3-cd]pyrene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1
Isophorone	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Naphthalene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Nitrobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
N-Nitrosodi-n-propylamine	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
N-Nitrosodiphenylamine	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 17:38	1
Pentachlorophenol	ND		0.73		ug/L		03/25/15 13:20	04/06/15 17:38	1
Phenanthrene	ND	*	0.084		ug/L		03/25/15 13:20	04/06/15 17:38	1
Phenol	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 17:38	1
Pyrene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		44 - 125	03/25/15 13:20	04/06/15 17:38	1
2-Fluorobiphenyl	67		50 - 120	03/25/15 13:20	04/06/15 17:38	1
2-Fluorophenol (Surr)	56		30 - 134	03/25/15 13:20	04/06/15 17:38	1
Nitrobenzene-d5 (Surr)	75		59 - 120	03/25/15 13:20	04/06/15 17:38	1
Phenol-d5 (Surr)	72		52 - 120	03/25/15 13:20	04/06/15 17:38	1
Terphenyl-d14 (Surr)	95		64 - 150	03/25/15 13:20	04/06/15 17:38	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
4,4'-DDE	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
4,4'-DDT	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
Aldrin	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
alpha-BHC	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
alpha-Chlordane	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
beta-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
delta-BHC	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
Dieldrin	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
Endosulfan I	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
Endosulfan II	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
Endosulfan sulfate	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
Endrin	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
Endrin aldehyde	ND		0.025		ug/L		03/26/15 15:03	03/31/15 12:05	1
Endrin ketone	ND		0.010		ug/L		03/26/15 15:03	03/31/15 12:05	1
gamma-BHC (Lindane)	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
gamma-Chlordane	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
Heptachlor	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
Heptachlor epoxide	ND		0.0051		ug/L		03/26/15 15:03	03/31/15 12:05	1
Methoxychlor	ND		0.051		ug/L		03/26/15 15:03	03/31/15 12:05	1
Toxaphene	ND		0.51		ug/L		03/26/15 15:03	03/31/15 12:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		33 - 133	03/26/15 15:03	03/31/15 12:05	1
Tetrachloro-m-xylene	73		45 - 123	03/26/15 15:03	03/31/15 12:05	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		03/25/15 21:52	03/27/15 00:20	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		03/25/15 21:52	03/27/15 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	67		50 - 150				03/25/15 21:52	03/27/15 00:20	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:02	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:02	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:02	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:02	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:02	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 13:02	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:02	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 13:02	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:02	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:02	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:02	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 13:02	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:36	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 18:42	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 18:42	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 18:42	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 18:42	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 18:42	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 18:42	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 18:42	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 18:42	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 18:42	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 18:42	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 18:42	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 18:42	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 18:42	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 18:42	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 18:42	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 18:42	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 18:42	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 18:42	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 18:42	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 18:42	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 18:42	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 18:42	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 18:42	1
Benzene	ND		0.20		ug/L			03/27/15 18:42	1
Bromobenzene	ND		0.20		ug/L			03/27/15 18:42	1
Bromoform	ND		0.50		ug/L			03/27/15 18:42	1
Bromomethane	ND		1.0		ug/L			03/27/15 18:42	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 18:42	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 18:42	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 18:42	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 18:42	1
Chloroethane	ND		0.50		ug/L			03/27/15 18:42	1
Chloroform	0.24		0.20		ug/L			03/27/15 18:42	1
Chloromethane	ND		0.30		ug/L			03/27/15 18:42	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 18:42	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 18:42	1
Dibromomethane	ND		0.20		ug/L			03/27/15 18:42	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 18:42	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 18:42	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 18:42	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 18:42	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 18:42	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 18:42	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 18:42	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 18:42	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 18:42	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 18:42	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 18:42	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 18:42	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 18:42	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 18:42	1
Styrene	ND		0.50		ug/L			03/27/15 18:42	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 18:42	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 18:42	1
Toluene	ND		0.20		ug/L			03/27/15 18:42	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 18:42	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 18:42	1
Trichloroethene	ND		0.20		ug/L			03/27/15 18:42	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 18:42	1
Vinyl chloride	0.030		0.020		ug/L			03/27/15 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 128		03/27/15 18:42	1
4-Bromofluorobenzene (Surr)	100		75 - 120		03/27/15 18:42	1
Dibromofluoromethane (Surr)	101		85 - 115		03/27/15 18:42	1
Toluene-d8 (Surr)	98		75 - 125		03/27/15 18:42	1
Trifluorotoluene (Surr)	111		80 - 127		03/27/15 18:42	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.027	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
2-Methylnaphthalene	ND	*	0.027		ug/L		03/25/15 13:20	04/03/15 19:27	1
1-Methylnaphthalene	0.037	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Acenaphthylene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Acenaphthene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Fluorene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Phenanthrene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Fluoranthene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Benzo[a]anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Chrysene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Benzo[b]fluoranthene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Benzo[k]fluoranthene	ND	*	0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Benzo[a]pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Indeno[1,2,3-cd]pyrene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Dibenz(a,h)anthracene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Benzo[g,h,i]perylene	ND		0.021		ug/L		03/25/15 13:20	04/03/15 19:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	80		64 - 150				03/25/15 13:20	04/03/15 19:27	

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.029	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
2-Methylnaphthalene	ND	H	0.028		ug/L		04/08/15 16:19	04/14/15 13:51	1
1-Methylnaphthalene	0.025	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Acenaphthylene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Acenaphthene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Phenanthrene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Anthracene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Fluoranthene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Pyrene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Benzo[a]anthracene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Chrysene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Benzo[b]fluoranthene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Benzo[k]fluoranthene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Benzo[a]pyrene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Indeno[1,2,3-cd]pyrene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Dibenz(a,h)anthracene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1
Benzo[g,h,i]perylene	ND	H	0.022		ug/L		04/08/15 16:19	04/14/15 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	104		64 - 150	04/08/15 16:19	04/14/15 13:51	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
1,2-Dichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
1,3-Dichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
1,4-Dichlorobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
1-Methylnaphthalene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,4,5-Trichlorophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,4,6-Trichlorophenol	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,4-Dichlorophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,4-Dimethylphenol	ND		2.1		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,4-Dinitrophenol	ND	^ *	5.2		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,4-Dinitrotoluene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2,6-Dinitrotoluene	ND		0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2-Chloronaphthalene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
2-Chlorophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2-Methylnaphthalene	ND	*	0.21		ug/L		03/25/15 13:20	04/06/15 18:04	1
2-Methylphenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2-Nitroaniline	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
2-Nitrophenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
3 & 4 Methylphenol	ND	*	0.84		ug/L		03/25/15 13:20	04/06/15 18:04	1
3,3'-Dichlorobenzidine	ND		2.1		ug/L		03/25/15 13:20	04/06/15 18:04	1
3-Nitroaniline	ND		0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
4,6-Dinitro-2-methylphenol	ND	^ *	4.2		ug/L		03/25/15 13:20	04/06/15 18:04	1
4-Bromophenyl phenyl ether	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
4-Chloro-3-methylphenol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
4-Chloroaniline	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
4-Chlorophenyl phenyl ether	ND		0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
4-Nitroaniline	ND		0.63		ug/L		03/25/15 13:20	04/06/15 18:04	1
4-Nitrophenol	ND		3.1		ug/L		03/25/15 13:20	04/06/15 18:04	1
Acenaphthene	ND	*	0.10		ug/L		03/25/15 13:20	04/06/15 18:04	1
Acenaphthylene	ND	*	0.084		ug/L		03/25/15 13:20	04/06/15 18:04	1
Anthracene	ND		0.042		ug/L		03/25/15 13:20	04/06/15 18:04	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
Benzo[a]pyrene	ND		0.042		ug/L		03/25/15 13:20	04/06/15 18:04	1
Benzo[b]fluoranthene	ND		0.084		ug/L		03/25/15 13:20	04/06/15 18:04	1
Benzo[g,h,i]perylene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
Benzo[k]fluoranthene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
Benzoic acid	6.7		3.1		ug/L		03/25/15 13:20	04/06/15 18:04	1
Benzyl alcohol	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Bis(2-chloroethoxy)methane	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Bis(2-chloroethyl)ether	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Bis(2-ethylhexyl) phthalate	ND	*	3.1		ug/L		03/25/15 13:20	04/06/15 18:04	1
bis(chloroisopropyl) ether	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Butyl benzyl phthalate	ND		0.63		ug/L		03/25/15 13:20	04/06/15 18:04	1
Carbazole	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Chrysene	ND		0.042		ug/L		03/25/15 13:20	04/06/15 18:04	1
Dibenz(a,h)anthracene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
Dibenzofuran	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Diethyl phthalate	ND	^	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Dimethyl phthalate	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Di-n-butyl phthalate	ND		0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Di-n-octyl phthalate	ND		0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Fluoranthene	ND		0.052		ug/L		03/25/15 13:20	04/06/15 18:04	1
Fluorene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
Hexachlorobenzene	ND		0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Hexachlorobutadiene	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 18:04	1
Hexachlorocyclopentadiene	ND	*	2.1		ug/L		03/25/15 13:20	04/06/15 18:04	1
Hexachloroethane	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 18:04	1
Indeno[1,2,3-cd]pyrene	ND		0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1
Isophorone	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Naphthalene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Nitrobenzene	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
N-Nitrosodi-n-propylamine	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
N-Nitrosodiphenylamine	ND	*	0.42		ug/L		03/25/15 13:20	04/06/15 18:04	1
Pentachlorophenol	ND		0.73		ug/L		03/25/15 13:20	04/06/15 18:04	1
Phenanthrene	ND	*	0.084		ug/L		03/25/15 13:20	04/06/15 18:04	1
Phenol	ND	*	0.63		ug/L		03/25/15 13:20	04/06/15 18:04	1
Pyrene	ND	*	0.063		ug/L		03/25/15 13:20	04/06/15 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	105		44 - 125	03/25/15 13:20	04/06/15 18:04	1
2-Fluorobiphenyl	74		50 - 120	03/25/15 13:20	04/06/15 18:04	1
2-Fluorophenol (Surr)	75		30 - 134	03/25/15 13:20	04/06/15 18:04	1
Nitrobenzene-d5 (Surr)	80		59 - 120	03/25/15 13:20	04/06/15 18:04	1
Phenol-d5 (Surr)	87		52 - 120	03/25/15 13:20	04/06/15 18:04	1
Terphenyl-d14 (Surr)	83		64 - 150	03/25/15 13:20	04/06/15 18:04	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
1,2-Dichlorobenzene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
1,3-Dichlorobenzene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
1-Methylnaphthalene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,4,5-Trichlorophenol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,4,6-Trichlorophenol	ND	H	0.65		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,4-Dichlorophenol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,4-Dimethylphenol	ND	H	2.2		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,4-Dinitrophenol	ND	H	5.4		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,4-Dinitrotoluene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2,6-Dinitrotoluene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2-Chloronaphthalene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
2-Chlorophenol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2-Methylnaphthalene	ND	H	0.22		ug/L		04/08/15 16:19	04/13/15 18:38	1
2-Methylphenol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2-Nitroaniline	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
2-Nitrophenol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
3 & 4 Methylphenol	ND	H	0.87		ug/L		04/08/15 16:19	04/13/15 18:38	1
3,3'-Dichlorobenzidine	ND	H	2.2		ug/L		04/08/15 16:19	04/13/15 18:38	1
3-Nitroaniline	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
4,6-Dinitro-2-methylphenol	ND	H	4.4		ug/L		04/08/15 16:19	04/13/15 18:38	1
4-Bromophenyl phenyl ether	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
4-Chloro-3-methylphenol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
4-Chloroaniline	ND	H *	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
4-Chlorophenyl phenyl ether	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
4-Nitroaniline	ND	H	0.65		ug/L		04/08/15 16:19	04/13/15 18:38	1
4-Nitrophenol	ND	H	3.3		ug/L		04/08/15 16:19	04/13/15 18:38	1
Acenaphthene	ND	H	0.11		ug/L		04/08/15 16:19	04/13/15 18:38	1
Acenaphthylene	ND	H	0.087		ug/L		04/08/15 16:19	04/13/15 18:38	1
Anthracene	ND	H	0.044		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzo[a]anthracene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzo[a]pyrene	ND	H	0.044		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzo[b]fluoranthene	ND	H	0.087		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzo[g,h,i]perylene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzo[k]fluoranthene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzoic acid	ND	H *	3.3		ug/L		04/08/15 16:19	04/13/15 18:38	1
Benzyl alcohol	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Bis(2-chloroethoxy)methane	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Bis(2-chloroethyl)ether	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.3		ug/L		04/08/15 16:19	04/13/15 18:38	1
bis(chloroisopropyl) ether	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Butyl benzyl phthalate	ND	H	0.65		ug/L		04/08/15 16:19	04/13/15 18:38	1
Carbazole	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Chrysene	ND	H	0.044		ug/L		04/08/15 16:19	04/13/15 18:38	1
Dibenz(a,h)anthracene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
Dibenzofuran	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Diethyl phthalate	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Dimethyl phthalate	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Di-n-butyl phthalate	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Di-n-octyl phthalate	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Fluoranthene	ND	H	0.054		ug/L		04/08/15 16:19	04/13/15 18:38	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
Hexachlorobenzene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Hexachlorobutadiene	ND	H	0.65		ug/L		04/08/15 16:19	04/13/15 18:38	1
Hexachlorocyclopentadiene	ND	H * ^	2.2		ug/L		04/08/15 16:19	04/13/15 18:38	1
Hexachloroethane	ND	H	0.65		ug/L		04/08/15 16:19	04/13/15 18:38	1
Indeno[1,2,3-cd]pyrene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1
Isophorone	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Naphthalene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Nitrobenzene	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
N-Nitrosodi-n-propylamine	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
N-Nitrosodiphenylamine	ND	H	0.44		ug/L		04/08/15 16:19	04/13/15 18:38	1
Pentachlorophenol	ND	H	0.76		ug/L		04/08/15 16:19	04/13/15 18:38	1
Phenanthrene	ND	H	0.087		ug/L		04/08/15 16:19	04/13/15 18:38	1
Phenol	ND	H	0.65		ug/L		04/08/15 16:19	04/13/15 18:38	1
Pyrene	ND	H	0.065		ug/L		04/08/15 16:19	04/13/15 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	110	^	44 - 125	04/08/15 16:19	04/13/15 18:38	1
2-Fluorobiphenyl	81		50 - 120	04/08/15 16:19	04/13/15 18:38	1
2-Fluorophenol (Surr)	80		30 - 134	04/08/15 16:19	04/13/15 18:38	1
Nitrobenzene-d5 (Surr)	94		59 - 120	04/08/15 16:19	04/13/15 18:38	1
Phenol-d5 (Surr)	93		52 - 120	04/08/15 16:19	04/13/15 18:38	1
Terphenyl-d14 (Surr)	99		64 - 150	04/08/15 16:19	04/13/15 18:38	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.23	Y	0.13		mg/L		04/02/15 20:26	04/03/15 06:57	1
Motor Oil (>C24-C36)	ND		0.26		mg/L		04/02/15 20:26	04/03/15 06:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150	04/02/15 20:26	04/03/15 06:57	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 19:08	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 19:08	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 19:08	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 19:08	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 19:08	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 19:08	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 19:08	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 19:08	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 19:08	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 19:08	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 19:08	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 19:08	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 19:08	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 19:08	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 19:08	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 19:08	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 19:08	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 19:08	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 19:08	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 19:08	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 19:08	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 19:08	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 19:08	1
Benzene	ND		0.20		ug/L			03/27/15 19:08	1
Bromobenzene	ND		0.20		ug/L			03/27/15 19:08	1
Bromoform	ND		0.50		ug/L			03/27/15 19:08	1
Bromomethane	ND		1.0		ug/L			03/27/15 19:08	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 19:08	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 19:08	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 19:08	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 19:08	1
Chloroethane	ND		0.50		ug/L			03/27/15 19:08	1
Chloroform	ND		0.20		ug/L			03/27/15 19:08	1
Chloromethane	ND		0.30		ug/L			03/27/15 19:08	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 19:08	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 19:08	1
Dibromomethane	ND		0.20		ug/L			03/27/15 19:08	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 19:08	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 19:08	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 19:08	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 19:08	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 19:08	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 19:08	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 19:08	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 19:08	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 19:08	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 19:08	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 19:08	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 19:08	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 19:08	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 19:08	1
Styrene	ND		0.50		ug/L			03/27/15 19:08	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 19:08	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 19:08	1
Toluene	ND		0.20		ug/L			03/27/15 19:08	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 19:08	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 19:08	1
Trichloroethene	ND		0.20		ug/L			03/27/15 19:08	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 19:08	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 128		03/27/15 19:08	1
4-Bromofluorobenzene (Surr)	100		75 - 120		03/27/15 19:08	1
Dibromofluoromethane (Surr)	100		85 - 115		03/27/15 19:08	1
Toluene-d8 (Surr)	96		75 - 125		03/27/15 19:08	1
Trifluorotoluene (Surr)	105		80 - 127		03/27/15 19:08	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
2-Methylnaphthalene	ND	*	0.025		ug/L		03/25/15 13:20	04/03/15 19:49	1
1-Methylnaphthalene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Acenaphthylene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Acenaphthene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Fluorene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Phenanthrene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Anthracene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Fluoranthene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Pyrene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Benzo[a]anthracene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Chrysene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Benzo[b]fluoranthene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Benzo[k]fluoranthene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Benzo[a]pyrene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Indeno[1,2,3-cd]pyrene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Dibenz(a,h)anthracene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1
Benzo[g,h,i]perylene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		64 - 150	03/25/15 13:20	04/03/15 19:49	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
2-Methylnaphthalene	ND	H	0.027		ug/L		04/08/15 16:19	04/14/15 14:13	1
1-Methylnaphthalene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Acenaphthylene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Acenaphthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Phenanthrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Anthracene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Fluoranthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Pyrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Benzo[a]anthracene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Chrysene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Benzo[b]fluoranthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Benzo[k]fluoranthene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Benzo[a]pyrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Indeno[1,2,3-cd]pyrene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Dibenz(a,h)anthracene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1
Benzo[g,h,i]perylene	ND	H	0.020		ug/L		04/08/15 16:19	04/14/15 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	105		64 - 150	04/08/15 16:19	04/14/15 14:13	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
1,2-Dichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
1,3-Dichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
1,4-Dichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
1-Methylnaphthalene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,4,5-Trichlorophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,4,6-Trichlorophenol	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,4-Dichlorophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,4-Dimethylphenol	ND		1.9		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,4-Dinitrophenol	ND	^ *	4.7		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,4-Dinitrotoluene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2,6-Dinitrotoluene	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2-Chloronaphthalene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
2-Chlorophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2-Methylnaphthalene	ND	*	0.19		ug/L		03/25/15 13:20	04/06/15 18:30	1
2-Methylphenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2-Nitroaniline	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
2-Nitrophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
3 & 4 Methylphenol	ND	*	0.76		ug/L		03/25/15 13:20	04/06/15 18:30	1
3,3'-Dichlorobenzidine	ND		1.9		ug/L		03/25/15 13:20	04/06/15 18:30	1
3-Nitroaniline	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
4,6-Dinitro-2-methylphenol	ND	^ *	3.8		ug/L		03/25/15 13:20	04/06/15 18:30	1
4-Bromophenyl phenyl ether	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
4-Chloro-3-methylphenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
4-Chloroaniline	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
4-Chlorophenyl phenyl ether	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
4-Nitroaniline	ND		0.57		ug/L		03/25/15 13:20	04/06/15 18:30	1
4-Nitrophenol	ND		2.8		ug/L		03/25/15 13:20	04/06/15 18:30	1
Acenaphthene	ND	*	0.095		ug/L		03/25/15 13:20	04/06/15 18:30	1
Acenaphthylene	ND	*	0.076		ug/L		03/25/15 13:20	04/06/15 18:30	1
Anthracene	ND		0.038		ug/L		03/25/15 13:20	04/06/15 18:30	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
Benzo[a]pyrene	ND		0.038		ug/L		03/25/15 13:20	04/06/15 18:30	1
Benzo[b]fluoranthene	ND		0.076		ug/L		03/25/15 13:20	04/06/15 18:30	1
Benzo[g,h,i]perylene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
Benzo[k]fluoranthene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
Benzoic acid	ND		2.8		ug/L		03/25/15 13:20	04/06/15 18:30	1
Benzyl alcohol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Bis(2-chloroethoxy)methane	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Bis(2-chloroethyl)ether	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Bis(2-ethylhexyl) phthalate	ND	*	2.8		ug/L		03/25/15 13:20	04/06/15 18:30	1
bis(chloroisopropyl) ether	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Butyl benzyl phthalate	ND		0.57		ug/L		03/25/15 13:20	04/06/15 18:30	1
Carbazole	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Chrysene	ND		0.038		ug/L		03/25/15 13:20	04/06/15 18:30	1
Dibenz(a,h)anthracene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
Dibenzofuran	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Diethyl phthalate	ND	^	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Dimethyl phthalate	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Di-n-butyl phthalate	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Di-n-octyl phthalate	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Fluoranthene	ND		0.047		ug/L		03/25/15 13:20	04/06/15 18:30	1
Fluorene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
Hexachlorobenzene	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Hexachlorobutadiene	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:30	1
Hexachlorocyclopentadiene	ND	*	1.9		ug/L		03/25/15 13:20	04/06/15 18:30	1
Hexachloroethane	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:30	1
Indeno[1,2,3-cd]pyrene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1
Isophorone	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Naphthalene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Nitrobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
N-Nitrosodi-n-propylamine	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
N-Nitrosodiphenylamine	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:30	1
Pentachlorophenol	ND		0.66		ug/L		03/25/15 13:20	04/06/15 18:30	1
Phenanthrene	ND	*	0.076		ug/L		03/25/15 13:20	04/06/15 18:30	1
Phenol	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:30	1
Pyrene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	68		44 - 125	03/25/15 13:20	04/06/15 18:30	1
2-Fluorobiphenyl	65		50 - 120	03/25/15 13:20	04/06/15 18:30	1
2-Fluorophenol (Surr)	58		30 - 134	03/25/15 13:20	04/06/15 18:30	1
Nitrobenzene-d5 (Surr)	72		59 - 120	03/25/15 13:20	04/06/15 18:30	1
Phenol-d5 (Surr)	67		52 - 120	03/25/15 13:20	04/06/15 18:30	1
Terphenyl-d14 (Surr)	83		64 - 150	03/25/15 13:20	04/06/15 18:30	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
1,2-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
1,3-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
1-Methylnaphthalene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,4,5-Trichlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,4,6-Trichlorophenol	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,4-Dichlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,4-Dimethylphenol	ND	H	2.0		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,4-Dinitrophenol	ND	H	5.1		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,4-Dinitrotoluene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2,6-Dinitrotoluene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2-Chloronaphthalene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
2-Chlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2-Methylnaphthalene	ND	H	0.20		ug/L		04/08/15 16:19	04/13/15 19:03	1
2-Methylphenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2-Nitroaniline	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
2-Nitrophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
3 & 4 Methylphenol	ND	H	0.82		ug/L		04/08/15 16:19	04/13/15 19:03	1
3,3'-Dichlorobenzidine	ND	H	2.0		ug/L		04/08/15 16:19	04/13/15 19:03	1
3-Nitroaniline	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
4,6-Dinitro-2-methylphenol	ND	H	4.1		ug/L		04/08/15 16:19	04/13/15 19:03	1
4-Bromophenyl phenyl ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
4-Chloro-3-methylphenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
4-Chloroaniline	ND	H *	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
4-Chlorophenyl phenyl ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
4-Nitroaniline	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 19:03	1
4-Nitrophenol	ND	H	3.1		ug/L		04/08/15 16:19	04/13/15 19:03	1
Acenaphthene	ND	H	0.10		ug/L		04/08/15 16:19	04/13/15 19:03	1
Acenaphthylene	ND	H	0.082		ug/L		04/08/15 16:19	04/13/15 19:03	1
Anthracene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzo[a]anthracene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzo[a]pyrene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzo[b]fluoranthene	ND	H	0.082		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzo[g,h,i]perylene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzo[k]fluoranthene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzoic acid	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 19:03	1
Benzyl alcohol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Bis(2-chloroethoxy)methane	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Bis(2-chloroethyl)ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 19:03	1
bis(chloroisopropyl) ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Butyl benzyl phthalate	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 19:03	1
Carbazole	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Chrysene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 19:03	1
Dibenz(a,h)anthracene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Dibenzofuran	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Diethyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Dimethyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Di-n-butyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Di-n-octyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Fluoranthene	ND	H	0.051		ug/L		04/08/15 16:19	04/13/15 19:03	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Hexachlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Hexachlorobutadiene	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 19:03	1
Hexachlorocyclopentadiene	ND	H * ^	2.0		ug/L		04/08/15 16:19	04/13/15 19:03	1
Hexachloroethane	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 19:03	1
Indeno[1,2,3-cd]pyrene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Isophorone	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Naphthalene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Nitrobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
N-Nitrosodi-n-propylamine	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
N-Nitrosodiphenylamine	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:03	1
Pentachlorophenol	ND	H	0.71		ug/L		04/08/15 16:19	04/13/15 19:03	1
Phenanthrene	ND	H	0.082		ug/L		04/08/15 16:19	04/13/15 19:03	1
Phenol	ND	H	0.61		ug/L		04/08/15 16:19	04/13/15 19:03	1
Pyrene	ND	H	0.061		ug/L		04/08/15 16:19	04/13/15 19:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	102	^	44 - 125				04/08/15 16:19	04/13/15 19:03	1
2-Fluorobiphenyl	79		50 - 120				04/08/15 16:19	04/13/15 19:03	1
2-Fluorophenol (Surr)	83		30 - 134				04/08/15 16:19	04/13/15 19:03	1
Nitrobenzene-d5 (Surr)	96		59 - 120				04/08/15 16:19	04/13/15 19:03	1
Phenol-d5 (Surr)	94		52 - 120				04/08/15 16:19	04/13/15 19:03	1
Terphenyl-d14 (Surr)	105		64 - 150				04/08/15 16:19	04/13/15 19:03	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		04/02/15 20:26	04/03/15 07:15	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		04/02/15 20:26	04/03/15 07:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	67		50 - 150				04/02/15 20:26	04/03/15 07:15	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 19:34	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 19:34	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 19:34	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 19:34	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 19:34	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 19:34	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 19:34	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 19:34	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 19:34	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 19:34	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 19:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 19:34	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 19:34	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 19:34	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 19:34	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 19:34	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 19:34	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 19:34	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 19:34	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 19:34	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 19:34	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 19:34	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 19:34	1
Benzene	ND		0.20		ug/L			03/27/15 19:34	1
Bromobenzene	ND		0.20		ug/L			03/27/15 19:34	1
Bromoform	ND		0.50		ug/L			03/27/15 19:34	1
Bromomethane	ND		1.0		ug/L			03/27/15 19:34	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 19:34	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 19:34	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 19:34	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 19:34	1
Chloroethane	ND		0.50		ug/L			03/27/15 19:34	1
Chloroform	ND		0.20		ug/L			03/27/15 19:34	1
Chloromethane	ND		0.30		ug/L			03/27/15 19:34	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 19:34	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 19:34	1
Dibromomethane	ND		0.20		ug/L			03/27/15 19:34	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 19:34	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 19:34	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 19:34	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 19:34	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 19:34	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 19:34	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 19:34	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 19:34	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 19:34	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 19:34	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 19:34	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 19:34	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 19:34	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 19:34	1
Styrene	ND		0.50		ug/L			03/27/15 19:34	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 19:34	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 19:34	1
Toluene	ND		0.20		ug/L			03/27/15 19:34	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 19:34	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 19:34	1
Trichloroethene	0.50		0.20		ug/L			03/27/15 19:34	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 19:34	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 128		03/27/15 19:34	1
4-Bromofluorobenzene (Surr)	100		75 - 120		03/27/15 19:34	1
Dibromofluoromethane (Surr)	100		85 - 115		03/27/15 19:34	1
Toluene-d8 (Surr)	96		75 - 125		03/27/15 19:34	1
Trifluorotoluene (Surr)	106		80 - 127		03/27/15 19:34	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
2-Methylnaphthalene	ND	*	0.025		ug/L		03/25/15 13:20	04/03/15 20:10	1
1-Methylnaphthalene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Acenaphthylene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Acenaphthene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Fluorene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Phenanthrene	0.022	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Anthracene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Fluoranthene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Pyrene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Benzo[a]anthracene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Chrysene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Benzo[b]fluoranthene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Benzo[k]fluoranthene	ND	*	0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Benzo[a]pyrene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Indeno[1,2,3-cd]pyrene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Dibenz(a,h)anthracene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1
Benzo[g,h,i]perylene	ND		0.019		ug/L		03/25/15 13:20	04/03/15 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	144		64 - 150	03/25/15 13:20	04/03/15 20:10	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
2-Methylnaphthalene	ND	H	0.025		ug/L		04/08/15 16:19	04/14/15 14:34	1
1-Methylnaphthalene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Acenaphthylene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Acenaphthene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Phenanthrene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Anthracene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Fluoranthene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Pyrene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Benzo[a]anthracene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Chrysene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Benzo[b]fluoranthene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Benzo[k]fluoranthene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Benzo[a]pyrene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Indeno[1,2,3-cd]pyrene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Dibenz(a,h)anthracene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1
Benzo[g,h,i]perylene	ND	H	0.019		ug/L		04/08/15 16:19	04/14/15 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	108		64 - 150	04/08/15 16:19	04/14/15 14:34	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
1,2-Dichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
1,3-Dichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
1,4-Dichlorobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
1-Methylnaphthalene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,4,5-Trichlorophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,4,6-Trichlorophenol	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,4-Dichlorophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,4-Dimethylphenol	ND		1.9		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,4-Dinitrophenol	ND	^ *	4.7		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,4-Dinitrotoluene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2,6-Dinitrotoluene	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2-Chloronaphthalene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
2-Chlorophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2-Methylnaphthalene	ND	*	0.19		ug/L		03/25/15 13:20	04/06/15 18:57	1
2-Methylphenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2-Nitroaniline	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
2-Nitrophenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
3 & 4 Methylphenol	ND	*	0.76		ug/L		03/25/15 13:20	04/06/15 18:57	1
3,3'-Dichlorobenzidine	ND		1.9		ug/L		03/25/15 13:20	04/06/15 18:57	1
3-Nitroaniline	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
4,6-Dinitro-2-methylphenol	ND	^ *	3.8		ug/L		03/25/15 13:20	04/06/15 18:57	1
4-Bromophenyl phenyl ether	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
4-Chloro-3-methylphenol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
4-Chloroaniline	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
4-Chlorophenyl phenyl ether	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
4-Nitroaniline	ND		0.57		ug/L		03/25/15 13:20	04/06/15 18:57	1
4-Nitrophenol	ND		2.8		ug/L		03/25/15 13:20	04/06/15 18:57	1
Acenaphthene	ND	*	0.095		ug/L		03/25/15 13:20	04/06/15 18:57	1
Acenaphthylene	ND	*	0.076		ug/L		03/25/15 13:20	04/06/15 18:57	1
Anthracene	ND		0.038		ug/L		03/25/15 13:20	04/06/15 18:57	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
Benzo[a]pyrene	ND		0.038		ug/L		03/25/15 13:20	04/06/15 18:57	1
Benzo[b]fluoranthene	ND		0.076		ug/L		03/25/15 13:20	04/06/15 18:57	1
Benzo[g,h,i]perylene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
Benzo[k]fluoranthene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
Benzoic acid	ND		2.8		ug/L		03/25/15 13:20	04/06/15 18:57	1
Benzyl alcohol	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Bis(2-chloroethoxy)methane	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Bis(2-chloroethyl)ether	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Bis(2-ethylhexyl) phthalate	ND	*	2.8		ug/L		03/25/15 13:20	04/06/15 18:57	1
bis(chloroisopropyl) ether	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Butyl benzyl phthalate	ND		0.57		ug/L		03/25/15 13:20	04/06/15 18:57	1
Carbazole	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Chrysene	ND		0.038		ug/L		03/25/15 13:20	04/06/15 18:57	1
Dibenz(a,h)anthracene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
Dibenzofuran	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Diethyl phthalate	ND	^	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Dimethyl phthalate	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Di-n-butyl phthalate	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Di-n-octyl phthalate	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Fluoranthene	ND		0.047		ug/L		03/25/15 13:20	04/06/15 18:57	1
Fluorene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
Hexachlorobenzene	ND		0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Hexachlorobutadiene	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:57	1
Hexachlorocyclopentadiene	ND	*	1.9		ug/L		03/25/15 13:20	04/06/15 18:57	1
Hexachloroethane	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:57	1
Indeno[1,2,3-cd]pyrene	ND		0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1
Isophorone	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Naphthalene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Nitrobenzene	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
N-Nitrosodi-n-propylamine	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
N-Nitrosodiphenylamine	ND	*	0.38		ug/L		03/25/15 13:20	04/06/15 18:57	1
Pentachlorophenol	ND		0.66		ug/L		03/25/15 13:20	04/06/15 18:57	1
Phenanthrene	ND	*	0.076		ug/L		03/25/15 13:20	04/06/15 18:57	1
Phenol	ND	*	0.57		ug/L		03/25/15 13:20	04/06/15 18:57	1
Pyrene	ND	*	0.057		ug/L		03/25/15 13:20	04/06/15 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	175	X	44 - 125	03/25/15 13:20	04/06/15 18:57	1
2-Fluorobiphenyl	123	X	50 - 120	03/25/15 13:20	04/06/15 18:57	1
2-Fluorophenol (Surr)	110		30 - 134	03/25/15 13:20	04/06/15 18:57	1
Nitrobenzene-d5 (Surr)	139	X	59 - 120	03/25/15 13:20	04/06/15 18:57	1
Phenol-d5 (Surr)	133	X	52 - 120	03/25/15 13:20	04/06/15 18:57	1
Terphenyl-d14 (Surr)	186	X	64 - 150	03/25/15 13:20	04/06/15 18:57	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
1,2-Dichlorobenzene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
1,3-Dichlorobenzene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
1-Methylnaphthalene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,4,5-Trichlorophenol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,4,6-Trichlorophenol	ND	H	0.58		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,4-Dichlorophenol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,4-Dimethylphenol	ND	H	1.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,4-Dinitrophenol	ND	H	4.8		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,4-Dinitrotoluene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2,6-Dinitrotoluene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2-Chloronaphthalene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
2-Chlorophenol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2-Methylnaphthalene	ND	H	0.19		ug/L		04/08/15 16:19	04/13/15 19:28	1
2-Methylphenol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2-Nitroaniline	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
2-Nitrophenol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
3 & 4 Methylphenol	ND	H	0.77		ug/L		04/08/15 16:19	04/13/15 19:28	1
3,3'-Dichlorobenzidine	ND	H	1.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
3-Nitroaniline	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
4,6-Dinitro-2-methylphenol	ND	H	3.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
4-Bromophenyl phenyl ether	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
4-Chloro-3-methylphenol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
4-Chloroaniline	ND	H *	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
4-Chlorophenyl phenyl ether	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
4-Nitroaniline	ND	H	0.58		ug/L		04/08/15 16:19	04/13/15 19:28	1
4-Nitrophenol	ND	H	2.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
Acenaphthene	ND	H	0.096		ug/L		04/08/15 16:19	04/13/15 19:28	1
Acenaphthylene	ND	H	0.077		ug/L		04/08/15 16:19	04/13/15 19:28	1
Anthracene	ND	H	0.039		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzo[a]anthracene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzo[a]pyrene	ND	H	0.039		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzo[b]fluoranthene	ND	H	0.077		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzo[g,h,i]perylene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzo[k]fluoranthene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzoic acid	ND	H *	2.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
Benzyl alcohol	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Bis(2-chloroethoxy)methane	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Bis(2-chloroethyl)ether	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Bis(2-ethylhexyl) phthalate	ND	H *	2.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
bis(chloroisopropyl) ether	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Butyl benzyl phthalate	ND	H	0.58		ug/L		04/08/15 16:19	04/13/15 19:28	1
Carbazole	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Chrysene	ND	H	0.039		ug/L		04/08/15 16:19	04/13/15 19:28	1
Dibenz(a,h)anthracene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
Dibenzofuran	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Diethyl phthalate	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Dimethyl phthalate	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Di-n-butyl phthalate	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Di-n-octyl phthalate	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Fluoranthene	ND	H	0.048		ug/L		04/08/15 16:19	04/13/15 19:28	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
Hexachlorobenzene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Hexachlorobutadiene	ND	H	0.58		ug/L		04/08/15 16:19	04/13/15 19:28	1
Hexachlorocyclopentadiene	ND	H * ^	1.9		ug/L		04/08/15 16:19	04/13/15 19:28	1
Hexachloroethane	ND	H	0.58		ug/L		04/08/15 16:19	04/13/15 19:28	1
Indeno[1,2,3-cd]pyrene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1
Isophorone	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Naphthalene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Nitrobenzene	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
N-Nitrosodi-n-propylamine	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
N-Nitrosodiphenylamine	ND	H	0.39		ug/L		04/08/15 16:19	04/13/15 19:28	1
Pentachlorophenol	ND	H	0.68		ug/L		04/08/15 16:19	04/13/15 19:28	1
Phenanthrene	ND	H	0.077		ug/L		04/08/15 16:19	04/13/15 19:28	1
Phenol	ND	H	0.58		ug/L		04/08/15 16:19	04/13/15 19:28	1
Pyrene	ND	H	0.058		ug/L		04/08/15 16:19	04/13/15 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	110	^	44 - 125	04/08/15 16:19	04/13/15 19:28	1
2-Fluorobiphenyl	77		50 - 120	04/08/15 16:19	04/13/15 19:28	1
2-Fluorophenol (Surr)	78		30 - 134	04/08/15 16:19	04/13/15 19:28	1
Nitrobenzene-d5 (Surr)	94		59 - 120	04/08/15 16:19	04/13/15 19:28	1
Phenol-d5 (Surr)	93		52 - 120	04/08/15 16:19	04/13/15 19:28	1
Terphenyl-d14 (Surr)	105		64 - 150	04/08/15 16:19	04/13/15 19:28	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
4,4'-DDE	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
4,4'-DDT	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
Aldrin	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
alpha-BHC	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
alpha-Chlordane	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
beta-BHC	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
delta-BHC	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
Dieldrin	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
Endosulfan I	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
Endosulfan II	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
Endosulfan sulfate	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
Endrin	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
Endrin aldehyde	ND		0.027		ug/L		03/26/15 15:03	03/31/15 12:22	1
Endrin ketone	ND		0.011		ug/L		03/26/15 15:03	03/31/15 12:22	1
gamma-BHC (Lindane)	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
gamma-Chlordane	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
Heptachlor	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
Heptachlor epoxide	ND		0.0053		ug/L		03/26/15 15:03	03/31/15 12:22	1
Methoxychlor	ND		0.053		ug/L		03/26/15 15:03	03/31/15 12:22	1
Toxaphene	ND		0.53		ug/L		03/26/15 15:03	03/31/15 12:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	77		33 - 133	03/26/15 15:03	03/31/15 12:22	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	71		45 - 123	03/26/15 15:03	03/31/15 12:22	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		04/02/15 20:26	04/03/15 07:33	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		04/02/15 20:26	04/03/15 07:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	50		50 - 150	04/02/15 20:26	04/03/15 07:33	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:07	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:07	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:07	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:07	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:07	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 13:07	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:07	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 13:07	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:07	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 13:07	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 13:07	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 13:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:39	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 20:00	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 20:00	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 20:00	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 20:00	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 20:00	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 20:00	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 20:00	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 20:00	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 20:00	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 20:00	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 20:00	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 20:00	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 20:00	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 20:00	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 20:00	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 20:00	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 20:00	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 20:00	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 20:00	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 20:00	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 20:00	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 20:00	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 20:00	1
Benzene	ND		0.20		ug/L			03/27/15 20:00	1
Bromobenzene	ND		0.20		ug/L			03/27/15 20:00	1
Bromoform	ND		0.50		ug/L			03/27/15 20:00	1
Bromomethane	ND		1.0		ug/L			03/27/15 20:00	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 20:00	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 20:00	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 20:00	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 20:00	1
Chloroethane	ND		0.50		ug/L			03/27/15 20:00	1
Chloroform	ND		0.20		ug/L			03/27/15 20:00	1
Chloromethane	ND		0.30		ug/L			03/27/15 20:00	1
cis-1,2-Dichloroethene	0.45		0.20		ug/L			03/27/15 20:00	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 20:00	1
Dibromomethane	ND		0.20		ug/L			03/27/15 20:00	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 20:00	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 20:00	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 20:00	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 20:00	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 20:00	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 20:00	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 20:00	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 20:00	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 20:00	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 20:00	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 20:00	1
N-Propylbenzene	ND		0.20		ug/L			03/27/15 20:00	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			03/27/15 20:00	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 20:00	1
Styrene	ND		0.50		ug/L			03/27/15 20:00	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 20:00	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 20:00	1
Toluene	ND		0.20		ug/L			03/27/15 20:00	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 20:00	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 20:00	1
Trichloroethene	3.0		0.20		ug/L			03/27/15 20:00	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 20:00	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 128		03/27/15 20:00	1
4-Bromofluorobenzene (Surr)	101		75 - 120		03/27/15 20:00	1
Dibromofluoromethane (Surr)	105		85 - 115		03/27/15 20:00	1
Toluene-d8 (Surr)	96		75 - 125		03/27/15 20:00	1
Trifluorotoluene (Surr)	101		80 - 127		03/27/15 20:00	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	F2 F1 *	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
2-Methylnaphthalene	ND	F2 F1 *	0.026		ug/L		03/25/15 13:20	04/03/15 20:32	1
1-Methylnaphthalene	ND	F2 F1 *	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Acenaphthylene	ND	F2 * F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Acenaphthene	ND	F2 F1 *	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Fluorene	ND	F2 F1 *	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Phenanthrene	ND	F2 F1 *	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Anthracene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Fluoranthene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Pyrene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Benzo[a]anthracene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Chrysene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Benzo[b]fluoranthene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Benzo[k]fluoranthene	ND	F2 * F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Benzo[a]pyrene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Indeno[1,2,3-cd]pyrene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Dibenz(a,h)anthracene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Benzo[g,h,i]perylene	ND	F2 F1	0.020		ug/L		03/25/15 13:20	04/03/15 20:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		64 - 150				03/25/15 13:20	04/03/15 20:32	

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.022	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
2-Methylnaphthalene	ND	H	0.027		ug/L		04/08/15 16:19	04/14/15 14:56	1
1-Methylnaphthalene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Acenaphthylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Acenaphthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Phenanthrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Benzo[a]anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Chrysene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Benzo[b]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Benzo[k]fluoranthene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Benzo[a]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Indeno[1,2,3-cd]pyrene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Dibenz(a,h)anthracene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1
Benzo[g,h,i]perylene	ND	H	0.021		ug/L		04/08/15 16:19	04/14/15 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	111		64 - 150	04/08/15 16:19	04/14/15 14:56	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
1,2-Dichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
1,3-Dichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
1,4-Dichlorobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
1-Methylnaphthalene	ND	*	0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,4,5-Trichlorophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,4,6-Trichlorophenol	ND	*	0.60		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,4-Dichlorophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,4-Dinitrophenol	ND	^ *	5.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,4-Dinitrotoluene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2,6-Dinitrotoluene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2-Chloronaphthalene	ND	*	0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
2-Chlorophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2-Methylnaphthalene	ND	*	0.20		ug/L		03/25/15 13:20	04/06/15 20:15	1
2-Methylphenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2-Nitroaniline	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
2-Nitrophenol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
3 & 4 Methylphenol	ND	*	0.80		ug/L		03/25/15 13:20	04/06/15 20:15	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
3-Nitroaniline	ND		0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
4,6-Dinitro-2-methylphenol	ND	^ *	4.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
4-Bromophenyl phenyl ether	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
4-Chloro-3-methylphenol	1.2	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
4-Chloroaniline	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
4-Nitroaniline	ND		0.60		ug/L		03/25/15 13:20	04/06/15 20:15	1
4-Nitrophenol	ND		3.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
Acenaphthene	ND	*	0.10		ug/L		03/25/15 13:20	04/06/15 20:15	1
Acenaphthylene	ND	*	0.080		ug/L		03/25/15 13:20	04/06/15 20:15	1
Anthracene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 20:15	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
Benzo[a]pyrene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 20:15	1
Benzo[b]fluoranthene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 20:15	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
Benzo[k]fluoranthene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
Benzoic acid	ND		3.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
Benzyl alcohol	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Bis(2-chloroethoxy)methane	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Bis(2-chloroethyl)ether	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Bis(2-ethylhexyl) phthalate	ND	*	3.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
bis(chloroisopropyl) ether	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Butyl benzyl phthalate	0.61		0.60		ug/L		03/25/15 13:20	04/06/15 20:15	1
Carbazole	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Chrysene	0.074		0.040		ug/L		03/25/15 13:20	04/06/15 20:15	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
Dibenzofuran	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Diethyl phthalate	0.48	B ^	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Dimethyl phthalate	1.5	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Di-n-butyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Di-n-octyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Fluoranthene	0.082		0.050		ug/L		03/25/15 13:20	04/06/15 20:15	1
Fluorene	ND	*	0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
Hexachlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Hexachlorobutadiene	ND	*	0.60		ug/L		03/25/15 13:20	04/06/15 20:15	1
Hexachlorocyclopentadiene	ND	*	2.0		ug/L		03/25/15 13:20	04/06/15 20:15	1
Hexachloroethane	ND	*	0.60		ug/L		03/25/15 13:20	04/06/15 20:15	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1
Isophorone	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Naphthalene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Nitrobenzene	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
N-Nitrosodi-n-propylamine	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
N-Nitrosodiphenylamine	ND	*	0.40		ug/L		03/25/15 13:20	04/06/15 20:15	1
Pentachlorophenol	4.0		0.70		ug/L		03/25/15 13:20	04/06/15 20:15	1
Phenanthrene	ND	*	0.080		ug/L		03/25/15 13:20	04/06/15 20:15	1
Phenol	0.89	*	0.60		ug/L		03/25/15 13:20	04/06/15 20:15	1
Pyrene	0.10	*	0.060		ug/L		03/25/15 13:20	04/06/15 20:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	97		44 - 125	03/25/15 13:20	04/06/15 20:15	1
2-Fluorobiphenyl	61		50 - 120	03/25/15 13:20	04/06/15 20:15	1
2-Fluorophenol (Surr)	59		30 - 134	03/25/15 13:20	04/06/15 20:15	1
Nitrobenzene-d5 (Surr)	72		59 - 120	03/25/15 13:20	04/06/15 20:15	1
Phenol-d5 (Surr)	70		52 - 120	03/25/15 13:20	04/06/15 20:15	1
Terphenyl-d14 (Surr)	59	X	64 - 150	03/25/15 13:20	04/06/15 20:15	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
1,2-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
1,3-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
1-Methylnaphthalene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,4,5-Trichlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,4,6-Trichlorophenol	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,4-Dichlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,4-Dimethylphenol	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,4-Dinitrophenol	ND	H	5.2		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,4-Dinitrotoluene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2,6-Dinitrotoluene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2-Chloronaphthalene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
2-Chlorophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2-Methylnaphthalene	ND	H	0.21		ug/L		04/08/15 16:19	04/13/15 19:53	1
2-Methylphenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2-Nitroaniline	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
2-Nitrophenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
3 & 4 Methylphenol	ND	H	0.83		ug/L		04/08/15 16:19	04/13/15 19:53	1
3,3'-Dichlorobenzidine	ND	H	2.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
3-Nitroaniline	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
4,6-Dinitro-2-methylphenol	ND	H	4.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
4-Bromophenyl phenyl ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
4-Chloro-3-methylphenol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
4-Chloroaniline	ND	H *	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
4-Chlorophenyl phenyl ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
4-Nitroaniline	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 19:53	1
4-Nitrophenol	ND	H	3.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
Acenaphthene	ND	H	0.10		ug/L		04/08/15 16:19	04/13/15 19:53	1
Acenaphthylene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 19:53	1
Anthracene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzo[a]anthracene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzo[a]pyrene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzo[b]fluoranthene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzo[g,h,i]perylene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzo[k]fluoranthene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzoic acid	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
Benzyl alcohol	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Bis(2-chloroethoxy)methane	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Bis(2-chloroethyl)ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Bis(2-ethylhexyl) phthalate	ND	H *	3.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
bis(chloroisopropyl) ether	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Butyl benzyl phthalate	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 19:53	1
Carbazole	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Chrysene	ND	H	0.041		ug/L		04/08/15 16:19	04/13/15 19:53	1
Dibenz(a,h)anthracene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
Dibenzofuran	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Diethyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Dimethyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Di-n-butyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Di-n-octyl phthalate	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Fluoranthene	ND	H	0.052		ug/L		04/08/15 16:19	04/13/15 19:53	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
Hexachlorobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Hexachlorobutadiene	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 19:53	1
Hexachlorocyclopentadiene	ND	H * ^	2.1		ug/L		04/08/15 16:19	04/13/15 19:53	1
Hexachloroethane	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 19:53	1
Indeno[1,2,3-cd]pyrene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1
Isophorone	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Naphthalene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Nitrobenzene	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
N-Nitrosodi-n-propylamine	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
N-Nitrosodiphenylamine	ND	H	0.41		ug/L		04/08/15 16:19	04/13/15 19:53	1
Pentachlorophenol	ND	H	0.72		ug/L		04/08/15 16:19	04/13/15 19:53	1
Phenanthrene	ND	H	0.083		ug/L		04/08/15 16:19	04/13/15 19:53	1
Phenol	ND	H	0.62		ug/L		04/08/15 16:19	04/13/15 19:53	1
Pyrene	ND	H	0.062		ug/L		04/08/15 16:19	04/13/15 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	112	^	44 - 125	04/08/15 16:19	04/13/15 19:53	1
2-Fluorobiphenyl	78		50 - 120	04/08/15 16:19	04/13/15 19:53	1
2-Fluorophenol (Surr)	73		30 - 134	04/08/15 16:19	04/13/15 19:53	1
Nitrobenzene-d5 (Surr)	92		59 - 120	04/08/15 16:19	04/13/15 19:53	1
Phenol-d5 (Surr)	85		52 - 120	04/08/15 16:19	04/13/15 19:53	1
Terphenyl-d14 (Surr)	106		64 - 150	04/08/15 16:19	04/13/15 19:53	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.13	Y	0.12		mg/L		04/02/15 20:26	04/03/15 07:51	1
Motor Oil (>C24-C36)	ND	F2	0.24		mg/L		04/02/15 20:26	04/03/15 07:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	77		50 - 150	04/02/15 20:26	04/03/15 07:51	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:25	5
Arsenic	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 12:25	5
Beryllium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:25	5
Cadmium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:25	5
Chromium	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:25	5
Copper	ND		0.010		mg/L		04/02/15 16:33	04/03/15 12:25	5
Lead	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:25	5
Nickel	ND		0.015		mg/L		04/02/15 16:33	04/03/15 12:25	5
Selenium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 12:25	5
Silver	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:25	5
Thallium	ND		0.0050		mg/L		04/02/15 16:33	04/03/15 12:25	5
Zinc	ND		0.035		mg/L		04/02/15 16:33	04/03/15 12:25	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:20	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-185382/5

Matrix: Water

Analysis Batch: 185382

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 13:01	1
1,1,1-Trichloroethane	ND		0.20		ug/L			03/27/15 13:01	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			03/27/15 13:01	1
1,1,2-Trichloroethane	ND		0.20		ug/L			03/27/15 13:01	1
1,1-Dichloroethane	ND		0.20		ug/L			03/27/15 13:01	1
1,1-Dichloroethene	ND		0.10		ug/L			03/27/15 13:01	1
1,1-Dichloropropene	ND		0.10		ug/L			03/27/15 13:01	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			03/27/15 13:01	1
1,2,3-Trichloropropane	ND		0.20		ug/L			03/27/15 13:01	1
1,2,4-Trichlorobenzene	ND	^	0.20		ug/L			03/27/15 13:01	1
1,2,4-Trimethylbenzene	ND		0.20		ug/L			03/27/15 13:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			03/27/15 13:01	1
1,2-Dichlorobenzene	ND		0.30		ug/L			03/27/15 13:01	1
1,2-Dichloroethane	ND		0.20		ug/L			03/27/15 13:01	1
1,2-Dichloropropane	ND		0.20		ug/L			03/27/15 13:01	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			03/27/15 13:01	1
1,3-Dichlorobenzene	ND		0.30		ug/L			03/27/15 13:01	1
1,3-Dichloropropane	ND		0.20		ug/L			03/27/15 13:01	1
1,4-Dichlorobenzene	ND	^	0.30		ug/L			03/27/15 13:01	1
2,2-Dichloropropane	ND		0.50		ug/L			03/27/15 13:01	1
2-Chlorotoluene	ND		0.50		ug/L			03/27/15 13:01	1
4-Chlorotoluene	ND		0.30		ug/L			03/27/15 13:01	1
4-Isopropyltoluene	ND	^	0.30		ug/L			03/27/15 13:01	1
Benzene	ND		0.20		ug/L			03/27/15 13:01	1
Bromobenzene	ND		0.20		ug/L			03/27/15 13:01	1
Bromoform	ND		0.50		ug/L			03/27/15 13:01	1
Bromomethane	ND		1.0		ug/L			03/27/15 13:01	1
Carbon tetrachloride	ND		0.20		ug/L			03/27/15 13:01	1
Chlorobenzene	ND		0.20		ug/L			03/27/15 13:01	1
Chlorobromomethane	ND		0.20		ug/L			03/27/15 13:01	1
Chlorodibromomethane	ND		0.20		ug/L			03/27/15 13:01	1
Chloroethane	ND		0.50		ug/L			03/27/15 13:01	1
Chloroform	ND		0.20		ug/L			03/27/15 13:01	1
Chloromethane	ND		0.30		ug/L			03/27/15 13:01	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 13:01	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			03/27/15 13:01	1
Dibromomethane	ND		0.20		ug/L			03/27/15 13:01	1
Dichlorobromomethane	ND		0.20		ug/L			03/27/15 13:01	1
Dichlorodifluoromethane	ND	^	0.40		ug/L			03/27/15 13:01	1
Ethylbenzene	ND		0.20		ug/L			03/27/15 13:01	1
Ethylene Dibromide	ND		0.10		ug/L			03/27/15 13:01	1
Hexachlorobutadiene	ND	^	0.50		ug/L			03/27/15 13:01	1
Isopropylbenzene	ND		0.50		ug/L			03/27/15 13:01	1
Methyl tert-butyl ether	ND		0.20		ug/L			03/27/15 13:01	1
Methylene Chloride	ND		0.50		ug/L			03/27/15 13:01	1
m-Xylene & p-Xylene	ND		0.50		ug/L			03/27/15 13:01	1
Naphthalene	ND	^	0.50		ug/L			03/27/15 13:01	1
n-Butylbenzene	ND		0.50		ug/L			03/27/15 13:01	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185382/5

Matrix: Water

Analysis Batch: 185382

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.20		ug/L			03/27/15 13:01	1
o-Xylene	ND		0.50		ug/L			03/27/15 13:01	1
sec-Butylbenzene	ND		0.50		ug/L			03/27/15 13:01	1
Styrene	ND		0.50		ug/L			03/27/15 13:01	1
tert-Butylbenzene	ND		0.50		ug/L			03/27/15 13:01	1
Tetrachloroethene	ND	^	0.50		ug/L			03/27/15 13:01	1
Toluene	ND		0.20		ug/L			03/27/15 13:01	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			03/27/15 13:01	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			03/27/15 13:01	1
Trichloroethene	ND		0.20		ug/L			03/27/15 13:01	1
Trichlorofluoromethane	ND	^	0.50		ug/L			03/27/15 13:01	1
Vinyl chloride	ND		0.020		ug/L			03/27/15 13:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 128		03/27/15 13:01	1
4-Bromofluorobenzene (Surr)	99		75 - 120		03/27/15 13:01	1
Dibromofluoromethane (Surr)	97		85 - 115		03/27/15 13:01	1
Toluene-d8 (Surr)	98		75 - 125		03/27/15 13:01	1
Trifluorotoluene (Surr)	110		80 - 127		03/27/15 13:01	1

Lab Sample ID: LCS 580-185382/6

Matrix: Water

Analysis Batch: 185382

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	4.76		ug/L		95	75 - 125
1,1,1-Trichloroethane	5.00	4.97		ug/L		99	80 - 140
1,1,2,2-Tetrachloroethane	5.00	4.67		ug/L		93	75 - 125
1,1,2-Trichloroethane	5.00	4.82		ug/L		96	80 - 130
1,1-Dichloroethane	5.00	5.35		ug/L		107	75 - 135
1,1-Dichloroethene	5.00	4.95		ug/L		99	70 - 150
1,1-Dichloropropene	5.00	5.93		ug/L		119	80 - 130
1,2,3-Trichlorobenzene	5.00	3.55		ug/L		71	60 - 125
1,2,3-Trichloropropane	5.00	4.90		ug/L		98	75 - 120
1,2,4-Trichlorobenzene	5.00	4.08	^	ug/L		82	60 - 125
1,2,4-Trimethylbenzene	5.00	5.14		ug/L		103	80 - 125
1,2-Dibromo-3-Chloropropane	5.00	4.67		ug/L		93	55 - 120
1,2-Dichlorobenzene	5.00	4.58		ug/L		92	80 - 130
1,2-Dichloroethane	5.00	4.71		ug/L		94	80 - 140
1,2-Dichloropropane	5.00	5.43		ug/L		109	80 - 120
1,3,5-Trimethylbenzene	5.00	5.22		ug/L		104	80 - 125
1,3-Dichlorobenzene	5.00	4.65		ug/L		93	80 - 120
1,3-Dichloropropane	5.00	4.60		ug/L		92	80 - 130
1,4-Dichlorobenzene	5.00	4.54	^	ug/L		91	80 - 120
2,2-Dichloropropane	5.00	5.17		ug/L		103	60 - 150
2-Chlorotoluene	5.00	5.15		ug/L		103	75 - 130
4-Chlorotoluene	5.00	5.11		ug/L		102	75 - 130
4-Isopropyltoluene	5.00	4.68	^	ug/L		94	80 - 120

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185382/6

Matrix: Water

Analysis Batch: 185382

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5.00	5.83		ug/L		117	80 - 120
Bromobenzene	5.00	4.93		ug/L		99	80 - 130
Bromoform	5.00	4.25		ug/L		85	65 - 130
Bromomethane	5.00	6.49		ug/L		130	70 - 135
Carbon tetrachloride	5.00	5.15		ug/L		103	75 - 140
Chlorobenzene	5.00	4.67		ug/L		93	80 - 120
Chlorobromomethane	5.00	5.33		ug/L		107	80 - 125
Chlorodibromomethane	5.00	4.88		ug/L		98	70 - 120
Chloroethane	5.00	5.91		ug/L		118	75 - 140
Chloroform	5.00	4.85		ug/L		97	80 - 130
Chloromethane	5.00	5.16		ug/L		103	50 - 140
cis-1,2-Dichloroethene	5.00	5.39		ug/L		108	80 - 130
cis-1,3-Dichloropropene	5.00	5.59		ug/L		112	70 - 120
Dibromomethane	5.00	5.48		ug/L		110	80 - 130
Dichlorobromomethane	5.00	5.09		ug/L		102	80 - 125
Dichlorodifluoromethane	5.00	3.91	^	ug/L		78	30 - 180
Ethylbenzene	5.00	5.15		ug/L		103	80 - 125
Ethylene Dibromide	5.00	4.84		ug/L		97	70 - 130
Hexachlorobutadiene	5.00	3.96	^	ug/L		79	75 - 135
Isopropylbenzene	5.00	5.23		ug/L		105	75 - 120
Methyl tert-butyl ether	5.00	5.64		ug/L		113	75 - 120
Methylene Chloride	5.00	5.86		ug/L		117	60 - 145
m-Xylene & p-Xylene	5.00	5.68		ug/L		114	80 - 130
Naphthalene	5.00	4.19	^	ug/L		84	45 - 130
n-Butylbenzene	5.00	4.82		ug/L		96	75 - 125
N-Propylbenzene	5.00	5.08		ug/L		102	80 - 120
o-Xylene	5.00	5.28		ug/L		106	80 - 120
sec-Butylbenzene	5.00	5.32		ug/L		106	80 - 125
Styrene	5.00	5.15		ug/L		103	75 - 130
tert-Butylbenzene	5.00	5.39		ug/L		108	80 - 130
Tetrachloroethene	5.00	6.40	^	ug/L		128	40 - 180
Toluene	5.00	5.32		ug/L		106	80 - 120
trans-1,2-Dichloroethene	5.00	5.51		ug/L		110	80 - 140
trans-1,3-Dichloropropene	5.00	5.84		ug/L		117	60 - 140
Trichloroethene	5.00	5.66		ug/L		113	80 - 130
Trichlorofluoromethane	5.00	4.47	^	ug/L		89	30 - 180
Vinyl chloride	5.00	5.99		ug/L		120	65 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 128
4-Bromofluorobenzene (Surr)	98		75 - 120
Dibromofluoromethane (Surr)	99		85 - 115
Toluene-d8 (Surr)	96		75 - 125
Trifluorotoluene (Surr)	110		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185382/7

Matrix: Water

Analysis Batch: 185382

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	4.98		ug/L		100	75 - 125	5	20
1,1,1-Trichloroethane	5.00	5.17		ug/L		103	80 - 140	4	20
1,1,2,2-Tetrachloroethane	5.00	4.60		ug/L		92	75 - 125	2	20
1,1,2-Trichloroethane	5.00	4.80		ug/L		96	80 - 130	0	20
1,1-Dichloroethane	5.00	5.52		ug/L		110	75 - 135	3	20
1,1-Dichloroethene	5.00	4.82		ug/L		96	70 - 150	3	20
1,1-Dichloropropene	5.00	6.06		ug/L		121	80 - 130	2	20
1,2,3-Trichlorobenzene	5.00	3.53		ug/L		71	60 - 125	1	20
1,2,3-Trichloropropane	5.00	5.01		ug/L		100	75 - 120	2	20
1,2,4-Trichlorobenzene	5.00	4.02	^	ug/L		80	60 - 125	2	20
1,2,4-Trimethylbenzene	5.00	5.09		ug/L		102	80 - 125	1	20
1,2-Dibromo-3-Chloropropane	5.00	4.40		ug/L		88	55 - 120	6	20
1,2-Dichlorobenzene	5.00	4.57		ug/L		91	80 - 130	0	20
1,2-Dichloroethane	5.00	4.67		ug/L		93	80 - 140	1	20
1,2-Dichloropropane	5.00	5.40		ug/L		108	80 - 120	1	20
1,3,5-Trimethylbenzene	5.00	5.33		ug/L		107	80 - 125	2	20
1,3-Dichlorobenzene	5.00	4.72		ug/L		94	80 - 120	2	20
1,3-Dichloropropane	5.00	4.58		ug/L		92	80 - 130	0	20
1,4-Dichlorobenzene	5.00	4.59	^	ug/L		92	80 - 120	1	20
2,2-Dichloropropane	5.00	5.48		ug/L		110	60 - 150	6	20
2-Chlorotoluene	5.00	5.14		ug/L		103	75 - 130	0	20
4-Chlorotoluene	5.00	5.14		ug/L		103	75 - 130	1	20
4-Isopropyltoluene	5.00	4.65	^	ug/L		93	80 - 120	1	20
Benzene	5.00	5.86		ug/L		117	80 - 120	0	20
Bromobenzene	5.00	4.91		ug/L		98	80 - 130	0	20
Bromoform	5.00	4.27		ug/L		85	65 - 130	0	20
Bromomethane	5.00	6.34		ug/L		127	70 - 135	2	20
Carbon tetrachloride	5.00	5.22		ug/L		104	75 - 140	1	20
Chlorobenzene	5.00	4.72		ug/L		94	80 - 120	1	20
Chlorobromomethane	5.00	5.57		ug/L		111	80 - 125	4	20
Chlorodibromomethane	5.00	4.95		ug/L		99	70 - 120	1	20
Chloroethane	5.00	5.74		ug/L		115	75 - 140	3	20
Chloroform	5.00	5.03		ug/L		101	80 - 130	4	20
Chloromethane	5.00	5.14		ug/L		103	50 - 140	0	20
cis-1,2-Dichloroethene	5.00	5.39		ug/L		108	80 - 130	0	20
cis-1,3-Dichloropropene	5.00	5.51		ug/L		110	70 - 120	1	20
Dibromomethane	5.00	5.28		ug/L		106	80 - 130	4	20
Dichlorobromomethane	5.00	5.16		ug/L		103	80 - 125	1	20
Dichlorodifluoromethane	5.00	3.89	^	ug/L		78	30 - 180	0	20
Ethylbenzene	5.00	5.28		ug/L		106	80 - 125	2	20
Ethylene Dibromide	5.00	4.73		ug/L		95	70 - 130	2	20
Hexachlorobutadiene	5.00	3.96	^	ug/L		79	75 - 135	0	20
Isopropylbenzene	5.00	5.38		ug/L		108	75 - 120	3	20
Methyl tert-butyl ether	5.00	5.86		ug/L		117	75 - 120	4	20
Methylene Chloride	5.00	6.01		ug/L		120	60 - 145	3	20
m-Xylene & p-Xylene	5.00	5.75		ug/L		115	80 - 130	1	20
Naphthalene	5.00	4.15	^	ug/L		83	45 - 130	1	20
n-Butylbenzene	5.00	4.88		ug/L		98	75 - 125	1	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185382/7

Matrix: Water

Analysis Batch: 185382

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	5.00	5.20		ug/L		104	80 - 120	2	20
o-Xylene	5.00	5.52		ug/L		110	80 - 120	4	20
sec-Butylbenzene	5.00	5.28		ug/L		106	80 - 125	1	20
Styrene	5.00	5.27		ug/L		105	75 - 130	2	20
tert-Butylbenzene	5.00	5.33		ug/L		107	80 - 130	1	20
Tetrachloroethene	5.00	7.55	^	ug/L		151	40 - 180	16	20
Toluene	5.00	5.38		ug/L		108	80 - 120	1	20
trans-1,2-Dichloroethene	5.00	5.71		ug/L		114	80 - 140	4	20
trans-1,3-Dichloropropene	5.00	5.57		ug/L		111	60 - 140	5	20
Trichloroethene	5.00	5.68		ug/L		114	80 - 130	0	20
Trichlorofluoromethane	5.00	5.13	^	ug/L		103	30 - 180	14	20
Vinyl chloride	5.00	6.03		ug/L		121	65 - 140	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 128
4-Bromofluorobenzene (Surr)	99		75 - 120
Dibromofluoromethane (Surr)	99		85 - 115
Toluene-d8 (Surr)	97		75 - 125
Trifluorotoluene (Surr)	113		80 - 127

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 185382

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		5.00	5.27		ug/L		105	80 - 131
1,1,1-Trichloroethane	ND		5.00	6.01		ug/L		120	60 - 160
1,1,2,2-Tetrachloroethane	ND		5.00	4.60		ug/L		92	73 - 121
1,1,2-Trichloroethane	ND		5.00	4.76		ug/L		95	80 - 121
1,1-Dichloroethane	ND		5.00	5.81		ug/L		116	73 - 158
1,1-Dichloroethene	ND		5.00	5.22		ug/L		104	78 - 151
1,1-Dichloropropene	ND		5.00	6.41		ug/L		128	59 - 160
1,2,3-Trichlorobenzene	ND		5.00	3.31		ug/L		66	52 - 129
1,2,3-Trichloropropane	ND		5.00	5.16		ug/L		103	70 - 137
1,2,4-Trichlorobenzene	ND	^	5.00	3.86	^	ug/L		77	47 - 135
1,2,4-Trimethylbenzene	ND		5.00	5.21		ug/L		104	80 - 137
1,2-Dibromo-3-Chloropropane	ND		5.00	4.48		ug/L		90	47 - 138
1,2-Dichlorobenzene	ND		5.00	4.70		ug/L		94	80 - 120
1,2-Dichloroethane	ND		5.00	5.53		ug/L		111	54 - 160
1,2-Dichloropropane	ND		5.00	5.61		ug/L		112	71 - 127
1,3,5-Trimethylbenzene	ND		5.00	5.37		ug/L		107	80 - 136
1,3-Dichlorobenzene	ND		5.00	4.80		ug/L		96	76 - 120
1,3-Dichloropropane	ND		5.00	4.73		ug/L		95	78 - 129
1,4-Dichlorobenzene	ND	^	5.00	4.59	^	ug/L		92	80 - 120
2,2-Dichloropropane	ND		5.00	5.57		ug/L		111	49 - 160
2-Chlorotoluene	ND		5.00	5.19		ug/L		104	79 - 127
4-Chlorotoluene	ND		5.00	5.13		ug/L		103	76 - 127
4-Isopropyltoluene	ND	^	5.00	4.76	^	ug/L		95	80 - 132

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 185382

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		5.00	5.68		ug/L		113	75 - 142
Bromobenzene	ND		5.00	4.97		ug/L		99	80 - 120
Bromoform	ND		5.00	4.50		ug/L		90	66 - 137
Bromomethane	ND		5.00	6.53		ug/L		131	40 - 160
Carbon tetrachloride	ND		5.00	6.12		ug/L		122	56 - 160
Chlorobenzene	ND		5.00	4.77		ug/L		95	71 - 140
Chlorobromomethane	ND		5.00	5.69		ug/L		114	64 - 156
Chlorodibromomethane	ND		5.00	5.20		ug/L		104	71 - 130
Chloroethane	ND		5.00	6.39		ug/L		128	44 - 160
Chloroform	ND		5.00	5.63		ug/L		113	65 - 158
Chloromethane	ND		5.00	5.59		ug/L		112	52 - 160
cis-1,2-Dichloroethene	0.45		5.00	6.13		ug/L		113	71 - 144
cis-1,3-Dichloropropene	ND		5.00	5.44		ug/L		109	63 - 127
Dibromomethane	ND		5.00	5.76		ug/L		115	76 - 130
Dichlorobromomethane	ND		5.00	5.87		ug/L		117	69 - 149
Dichlorodifluoromethane	ND	^	5.00	4.69	^	ug/L		94	40 - 160
Ethylbenzene	ND		5.00	5.07		ug/L		101	79 - 132
Ethylene Dibromide	ND		5.00	4.95		ug/L		99	75 - 126
Hexachlorobutadiene	ND	^	5.00	3.81	^	ug/L		76	67 - 141
Isopropylbenzene	ND		5.00	5.58		ug/L		112	64 - 127
Methyl tert-butyl ether	ND		5.00	6.17		ug/L		123	77 - 135
Methylene Chloride	ND		5.00	5.88		ug/L		109	80 - 155
m-Xylene & p-Xylene	ND		5.00	5.24		ug/L		105	70 - 144
Naphthalene	ND	^	5.00	4.00	^	ug/L		80	40 - 142
n-Butylbenzene	ND		5.00	4.80		ug/L		96	72 - 131
N-Propylbenzene	ND		5.00	5.21		ug/L		104	76 - 131
o-Xylene	ND		5.00	5.32		ug/L		106	72 - 137
sec-Butylbenzene	ND		5.00	5.35		ug/L		107	72 - 145
Styrene	ND		5.00	5.29		ug/L		106	80 - 133
tert-Butylbenzene	ND		5.00	5.50		ug/L		110	74 - 138
Tetrachloroethene	ND	^	5.00	5.26	^	ug/L		105	64 - 161
Toluene	ND		5.00	5.02		ug/L		100	80 - 126
trans-1,2-Dichloroethene	ND		5.00	5.86		ug/L		117	73 - 135
trans-1,3-Dichloropropene	ND		5.00	5.78		ug/L		116	64 - 132
Trichloroethene	3.0		5.00	9.08		ug/L		122	79 - 131
Trichlorofluoromethane	ND	^	5.00	5.26	^	ug/L		105	40 - 160
Vinyl chloride	ND		5.00	6.46		ug/L		129	47 - 160

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 128
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	107		85 - 115
Toluene-d8 (Surr)	94		75 - 125
Trifluorotoluene (Surr)	100		80 - 127

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185382

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		5.00	5.31		ug/L		106	80 - 131	1	20
1,1,1-Trichloroethane	ND		5.00	6.08		ug/L		122	60 - 160	1	20
1,1,2,2-Tetrachloroethane	ND		5.00	4.59		ug/L		92	73 - 121	0	20
1,1,2-Trichloroethane	ND		5.00	5.01		ug/L		100	80 - 121	5	20
1,1-Dichloroethane	ND		5.00	6.00		ug/L		120	73 - 158	3	20
1,1-Dichloroethene	ND		5.00	5.28		ug/L		106	78 - 151	1	30
1,1-Dichloropropene	ND		5.00	6.55		ug/L		131	59 - 160	2	20
1,2,3-Trichlorobenzene	ND		5.00	3.85		ug/L		77	52 - 129	15	20
1,2,3-Trichloropropane	ND		5.00	5.14		ug/L		103	70 - 137	0	20
1,2,4-Trichlorobenzene	ND	^	5.00	4.39	^	ug/L		88	47 - 135	13	20
1,2,4-Trimethylbenzene	ND		5.00	5.45		ug/L		109	80 - 137	4	20
1,2-Dibromo-3-Chloropropane	ND		5.00	4.51		ug/L		90	47 - 138	1	20
1,2-Dichlorobenzene	ND		5.00	4.88		ug/L		98	80 - 120	4	20
1,2-Dichloroethane	ND		5.00	5.69		ug/L		114	54 - 160	3	20
1,2-Dichloropropane	ND		5.00	6.09		ug/L		122	71 - 127	8	20
1,3,5-Trimethylbenzene	ND		5.00	5.52		ug/L		110	80 - 136	3	20
1,3-Dichlorobenzene	ND		5.00	4.89		ug/L		98	76 - 120	2	20
1,3-Dichloropropane	ND		5.00	4.92		ug/L		98	78 - 129	4	20
1,4-Dichlorobenzene	ND	^	5.00	4.79	^	ug/L		96	80 - 120	4	20
2,2-Dichloropropane	ND		5.00	5.56		ug/L		111	49 - 160	0	20
2-Chlorotoluene	ND		5.00	5.36		ug/L		107	79 - 127	3	20
4-Chlorotoluene	ND		5.00	5.39		ug/L		108	76 - 127	5	20
4-Isopropyltoluene	ND	^	5.00	4.93	^	ug/L		99	80 - 132	3	20
Benzene	ND		5.00	5.97		ug/L		119	75 - 142	5	30
Bromobenzene	ND		5.00	5.12		ug/L		102	80 - 120	3	20
Bromoform	ND		5.00	4.65		ug/L		93	66 - 137	3	20
Bromomethane	ND		5.00	6.99		ug/L		140	40 - 160	7	20
Carbon tetrachloride	ND		5.00	6.20		ug/L		124	56 - 160	1	20
Chlorobenzene	ND		5.00	4.98		ug/L		100	71 - 140	4	30
Chlorobromomethane	ND		5.00	5.98		ug/L		120	64 - 156	5	20
Chlorodibromomethane	ND		5.00	5.44		ug/L		109	71 - 130	5	20
Chloroethane	ND		5.00	6.44		ug/L		129	44 - 160	1	20
Chloroform	ND		5.00	5.69		ug/L		114	65 - 158	1	20
Chloromethane	ND		5.00	5.44		ug/L		109	52 - 160	3	20
cis-1,2-Dichloroethene	0.45		5.00	6.18		ug/L		115	71 - 144	1	20
cis-1,3-Dichloropropene	ND		5.00	5.74		ug/L		115	63 - 127	5	20
Dibromomethane	ND		5.00	5.98		ug/L		120	76 - 130	4	20
Dichlorobromomethane	ND		5.00	5.90		ug/L		118	69 - 149	1	20
Dichlorodifluoromethane	ND	^	5.00	4.55	^	ug/L		91	40 - 160	3	20
Ethylbenzene	ND		5.00	5.33		ug/L		107	79 - 132	5	20
Ethylene Dibromide	ND		5.00	5.15		ug/L		103	75 - 126	4	20
Hexachlorobutadiene	ND	^	5.00	4.40	^	ug/L		88	67 - 141	14	20
Isopropylbenzene	ND		5.00	5.67		ug/L		113	64 - 127	2	20
Methyl tert-butyl ether	ND		5.00	6.13		ug/L		123	77 - 135	1	20
Methylene Chloride	ND		5.00	5.90		ug/L		109	80 - 155	0	20
m-Xylene & p-Xylene	ND		5.00	5.40		ug/L		108	70 - 144	3	20
Naphthalene	ND	^	5.00	4.52	^	ug/L		90	40 - 142	12	20
n-Butylbenzene	ND		5.00	5.09		ug/L		102	72 - 131	6	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185382

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	ND		5.00	5.39		ug/L		108	76 - 131	3	20
o-Xylene	ND		5.00	5.48		ug/L		110	72 - 137	3	20
sec-Butylbenzene	ND		5.00	5.57		ug/L		111	72 - 145	4	20
Styrene	ND		5.00	5.50		ug/L		110	80 - 133	4	20
tert-Butylbenzene	ND		5.00	5.76		ug/L		115	74 - 138	5	20
Tetrachloroethene	ND	^	5.00	5.47	^	ug/L		109	64 - 161	4	20
Toluene	ND		5.00	5.28		ug/L		106	80 - 126	5	30
trans-1,2-Dichloroethene	ND		5.00	6.02		ug/L		120	73 - 135	3	20
trans-1,3-Dichloropropene	ND		5.00	6.24		ug/L		125	64 - 132	8	20
Trichloroethene	3.0		5.00	8.88		ug/L		118	79 - 131	2	30
Trichlorofluoromethane	ND	^	5.00	5.32	^	ug/L		106	40 - 160	1	20
Vinyl chloride	ND		5.00	6.54		ug/L		131	47 - 160	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 128
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane (Surr)	105		85 - 115
Toluene-d8 (Surr)	95		75 - 125
Trifluorotoluene (Surr)	101		80 - 127

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-185203/1-A

Matrix: Water

Analysis Batch: 185983

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185203

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
2-Methylnaphthalene	ND		0.026		ug/L		03/25/15 13:20	04/03/15 12:34	1
1-Methylnaphthalene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Acenaphthylene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Acenaphthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Fluorene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Phenanthrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Benzo[a]anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Chrysene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Benzo[a]pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Dibenz[a,h]anthracene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		03/25/15 13:20	04/03/15 12:34	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-185203/1-A

Matrix: Water

Analysis Batch: 185983

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185203

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		64 - 150	03/25/15 13:20	04/03/15 12:34	1

Lab Sample ID: LCS 580-185203/2-A

Matrix: Water

Analysis Batch: 185983

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	2.00	1.68		ug/L		84	56 - 125
2-Methylnaphthalene	2.00	1.64		ug/L		82	56 - 125
1-Methylnaphthalene	2.00	1.71		ug/L		86	54 - 125
Acenaphthylene	2.00	1.53		ug/L		76	62 - 125
Acenaphthene	2.00	1.80		ug/L		90	63 - 125
Fluorene	2.00	1.86		ug/L		93	69 - 125
Phenanthrene	2.00	1.78		ug/L		89	70 - 125
Anthracene	2.00	1.52		ug/L		76	50 - 125
Fluoranthene	2.00	1.93		ug/L		97	70 - 145
Pyrene	2.00	1.92		ug/L		96	70 - 133
Benzo[a]anthracene	2.00	1.73		ug/L		86	65 - 125
Chrysene	2.00	1.94		ug/L		97	70 - 125
Benzo[b]fluoranthene	2.00	1.63		ug/L		81	70 - 129
Benzo[k]fluoranthene	2.00	1.73		ug/L		86	70 - 123
Benzo[a]pyrene	2.00	1.21		ug/L		60	45 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.75		ug/L		87	70 - 136
Dibenz(a,h)anthracene	2.00	1.74		ug/L		87	69 - 154
Benzo[g,h,i]perylene	2.00	1.66		ug/L		83	65 - 153

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	94		64 - 150

Lab Sample ID: LCSD 580-185203/3-A

Matrix: Water

Analysis Batch: 185983

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	2.00	1.26	*	ug/L		63	56 - 125	29	20
2-Methylnaphthalene	2.00	1.24	*	ug/L		62	56 - 125	28	20
1-Methylnaphthalene	2.00	1.32	*	ug/L		66	54 - 125	26	20
Acenaphthylene	2.00	1.15	*	ug/L		58	62 - 125	28	20
Acenaphthene	2.00	1.42	*	ug/L		71	63 - 125	24	20
Fluorene	2.00	1.48	*	ug/L		74	69 - 125	23	20
Phenanthrene	2.00	1.44	*	ug/L		72	70 - 125	21	20
Anthracene	2.00	1.31		ug/L		65	50 - 125	15	20
Fluoranthene	2.00	1.61		ug/L		81	70 - 145	18	20
Pyrene	2.00	1.61		ug/L		80	70 - 133	18	20
Benzo[a]anthracene	2.00	1.45		ug/L		73	65 - 125	17	20
Chrysene	2.00	1.66		ug/L		83	70 - 125	16	20
Benzo[b]fluoranthene	2.00	1.59		ug/L		80	70 - 129	2	20
Benzo[k]fluoranthene	2.00	1.38	*	ug/L		69	70 - 123	22	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-185203/3-A

Matrix: Water

Analysis Batch: 185983

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]pyrene	2.00	1.10		ug/L		55	45 - 125	9	20
Indeno[1,2,3-cd]pyrene	2.00	1.43		ug/L		71	70 - 136	20	20
Dibenz(a,h)anthracene	2.00	1.45		ug/L		73	69 - 154	18	20
Benzo[g,h,i]perylene	2.00	1.41		ug/L		70	65 - 153	16	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	78		64 - 150

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 185983

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND	F2 F1 *	2.10	1.31		ug/L		62	60 - 125		
2-Methylnaphthalene	ND	F2 F1 *	2.10	1.26		ug/L		60	60 - 125		
1-Methylnaphthalene	ND	F2 F1 *	2.10	1.31		ug/L		62	60 - 125		
Acenaphthylene	ND	F2 * F1	2.10	1.37		ug/L		65	65 - 125		
Acenaphthene	ND	F2 F1 *	2.10	1.48		ug/L		71	65 - 125		
Fluorene	ND	F2 F1 *	2.10	1.46		ug/L		70	70 - 125		
Phenanthrene	ND	F2 F1 *	2.10	1.61		ug/L		76	75 - 125		
Anthracene	ND	F2 F1	2.10	1.46		ug/L		69	50 - 125		
Fluoranthene	ND	F2 F1	2.10	1.77		ug/L		85	70 - 125		
Pyrene	ND	F2 F1	2.10	1.79		ug/L		85	70 - 125		
Benzo[a]anthracene	ND	F2 F1	2.10	1.55		ug/L		74	65 - 125		
Chrysene	ND	F2 F1	2.10	1.77		ug/L		84	70 - 125		
Benzo[b]fluoranthene	ND	F2 F1	2.10	1.42	F1	ug/L		68	70 - 125		
Benzo[k]fluoranthene	ND	F2 * F1	2.10	1.57		ug/L		75	70 - 125		
Benzo[a]pyrene	ND	F2 F1	2.10	1.19		ug/L		57	45 - 125		
Indeno[1,2,3-cd]pyrene	ND	F2 F1	2.10	1.45	F1	ug/L		69	75 - 125		
Dibenz(a,h)anthracene	ND	F2 F1	2.10	1.53	F1	ug/L		73	75 - 130		
Benzo[g,h,i]perylene	ND	F2 F1	2.10	1.48	F1	ug/L		71	75 - 125		

Surrogate	MS %Recovery	MS Qualifier	Limits
Terphenyl-d14	85		64 - 150

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185983

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND	F2 F1 *	2.07	0.788	F1 F2	ug/L		37	60 - 125	50	20
2-Methylnaphthalene	ND	F2 F1 *	2.07	0.817	F1 F2	ug/L		39	60 - 125	42	20
1-Methylnaphthalene	ND	F2 F1 *	2.07	0.865	F1 F2	ug/L		42	60 - 125	41	20
Acenaphthylene	ND	F2 * F1	2.07	0.757	F1 F2	ug/L		37	65 - 125	58	20
Acenaphthene	ND	F2 F1 *	2.07	0.872	F1 F2	ug/L		42	65 - 125	52	20
Fluorene	ND	F2 F1 *	2.07	1.05	F1 F2	ug/L		51	70 - 125	33	20
Phenanthrene	ND	F2 F1 *	2.07	1.04	F1 F2	ug/L		50	75 - 125	43	20
Anthracene	ND	F2 F1	2.07	1.00	F1 F2	ug/L		48	50 - 125	37	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185983

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	ND	F2 F1	2.07	1.19	F1 F2	ug/L		58	70 - 125	39	20
Pyrene	ND	F2 F1	2.07	1.20	F1 F2	ug/L		58	70 - 125	39	20
Benzo[a]anthracene	ND	F2 F1	2.07	1.09	F1 F2	ug/L		53	65 - 125	35	20
Chrysene	ND	F2 F1	2.07	1.15	F1 F2	ug/L		55	70 - 125	43	20
Benzo[b]fluoranthene	ND	F2 F1	2.07	1.08	F1 F2	ug/L		52	70 - 125	27	20
Benzo[k]fluoranthene	ND	F2 * F1	2.07	0.916	F1 F2	ug/L		44	70 - 125	53	20
Benzo[a]pyrene	ND	F2 F1	2.07	0.765	F1 F2	ug/L		37	45 - 125	43	20
Indeno[1,2,3-cd]pyrene	ND	F2 F1	2.07	0.972	F1 F2	ug/L		47	75 - 125	40	20
Dibenz(a,h)anthracene	ND	F2 F1	2.07	0.997	F1 F2	ug/L		48	75 - 130	42	20
Benzo[g,h,i]perylene	ND	F2 F1	2.07	0.961	F1 F2	ug/L		47	75 - 125	43	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Terphenyl-d14	60	X	64 - 150

Lab Sample ID: MB 580-186383/1-A

Matrix: Water

Analysis Batch: 186663

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
2-Methylnaphthalene	ND		0.026		ug/L		04/08/15 16:19	04/14/15 11:19	1
1-Methylnaphthalene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Acenaphthylene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Acenaphthene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Fluorene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Phenanthrene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Anthracene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Fluoranthene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Pyrene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Benzo[a]anthracene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Chrysene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Benzo[b]fluoranthene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Benzo[k]fluoranthene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Benzo[a]pyrene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		04/08/15 16:19	04/14/15 11:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	106		64 - 150	04/08/15 16:19	04/14/15 11:19	1

Lab Sample ID: LCS 580-186383/2-A

Matrix: Water

Analysis Batch: 186663

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	2.00	1.74		ug/L		87	56 - 125
2-Methylnaphthalene	2.00	1.68		ug/L		84	56 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-186383/2-A

Matrix: Water

Analysis Batch: 186663

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	2.00	1.77		ug/L		88	54 - 125
Acenaphthylene	2.00	1.72		ug/L		86	62 - 125
Acenaphthene	2.00	1.90		ug/L		95	63 - 125
Fluorene	2.00	1.88		ug/L		94	69 - 125
Phenanthrene	2.00	1.87		ug/L		93	70 - 125
Anthracene	2.00	1.80		ug/L		90	50 - 125
Fluoranthene	2.00	2.00		ug/L		100	70 - 145
Pyrene	2.00	2.01		ug/L		100	70 - 133
Benzo[a]anthracene	2.00	1.82		ug/L		91	65 - 125
Chrysene	2.00	1.87		ug/L		94	70 - 125
Benzo[b]fluoranthene	2.00	1.85		ug/L		92	70 - 129
Benzo[k]fluoranthene	2.00	1.56		ug/L		78	70 - 123
Benzo[a]pyrene	2.00	1.48		ug/L		74	45 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.96		ug/L		98	70 - 136
Dibenz(a,h)anthracene	2.00	1.83		ug/L		92	69 - 154
Benzo[g,h,i]perylene	2.00	1.72		ug/L		86	65 - 153

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	106		64 - 150

Lab Sample ID: LCSD 580-186383/3-A

Matrix: Water

Analysis Batch: 186663

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Naphthalene	2.00	1.76		ug/L		88	56 - 125	1	20
2-Methylnaphthalene	2.00	1.77		ug/L		89	56 - 125	6	20
1-Methylnaphthalene	2.00	1.84		ug/L		92	54 - 125	4	20
Acenaphthylene	2.00	1.80		ug/L		90	62 - 125	5	20
Acenaphthene	2.00	2.03		ug/L		102	63 - 125	7	20
Fluorene	2.00	1.94		ug/L		97	69 - 125	3	20
Phenanthrene	2.00	1.88		ug/L		94	70 - 125	0	20
Anthracene	2.00	1.90		ug/L		95	50 - 125	5	20
Fluoranthene	2.00	2.07		ug/L		103	70 - 145	3	20
Pyrene	2.00	2.10		ug/L		105	70 - 133	5	20
Benzo[a]anthracene	2.00	1.89		ug/L		95	65 - 125	4	20
Chrysene	2.00	1.89		ug/L		95	70 - 125	1	20
Benzo[b]fluoranthene	2.00	1.84		ug/L		92	70 - 129	0	20
Benzo[k]fluoranthene	2.00	1.58		ug/L		79	70 - 123	1	20
Benzo[a]pyrene	2.00	1.55		ug/L		77	45 - 125	5	20
Indeno[1,2,3-cd]pyrene	2.00	1.84		ug/L		92	70 - 136	6	20
Dibenz(a,h)anthracene	2.00	1.87		ug/L		93	69 - 154	2	20
Benzo[g,h,i]perylene	2.00	1.75		ug/L		88	65 - 153	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	109		64 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-185203/1-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185203

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
1,2-Dichlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
1,3-Dichlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
1,4-Dichlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
1-Methylnaphthalene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,4-Dichlorophenol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,4-Dimethylphenol	ND		2.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,4-Dinitrophenol	ND	^	5.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,4-Dinitrotoluene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2,6-Dinitrotoluene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2-Chloronaphthalene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
2-Chlorophenol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2-Methylnaphthalene	ND		0.20		ug/L		03/25/15 13:20	04/06/15 11:30	1
2-Methylphenol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2-Nitroaniline	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
2-Nitrophenol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
3 & 4 Methylphenol	ND		0.80		ug/L		03/25/15 13:20	04/06/15 11:30	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
3-Nitroaniline	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
4,6-Dinitro-2-methylphenol	ND	^	4.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
4-Chloroaniline	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
4-Nitroaniline	ND		0.60		ug/L		03/25/15 13:20	04/06/15 11:30	1
4-Nitrophenol	ND		3.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
Acenaphthene	ND		0.10		ug/L		03/25/15 13:20	04/06/15 11:30	1
Acenaphthylene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 11:30	1
Anthracene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzo[a]anthracene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzo[a]pyrene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzo[b]fluoranthene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzo[k]fluoranthene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzoic acid	ND		3.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
Benzyl alcohol	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Bis(2-ethylhexyl) phthalate	ND		3.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Butyl benzyl phthalate	ND		0.60		ug/L		03/25/15 13:20	04/06/15 11:30	1
Carbazole	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Chrysene	ND		0.040		ug/L		03/25/15 13:20	04/06/15 11:30	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
Dibenzofuran	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Diethyl phthalate	0.486	^	0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185203/1-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185203

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Di-n-butyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Di-n-octyl phthalate	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Fluoranthene	ND		0.050		ug/L		03/25/15 13:20	04/06/15 11:30	1
Fluorene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
Hexachlorobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Hexachlorobutadiene	ND		0.60		ug/L		03/25/15 13:20	04/06/15 11:30	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		03/25/15 13:20	04/06/15 11:30	1
Hexachloroethane	ND		0.60		ug/L		03/25/15 13:20	04/06/15 11:30	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1
Isophorone	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Naphthalene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Nitrobenzene	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		03/25/15 13:20	04/06/15 11:30	1
Pentachlorophenol	ND		0.70		ug/L		03/25/15 13:20	04/06/15 11:30	1
Phenanthrene	ND		0.080		ug/L		03/25/15 13:20	04/06/15 11:30	1
Phenol	ND		0.60		ug/L		03/25/15 13:20	04/06/15 11:30	1
Pyrene	ND		0.060		ug/L		03/25/15 13:20	04/06/15 11:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	54		44 - 125	03/25/15 13:20	04/06/15 11:30	1
2-Fluorobiphenyl	56		50 - 120	03/25/15 13:20	04/06/15 11:30	1
2-Fluorophenol (Surr)	44		30 - 134	03/25/15 13:20	04/06/15 11:30	1
Nitrobenzene-d5 (Surr)	49	X	59 - 120	03/25/15 13:20	04/06/15 11:30	1
Phenol-d5 (Surr)	58		52 - 120	03/25/15 13:20	04/06/15 11:30	1
Terphenyl-d14 (Surr)	74		64 - 150	03/25/15 13:20	04/06/15 11:30	1

Lab Sample ID: LCS 580-185203/2-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.39		ug/L		69	40 - 125
1,2-Dichlorobenzene	2.00	1.41		ug/L		71	44 - 125
1,3-Dichlorobenzene	2.00	1.35		ug/L		68	40 - 125
1,4-Dichlorobenzene	2.00	1.35		ug/L		68	40 - 125
1-Methylnaphthalene	2.00	1.48		ug/L		74	54 - 125
2,4,5-Trichlorophenol	2.00	1.77		ug/L		88	66 - 130
2,4,6-Trichlorophenol	2.00	1.85		ug/L		93	55 - 140
2,4-Dichlorophenol	2.00	1.59		ug/L		80	50 - 140
2,4-Dimethylphenol	2.00	0.700	J	ug/L		35	30 - 135
2,4-Dinitrophenol	4.00	2.81	J ^	ug/L		70	24 - 146
2,4-Dinitrotoluene	2.00	1.64		ug/L		82	73 - 126
2,6-Dinitrotoluene	2.00	1.64		ug/L		82	67 - 134
2-Chloronaphthalene	2.00	1.57		ug/L		78	55 - 125
2-Chlorophenol	2.00	1.54		ug/L		77	57 - 125
2-Methylnaphthalene	2.00	1.91		ug/L		96	56 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185203/2-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	2.00	1.37		ug/L		68	60 - 130
2-Nitroaniline	2.00	1.95		ug/L		98	52 - 140
2-Nitrophenol	2.00	1.57		ug/L		78	55 - 140
3 & 4 Methylphenol	2.00	1.50		ug/L		75	60 - 130
3,3'-Dichlorobenzidine	4.00	0.985	J	ug/L		25	20 - 175
3-Nitroaniline	2.00	1.33		ug/L		66	22 - 124
4,6-Dinitro-2-methylphenol	4.00	3.85	J ^	ug/L		96	50 - 136
4-Bromophenyl phenyl ether	2.00	1.73		ug/L		86	62 - 132
4-Chloro-3-methylphenol	2.00	1.63		ug/L		82	65 - 145
4-Chloroaniline	2.00	0.268	J *	ug/L		13	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.55		ug/L		77	59 - 125
4-Nitroaniline	2.00	1.38		ug/L		69	49 - 125
4-Nitrophenol	4.00	3.70		ug/L		92	35 - 153
Acenaphthene	2.00	1.46		ug/L		73	63 - 125
Acenaphthylene	2.00	1.23		ug/L		62	62 - 125
Anthracene	2.00	1.21		ug/L		60	50 - 125
Benzo[a]anthracene	2.00	1.58		ug/L		79	65 - 125
Benzo[a]pyrene	2.00	1.09		ug/L		54	45 - 125
Benzo[b]fluoranthene	2.00	2.01		ug/L		100	70 - 129
Benzo[g,h,i]perylene	2.00	1.92		ug/L		96	65 - 153
Benzo[k]fluoranthene	2.00	1.63		ug/L		81	70 - 123
Benzoic acid	4.00	1.90	J	ug/L		48	20 - 144
Benzyl alcohol	2.00	1.27		ug/L		64	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.63		ug/L		82	59 - 125
Bis(2-chloroethyl)ether	2.00	1.70		ug/L		85	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	1.89	J	ug/L		94	70 - 185
bis(chloroisopropyl) ether	2.00	1.47		ug/L		73	44 - 130
Butyl benzyl phthalate	2.00	2.01		ug/L		100	60 - 167
Carbazole	2.00	1.60		ug/L		80	75 - 142
Chrysene	2.00	1.82		ug/L		91	70 - 125
Dibenz(a,h)anthracene	2.00	1.73		ug/L		87	69 - 154
Dibenzofuran	2.00	1.58		ug/L		79	60 - 125
Diethyl phthalate	2.00	2.06	^	ug/L		103	60 - 150
Dimethyl phthalate	2.00	1.65		ug/L		82	65 - 155
Di-n-butyl phthalate	2.00	1.70		ug/L		85	55 - 167
Di-n-octyl phthalate	2.00	1.69		ug/L		84	55 - 150
Fluoranthene	2.00	1.66		ug/L		83	70 - 145
Fluorene	2.00	1.61		ug/L		80	69 - 125
Hexachlorobenzene	2.00	1.66		ug/L		83	61 - 125
Hexachlorobutadiene	2.00	1.17		ug/L		59	25 - 125
Hexachlorocyclopentadiene	2.00	0.275	J *	ug/L		14	20 - 125
Hexachloroethane	2.00	1.46		ug/L		73	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.75		ug/L		87	70 - 136
Isophorone	2.00	1.69		ug/L		84	64 - 125
Naphthalene	2.00	1.43		ug/L		72	56 - 125
Nitrobenzene	2.00	1.89		ug/L		94	62 - 125
N-Nitrosodi-n-propylamine	2.00	1.50		ug/L		75	60 - 120
N-Nitrosodiphenylamine	2.00	2.38		ug/L		119	40 - 135

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185203/2-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	4.00	2.00		ug/L		50	20 - 145
Phenanthrene	2.00	1.62		ug/L		81	70 - 125
Phenol	2.00	1.45		ug/L		73	53 - 130
Pyrene	2.00	1.63		ug/L		82	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	85		44 - 125
2-Fluorobiphenyl	73		50 - 120
2-Fluorophenol (Surr)	73		30 - 134
Nitrobenzene-d5 (Surr)	81		59 - 120
Phenol-d5 (Surr)	85		52 - 120
Terphenyl-d14 (Surr)	93		64 - 150

Lab Sample ID: LCSD 580-185203/3-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	2.00	0.961	*	ug/L		48	40 - 125	36	20
1,2-Dichlorobenzene	2.00	0.954	*	ug/L		48	44 - 125	39	20
1,3-Dichlorobenzene	2.00	0.874	*	ug/L		44	40 - 125	43	20
1,4-Dichlorobenzene	2.00	0.903	*	ug/L		45	40 - 125	40	20
1-Methylnaphthalene	2.00	1.13	*	ug/L		56	54 - 125	27	20
2,4,5-Trichlorophenol	2.00	1.35	*	ug/L		67	66 - 130	27	20
2,4,6-Trichlorophenol	2.00	1.39	*	ug/L		70	55 - 140	29	20
2,4-Dichlorophenol	2.00	1.05	*	ug/L		53	50 - 140	41	20
2,4-Dimethylphenol	2.00	0.603	J	ug/L		30	30 - 135	15	20
2,4-Dinitrophenol	4.00	1.86	J ^ *	ug/L		46	24 - 146	41	20
2,4-Dinitrotoluene	2.00	1.33	*	ug/L		66	73 - 126	21	20
2,6-Dinitrotoluene	2.00	1.41		ug/L		70	67 - 134	15	20
2-Chloronaphthalene	2.00	1.20	*	ug/L		60	55 - 125	27	20
2-Chlorophenol	2.00	1.03	*	ug/L		51	57 - 125	39	20
2-Methylnaphthalene	2.00	1.47	*	ug/L		73	56 - 125	26	20
2-Methylphenol	2.00	1.08	*	ug/L		54	60 - 130	24	20
2-Nitroaniline	2.00	1.55	*	ug/L		77	52 - 140	23	20
2-Nitrophenol	2.00	1.11	*	ug/L		56	55 - 140	34	20
3 & 4 Methylphenol	2.00	1.07	*	ug/L		54	60 - 130	33	20
3,3'-Dichlorobenzidine	4.00	0.901	J	ug/L		23	20 - 175	9	20
3-Nitroaniline	2.00	1.16		ug/L		58	22 - 124	13	20
4,6-Dinitro-2-methylphenol	4.00	3.08	J ^ *	ug/L		77	50 - 136	22	20
4-Bromophenyl phenyl ether	2.00	1.33	*	ug/L		67	62 - 132	26	20
4-Chloro-3-methylphenol	2.00	ND	*	ug/L		2	65 - 145	192	20
4-Chloroaniline	2.00	0.479	*	ug/L		24	20 - 150	56	20
4-Chlorophenyl phenyl ether	2.00	1.27		ug/L		63	59 - 125	20	20
4-Nitroaniline	2.00	1.15		ug/L		57	49 - 125	19	20
4-Nitrophenol	4.00	3.10		ug/L		77	35 - 153	18	20
Acenaphthene	2.00	1.15	*	ug/L		57	63 - 125	24	20
Acenaphthylene	2.00	0.970	*	ug/L		48	62 - 125	24	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185203/3-A

Matrix: Water

Analysis Batch: 186128

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	2.00	1.03		ug/L		51	50 - 125	16	20
Benzo[a]anthracene	2.00	1.35		ug/L		68	65 - 125	16	20
Benzo[a]pyrene	2.00	1.00		ug/L		50	45 - 125	8	20
Benzo[b]fluoranthene	2.00	1.72		ug/L		86	70 - 129	16	20
Benzo[g,h,i]perylene	2.00	1.57		ug/L		78	65 - 153	20	20
Benzo[k]fluoranthene	2.00	1.46		ug/L		73	70 - 123	11	20
Benzoic acid	4.00	1.60	J	ug/L		40	20 - 144	17	20
Benzyl alcohol	2.00	0.987	*	ug/L		49	41 - 144	25	20
Bis(2-chloroethoxy)methane	2.00	1.26	*	ug/L		63	59 - 125	25	20
Bis(2-chloroethyl)ether	2.00	1.23	*	ug/L		61	55 - 125	32	20
Bis(2-ethylhexyl) phthalate	2.00	1.43	J *	ug/L		72	70 - 185	27	20
bis(chloroisopropyl) ether	2.00	1.11	*	ug/L		56	44 - 130	28	20
Butyl benzyl phthalate	2.00	1.72		ug/L		86	60 - 167	16	20
Carbazole	2.00	1.25	*	ug/L		63	75 - 142	24	20
Chrysene	2.00	1.59		ug/L		79	70 - 125	14	20
Dibenz(a,h)anthracene	2.00	1.44		ug/L		72	69 - 154	19	20
Dibenzofuran	2.00	1.20	*	ug/L		60	60 - 125	28	20
Diethyl phthalate	2.00	1.77	^	ug/L		88	60 - 150	15	20
Dimethyl phthalate	2.00	1.26	*	ug/L		63	65 - 155	27	20
Di-n-butyl phthalate	2.00	1.45		ug/L		73	55 - 167	16	20
Di-n-octyl phthalate	2.00	1.48		ug/L		74	55 - 150	13	20
Fluoranthene	2.00	1.41		ug/L		70	70 - 145	17	20
Fluorene	2.00	1.30	*	ug/L		65	69 - 125	22	20
Hexachlorobenzene	2.00	1.40		ug/L		70	61 - 125	17	20
Hexachlorobutadiene	2.00	0.868	*	ug/L		43	25 - 125	30	20
Hexachlorocyclopentadiene	2.00	0.200	J *	ug/L		10	20 - 125	31	20
Hexachloroethane	2.00	0.886	*	ug/L		44	30 - 125	49	20
Indeno[1,2,3-cd]pyrene	2.00	1.56		ug/L		78	70 - 136	11	20
Isophorone	2.00	1.24	*	ug/L		62	64 - 125	30	20
Naphthalene	2.00	1.09	*	ug/L		55	56 - 125	27	20
Nitrobenzene	2.00	1.33	*	ug/L		67	62 - 125	34	20
N-Nitrosodi-n-propylamine	2.00	1.13	*	ug/L		57	60 - 120	28	20
N-Nitrosodiphenylamine	2.00	1.74	*	ug/L		87	40 - 135	31	20
Pentachlorophenol	4.00	2.44		ug/L		61	20 - 145	20	20
Phenanthrene	2.00	1.29	*	ug/L		64	70 - 125	23	20
Phenol	2.00	1.00	*	ug/L		50	53 - 130	37	20
Pyrene	2.00	1.32	*	ug/L		66	70 - 133	21	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	63		44 - 125
2-Fluorobiphenyl	57		50 - 120
2-Fluorophenol (Surr)	40		30 - 134
Nitrobenzene-d5 (Surr)	61		59 - 120
Phenol-d5 (Surr)	52		52 - 120
Terphenyl-d14 (Surr)	75		64 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 186128

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND	*	2.10	1.10		ug/L		52	40 - 125
1,2-Dichlorobenzene	ND	*	2.10	1.03		ug/L		49	45 - 125
1,3-Dichlorobenzene	ND	*	2.10	0.988		ug/L		47	40 - 125
1,4-Dichlorobenzene	ND	*	2.10	1.04		ug/L		50	40 - 125
1-Methylnaphthalene	ND	*	2.10	1.36		ug/L		63	60 - 125
2,4,5-Trichlorophenol	ND	*	2.10	1.77	F1	ug/L		67	75 - 125
2,4,6-Trichlorophenol	ND	*	2.10	1.86		ug/L		84	55 - 140
2,4-Dichlorophenol	ND	*	2.10	1.56		ug/L		74	50 - 140
2,4-Dimethylphenol	ND		2.10	ND		ug/L		34	30 - 135
2,4-Dinitrophenol	ND	^ *	4.20	5.69	F1	ug/L		136	50 - 130
2,4-Dinitrotoluene	ND	*	2.10	1.78		ug/L		85	75 - 125
2,6-Dinitrotoluene	ND		2.10	1.69		ug/L		81	75 - 125
2-Chloronaphthalene	ND	*	2.10	1.34		ug/L		64	60 - 125
2-Chlorophenol	ND	*	2.10	1.38		ug/L		66	60 - 130
2-Methylnaphthalene	ND	*	2.10	1.22	F1	ug/L		55	60 - 125
2-Methylphenol	ND	*	2.10	1.40	F1	ug/L		61	70 - 130
2-Nitroaniline	ND	*	2.10	1.80		ug/L		86	75 - 140
2-Nitrophenol	ND	*	2.10	1.83		ug/L		87	55 - 140
3 & 4 Methylphenol	ND	*	2.10	1.33	F1	ug/L		63	65 - 130
3,3'-Dichlorobenzidine	ND		4.20	ND	F1	ug/L		0	20 - 175
3-Nitroaniline	ND		2.10	1.03	F1	ug/L		49	75 - 140
4,6-Dinitro-2-methylphenol	ND	^ *	4.20	5.13		ug/L		122	50 - 125
4-Bromophenyl phenyl ether	ND	*	2.10	1.55	F1	ug/L		74	75 - 125
4-Chloro-3-methylphenol	1.2	*	2.10	1.61	F1	ug/L		22	65 - 145
4-Chloroaniline	ND	*	2.10	0.517	F1	ug/L		25	35 - 175
4-Chlorophenyl phenyl ether	ND		2.10	1.45	F1	ug/L		69	70 - 125
4-Nitroaniline	ND		2.10	0.905	F1	ug/L		43	70 - 125
4-Nitrophenol	ND		4.20	4.11		ug/L		98	35 - 145
Acenaphthene	ND	*	2.10	1.36		ug/L		65	65 - 125
Acenaphthylene	ND	*	2.10	1.25	F1	ug/L		60	65 - 125
Anthracene	ND		2.10	1.20		ug/L		57	50 - 125
Benzo[a]anthracene	ND		2.10	1.68		ug/L		78	65 - 125
Benzo[a]pyrene	ND		2.10	1.23		ug/L		59	45 - 125
Benzo[b]fluoranthene	ND		2.10	1.91		ug/L		88	70 - 125
Benzo[g,h,i]perylene	ND		2.10	1.88		ug/L		88	75 - 125
Benzo[k]fluoranthene	ND		2.10	1.68		ug/L		79	70 - 125
Benzoic acid	ND		4.20	5.17		ug/L		123	20 - 140
Benzyl alcohol	ND	*	2.10	1.01	F1	ug/L		48	65 - 125
Bis(2-chloroethoxy)methane	ND	*	2.10	1.48	F1	ug/L		70	75 - 125
Bis(2-chloroethyl)ether	ND	*	2.10	1.54		ug/L		73	65 - 125
Bis(2-ethylhexyl) phthalate	ND	*	2.10	ND	F1	ug/L		-8	20 - 175
bis(chloroisopropyl) ether	ND	*	2.10	1.33	F1	ug/L		63	65 - 125
Butyl benzyl phthalate	0.61		2.10	2.20		ug/L		76	60 - 150
Carbazole	ND	*	2.10	1.57		ug/L		75	75 - 125
Chrysene	0.074		2.10	1.87		ug/L		86	70 - 125
Dibenz(a,h)anthracene	ND		2.10	1.67		ug/L		80	75 - 130
Dibenzofuran	ND	*	2.10	1.38		ug/L		66	60 - 125
Diethyl phthalate	0.48	B ^	2.10	2.03		ug/L		74	60 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 186128

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	1.5	*	2.10	1.59	F1	ug/L		5	65 - 155
Di-n-butyl phthalate	ND		2.10	1.83		ug/L		68	55 - 155
Di-n-octyl phthalate	ND		2.10	1.90		ug/L		80	55 - 150
Fluoranthene	0.082		2.10	1.68		ug/L		76	70 - 125
Fluorene	ND	*	2.10	1.49		ug/L		71	70 - 125
Hexachlorobenzene	ND		2.10	1.60		ug/L		76	70 - 125
Hexachlorobutadiene	ND	*	2.10	0.930		ug/L		44	25 - 125
Hexachlorocyclopentadiene	ND	*	2.10	ND		ug/L		22	20 - 125
Hexachloroethane	ND	*	2.10	1.04		ug/L		49	30 - 125
Indeno[1,2,3-cd]pyrene	ND		2.10	1.84		ug/L		87	75 - 125
Isophorone	ND	*	2.10	1.56	F1	ug/L		74	75 - 125
Naphthalene	ND	*	2.10	1.30		ug/L		62	60 - 125
Nitrobenzene	ND	*	2.10	1.70		ug/L		81	70 - 125
N-Nitrosodi-n-propylamine	ND	*	2.10	1.27	F1	ug/L		61	70 - 130
N-Nitrosodiphenylamine	ND	*	2.10	2.53		ug/L		121	40 - 135
Pentachlorophenol	4.0		4.20	4.42	F1	ug/L		9	20 - 145
Phenanthrene	ND	*	2.10	1.56	F1	ug/L		71	75 - 125
Phenol	0.89	*	2.10	1.41	F1	ug/L		25	65 - 130
Pyrene	0.10	*	2.10	1.60		ug/L		72	70 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		44 - 125
2-Fluorobiphenyl	65		50 - 120
2-Fluorophenol (Surr)	61		30 - 134
Nitrobenzene-d5 (Surr)	73		59 - 120
Phenol-d5 (Surr)	71		52 - 120
Terphenyl-d14 (Surr)	88		64 - 150

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 186128

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND	*	2.07	0.545	F1 F2	ug/L		26	40 - 125	67	20
1,2-Dichlorobenzene	ND	*	2.07	0.570	F1 F2	ug/L		28	45 - 125	57	20
1,3-Dichlorobenzene	ND	*	2.07	0.536	F1 F2	ug/L		26	40 - 125	59	20
1,4-Dichlorobenzene	ND	*	2.07	0.516	F1 F2	ug/L		25	40 - 125	68	20
1-Methylnaphthalene	ND	*	2.07	0.730	F1 F2	ug/L		33	60 - 125	60	20
2,4,5-Trichlorophenol	ND	*	2.07	0.698	F1 F2	ug/L		16	75 - 125	87	20
2,4,6-Trichlorophenol	ND	*	2.07	ND	F1 F2	ug/L		18	55 - 140	118	20
2,4-Dichlorophenol	ND	*	2.07	0.761	F1 F2	ug/L		37	50 - 140	69	20
2,4-Dimethylphenol	ND		2.07	ND	F1	ug/L		0	30 - 135	NC	20
2,4-Dinitrophenol	ND	^ *	4.13	ND	F1	ug/L		0	50 - 130	NC	20
2,4-Dinitrotoluene	ND	*	2.07	1.00	F1 F2	ug/L		49	75 - 125	56	20
2,6-Dinitrotoluene	ND		2.07	0.905	F1 F2	ug/L		44	75 - 125	61	20
2-Chloronaphthalene	ND	*	2.07	0.774	F1 F2	ug/L		37	60 - 125	53	20
2-Chlorophenol	ND	*	2.07	0.666	F1 F2	ug/L		32	60 - 130	70	20
2-Methylnaphthalene	ND	*	2.07	0.721	F1 F2	ug/L		32	60 - 125	52	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 186128

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	ND	*	2.07	0.696	F1 F2	ug/L		28	70 - 130	67	20
2-Nitroaniline	ND	*	2.07	1.05	F1 F2	ug/L		51	75 - 140	53	20
2-Nitrophenol	ND	*	2.07	0.873	F1 F2	ug/L		42	55 - 140	71	20
3 & 4 Methylphenol	ND	*	2.07	ND	F1 F2	ug/L		33	65 - 130	63	20
3,3'-Dichlorobenzidine	ND		4.13	ND	F1	ug/L		6	20 - 175	NC	20
3-Nitroaniline	ND		2.07	0.643	F1 F2	ug/L		31	75 - 140	46	20
4,6-Dinitro-2-methylphenol	ND	^ *	4.13	ND	F1	ug/L		0	50 - 125	NC	20
4-Bromophenyl phenyl ether	ND	*	2.07	0.933	F1 F2	ug/L		45	75 - 125	50	20
4-Chloro-3-methylphenol	1.2	*	2.07	0.866	F1 F2	ug/L		-14	65 - 145	60	20
4-Chloroaniline	ND	*	2.07	ND	F1 F2	ug/L		11	35 - 175	75	20
4-Chlorophenyl phenyl ether	ND		2.07	0.807	F1 F2	ug/L		39	70 - 125	57	20
4-Nitroaniline	ND		2.07	0.712	F1 F2	ug/L		34	70 - 125	24	20
4-Nitrophenol	ND		4.13	ND	F1	ug/L		0	35 - 145	NC	20
Acenaphthene	ND	*	2.07	0.757	F1 F2	ug/L		37	65 - 125	57	20
Acenaphthylene	ND	*	2.07	0.682	F1 F2	ug/L		33	65 - 125	59	20
Anthracene	ND		2.07	0.688	F1 F2	ug/L		33	50 - 125	55	20
Benzo[a]anthracene	ND		2.07	0.972	F1 F2	ug/L		45	65 - 125	54	20
Benzo[a]pyrene	ND		2.07	0.660	F1 F2	ug/L		32	45 - 125	61	20
Benzo[b]fluoranthene	ND		2.07	1.09	F1 F2	ug/L		50	70 - 125	55	20
Benzo[g,h,i]perylene	ND		2.07	0.984	F1 F2	ug/L		47	75 - 125	62	20
Benzo[k]fluoranthene	ND		2.07	0.985	F1 F2	ug/L		46	70 - 125	52	20
Benzoic acid	ND		4.13	ND	F2	ug/L		41	20 - 140	101	20
Benzyl alcohol	ND	*	2.07	0.593	F1 F2	ug/L		29	65 - 125	52	20
Bis(2-chloroethoxy)methane	ND	*	2.07	0.823	F1 F2	ug/L		40	75 - 125	57	20
Bis(2-chloroethyl)ether	ND	*	2.07	0.793	F1 F2	ug/L		38	65 - 125	64	20
Bis(2-ethylhexyl) phthalate	ND	*	2.07	ND	F1 F2	ug/L		-35	20 - 175	33	20
bis(chloroisopropyl) ether	ND	*	2.07	0.685	F1 F2	ug/L		33	65 - 125	64	20
Butyl benzyl phthalate	0.61		2.07	1.38	F1 F2	ug/L		37	60 - 150	46	20
Carbazole	ND	*	2.07	0.993	F1 F2	ug/L		48	75 - 125	45	20
Chrysene	0.074		2.07	1.12	F1 F2	ug/L		51	70 - 125	50	20
Dibenz(a,h)anthracene	ND		2.07	0.894	F1 F2	ug/L		43	75 - 130	61	20
Dibenzofuran	ND	*	2.07	0.809	F1 F2	ug/L		39	60 - 125	52	20
Diethyl phthalate	0.48	B ^	2.07	1.27	F1 F2	ug/L		38	60 - 150	46	20
Dimethyl phthalate	1.5	*	2.07	0.939	F1 F2	ug/L		-26	65 - 155	52	20
Di-n-butyl phthalate	ND		2.07	1.06	F1 F2	ug/L		32	55 - 155	53	20
Di-n-octyl phthalate	ND		2.07	1.04	F1 F2	ug/L		40	55 - 150	58	20
Fluoranthene	0.082		2.07	0.969	F1 F2	ug/L		43	70 - 125	54	20
Fluorene	ND	*	2.07	0.891	F1 F2	ug/L		43	70 - 125	50	20
Hexachlorobenzene	ND		2.07	0.958	F1 F2	ug/L		46	70 - 125	50	20
Hexachlorobutadiene	ND	*	2.07	ND	F1 F2	ug/L		23	25 - 125	65	20
Hexachlorocyclopentadiene	ND	*	2.07	ND	F1 F2	ug/L		11	20 - 125	69	20
Hexachloroethane	ND	*	2.07	ND	F1 F2	ug/L		27	30 - 125	61	20
Indeno[1,2,3-cd]pyrene	ND		2.07	1.07	F1 F2	ug/L		50	75 - 125	53	20
Isophorone	ND	*	2.07	0.827	F1 F2	ug/L		40	75 - 125	61	20
Naphthalene	ND	*	2.07	0.677	F1 F2	ug/L		33	60 - 125	63	20
Nitrobenzene	ND	*	2.07	0.933	F1 F2	ug/L		45	70 - 125	58	20
N-Nitrosodi-n-propylamine	ND	*	2.07	0.718	F1 F2	ug/L		35	70 - 130	56	20
N-Nitrosodiphenylamine	ND	*	2.07	1.39	F2	ug/L		67	40 - 135	58	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 186128

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	4.0		4.13	ND	F1 F2	ug/L		-87	20 - 145	165	20
Phenanthrene	ND	*	2.07	0.907	F1 F2	ug/L		40	75 - 125	53	20
Phenol	0.89	*	2.07	0.687	F1 F2	ug/L		-10	65 - 130	69	20
Pyrene	0.10	*	2.07	0.936	F1 F2	ug/L		40	70 - 125	53	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	31	X	44 - 125
2-Fluorobiphenyl	39	X	50 - 120
2-Fluorophenol (Surr)	25	X	30 - 134
Nitrobenzene-d5 (Surr)	38	X	59 - 120
Phenol-d5 (Surr)	38	X	52 - 120
Terphenyl-d14 (Surr)	56	X	64 - 150

Lab Sample ID: MB 580-186383/1-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
1,2-Dichlorobenzene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
1,3-Dichlorobenzene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
1,4-Dichlorobenzene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
1-Methylnaphthalene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,4-Dichlorophenol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,4-Dimethylphenol	ND		2.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,4-Dinitrophenol	ND		5.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,4-Dinitrotoluene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2,6-Dinitrotoluene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2-Chloronaphthalene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
2-Chlorophenol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2-Methylnaphthalene	ND		0.20		ug/L		04/08/15 16:19	04/13/15 10:28	1
2-Methylphenol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2-Nitroaniline	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
2-Nitrophenol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
3 & 4 Methylphenol	ND		0.80		ug/L		04/08/15 16:19	04/13/15 10:28	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
3-Nitroaniline	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
4,6-Dinitro-2-methylphenol	ND		4.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
4-Chloroaniline	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
4-Nitroaniline	ND		0.60		ug/L		04/08/15 16:19	04/13/15 10:28	1
4-Nitrophenol	ND		3.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
Acenaphthene	ND		0.10		ug/L		04/08/15 16:19	04/13/15 10:28	1
Acenaphthylene	ND		0.080		ug/L		04/08/15 16:19	04/13/15 10:28	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186383/1-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.040		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzo[a]anthracene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzo[a]pyrene	ND		0.040		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzo[b]fluoranthene	ND		0.080		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzo[k]fluoranthene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzoic acid	ND		3.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
Benzyl alcohol	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Bis(2-ethylhexyl) phthalate	ND		3.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Butyl benzyl phthalate	ND		0.60		ug/L		04/08/15 16:19	04/13/15 10:28	1
Carbazole	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Chrysene	ND		0.040		ug/L		04/08/15 16:19	04/13/15 10:28	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
Dibenzofuran	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Diethyl phthalate	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Dimethyl phthalate	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Di-n-butyl phthalate	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Di-n-octyl phthalate	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Fluoranthene	ND		0.050		ug/L		04/08/15 16:19	04/13/15 10:28	1
Fluorene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
Hexachlorobenzene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Hexachlorobutadiene	ND		0.60		ug/L		04/08/15 16:19	04/13/15 10:28	1
Hexachlorocyclopentadiene	ND	^	2.0		ug/L		04/08/15 16:19	04/13/15 10:28	1
Hexachloroethane	ND		0.60		ug/L		04/08/15 16:19	04/13/15 10:28	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1
Isophorone	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Naphthalene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Nitrobenzene	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		04/08/15 16:19	04/13/15 10:28	1
Pentachlorophenol	ND		0.70		ug/L		04/08/15 16:19	04/13/15 10:28	1
Phenanthrene	ND		0.080		ug/L		04/08/15 16:19	04/13/15 10:28	1
Phenol	ND		0.60		ug/L		04/08/15 16:19	04/13/15 10:28	1
Pyrene	ND		0.060		ug/L		04/08/15 16:19	04/13/15 10:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	94	^	44 - 125	04/08/15 16:19	04/13/15 10:28	1
2-Fluorobiphenyl	81		50 - 120	04/08/15 16:19	04/13/15 10:28	1
2-Fluorophenol (Surr)	85		30 - 134	04/08/15 16:19	04/13/15 10:28	1
Nitrobenzene-d5 (Surr)	100		59 - 120	04/08/15 16:19	04/13/15 10:28	1
Phenol-d5 (Surr)	98		52 - 120	04/08/15 16:19	04/13/15 10:28	1
Terphenyl-d14 (Surr)	103		64 - 150	04/08/15 16:19	04/13/15 10:28	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186383/2-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.55		ug/L		78	40 - 125
1,2-Dichlorobenzene	2.00	1.46		ug/L		73	44 - 125
1,3-Dichlorobenzene	2.00	1.40		ug/L		70	40 - 125
1,4-Dichlorobenzene	2.00	1.46		ug/L		73	40 - 125
1-Methylnaphthalene	2.00	1.72		ug/L		86	54 - 125
2,4,5-Trichlorophenol	2.00	2.00		ug/L		100	66 - 130
2,4,6-Trichlorophenol	2.00	2.07		ug/L		103	55 - 140
2,4-Dichlorophenol	2.00	1.93		ug/L		96	50 - 140
2,4-Dimethylphenol	2.00	1.09	J	ug/L		55	30 - 135
2,4-Dinitrophenol	4.00	2.59	J	ug/L		65	24 - 146
2,4-Dinitrotoluene	2.00	2.02		ug/L		101	73 - 126
2,6-Dinitrotoluene	2.00	2.00		ug/L		100	67 - 134
2-Chloronaphthalene	2.00	1.70		ug/L		85	55 - 125
2-Chlorophenol	2.00	2.03		ug/L		102	57 - 125
2-Methylnaphthalene	2.00	1.58		ug/L		79	56 - 125
2-Methylphenol	2.00	1.89		ug/L		94	60 - 130
2-Nitroaniline	2.00	2.24		ug/L		112	52 - 140
2-Nitrophenol	2.00	1.80		ug/L		90	55 - 140
3 & 4 Methylphenol	2.00	1.98		ug/L		99	60 - 130
3,3'-Dichlorobenzidine	4.00	2.88		ug/L		72	20 - 175
3-Nitroaniline	2.00	1.67		ug/L		84	22 - 124
4,6-Dinitro-2-methylphenol	4.00	3.44	J	ug/L		86	50 - 136
4-Bromophenyl phenyl ether	2.00	2.07		ug/L		103	62 - 132
4-Chloro-3-methylphenol	2.00	2.24		ug/L		112	65 - 145
4-Chloroaniline	2.00	0.690		ug/L		35	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.87		ug/L		94	59 - 125
4-Nitroaniline	2.00	1.79		ug/L		89	49 - 125
4-Nitrophenol	4.00	3.87		ug/L		97	35 - 153
Acenaphthene	2.00	1.72		ug/L		86	63 - 125
Acenaphthylene	2.00	1.71		ug/L		85	62 - 125
Anthracene	2.00	1.79		ug/L		89	50 - 125
Benzo[a]anthracene	2.00	2.08		ug/L		104	65 - 125
Benzo[a]pyrene	2.00	2.02		ug/L		101	45 - 125
Benzo[b]fluoranthene	2.00	2.49		ug/L		124	70 - 129
Benzo[g,h,i]perylene	2.00	2.44		ug/L		122	65 - 153
Benzo[k]fluoranthene	2.00	2.22		ug/L		111	70 - 123
Benzoic acid	4.01	1.30	J	ug/L		32	20 - 144
Benzyl alcohol	2.00	2.15		ug/L		107	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.86		ug/L		93	59 - 125
Bis(2-chloroethyl)ether	2.00	1.84		ug/L		92	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	21.7	E *	ug/L		1085	70 - 185
bis(chloroisopropyl) ether	2.00	2.02		ug/L		101	44 - 130
Butyl benzyl phthalate	2.00	2.32		ug/L		116	60 - 167
Carbazole	2.00	2.02		ug/L		101	75 - 142
Chrysene	2.00	1.97		ug/L		98	70 - 125
Dibenz(a,h)anthracene	2.00	2.28		ug/L		114	69 - 154
Dibenzofuran	2.00	1.76		ug/L		88	60 - 125
Diethyl phthalate	2.00	1.97		ug/L		99	60 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186383/2-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	2.00	2.01		ug/L		100	65 - 155
Di-n-butyl phthalate	2.00	2.30		ug/L		115	55 - 167
Di-n-octyl phthalate	2.00	2.43		ug/L		122	55 - 150
Fluoranthene	2.00	2.15		ug/L		107	70 - 145
Fluorene	2.00	1.83		ug/L		91	69 - 125
Hexachlorobenzene	2.00	2.10		ug/L		105	61 - 125
Hexachlorobutadiene	2.00	1.38		ug/L		69	25 - 125
Hexachlorocyclopentadiene	2.00	0.135	J * ^	ug/L		7	20 - 125
Hexachloroethane	2.00	1.52		ug/L		76	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	2.57		ug/L		129	70 - 136
Isophorone	2.00	2.26		ug/L		113	64 - 125
Naphthalene	2.00	1.67		ug/L		84	56 - 125
Nitrobenzene	2.00	2.09		ug/L		104	62 - 125
N-Nitrosodi-n-propylamine	2.00	1.98		ug/L		99	60 - 120
N-Nitrosodiphenylamine	4.01	3.24		ug/L		81	40 - 135
Pentachlorophenol	4.00	2.60		ug/L		65	20 - 145
Phenanthrene	2.00	1.77		ug/L		88	70 - 125
Phenol	2.00	1.78		ug/L		89	53 - 130
Pyrene	2.00	2.03		ug/L		101	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	106	^	44 - 125
2-Fluorobiphenyl	83		50 - 120
2-Fluorophenol (Surr)	86		30 - 134
Nitrobenzene-d5 (Surr)	99		59 - 120
Phenol-d5 (Surr)	96		52 - 120
Terphenyl-d14 (Surr)	106		64 - 150

Lab Sample ID: LCSD 580-186383/3-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2,4-Trichlorobenzene	2.00	1.62		ug/L		81	40 - 125	4	20
1,2-Dichlorobenzene	2.00	1.53		ug/L		77	44 - 125	5	20
1,3-Dichlorobenzene	2.00	1.45		ug/L		72	40 - 125	3	20
1,4-Dichlorobenzene	2.00	1.50		ug/L		75	40 - 125	2	20
1-Methylnaphthalene	2.00	1.81		ug/L		90	54 - 125	5	20
2,4,5-Trichlorophenol	2.00	2.12		ug/L		106	66 - 130	6	20
2,4,6-Trichlorophenol	2.00	2.11		ug/L		105	55 - 140	2	20
2,4-Dichlorophenol	2.00	2.02		ug/L		101	50 - 140	5	20
2,4-Dimethylphenol	2.00	1.19	J	ug/L		60	30 - 135	9	20
2,4-Dinitrophenol	4.00	2.29	J	ug/L		57	24 - 146	12	20
2,4-Dinitrotoluene	2.00	1.97		ug/L		99	73 - 126	2	20
2,6-Dinitrotoluene	2.00	2.05		ug/L		103	67 - 134	2	20
2-Chloronaphthalene	2.00	1.81		ug/L		91	55 - 125	7	20
2-Chlorophenol	2.00	1.97		ug/L		98	57 - 125	3	20
2-Methylnaphthalene	2.00	1.68		ug/L		84	56 - 125	6	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186383/3-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	2.00	1.87		ug/L		94	60 - 130	1	20
2-Nitroaniline	2.00	2.25		ug/L		112	52 - 140	0	20
2-Nitrophenol	2.00	1.96		ug/L		98	55 - 140	8	20
3 & 4 Methylphenol	2.00	1.91		ug/L		96	60 - 130	3	20
3,3'-Dichlorobenzidine	4.00	3.46		ug/L		87	20 - 175	18	20
3-Nitroaniline	2.00	1.81		ug/L		91	22 - 124	8	20
4,6-Dinitro-2-methylphenol	4.00	3.66	J	ug/L		92	50 - 136	6	20
4-Bromophenyl phenyl ether	2.00	2.09		ug/L		104	62 - 132	1	20
4-Chloro-3-methylphenol	2.00	2.31		ug/L		115	65 - 145	3	20
4-Chloroaniline	2.00	1.59	*	ug/L		79	20 - 150	79	20
4-Chlorophenyl phenyl ether	2.00	1.90		ug/L		95	59 - 125	2	20
4-Nitroaniline	2.00	1.89		ug/L		94	49 - 125	6	20
4-Nitrophenol	4.00	4.02		ug/L		100	35 - 153	4	20
Acenaphthene	2.00	1.80		ug/L		90	63 - 125	4	20
Acenaphthylene	2.00	1.79		ug/L		89	62 - 125	4	20
Anthracene	2.00	1.89		ug/L		95	50 - 125	5	20
Benzo[a]anthracene	2.00	2.10		ug/L		105	65 - 125	1	20
Benzo[a]pyrene	2.00	2.17		ug/L		108	45 - 125	7	20
Benzo[b]fluoranthene	2.00	2.27		ug/L		113	70 - 129	9	20
Benzo[g,h,i]perylene	2.00	2.46		ug/L		123	65 - 153	1	20
Benzo[k]fluoranthene	2.00	2.46		ug/L		123	70 - 123	10	20
Benzoic acid	4.01	0.794	J *	ug/L		20	20 - 144	48	20
Benzyl alcohol	2.00	2.30		ug/L		115	41 - 144	7	20
Bis(2-chloroethoxy)methane	2.00	1.94		ug/L		97	59 - 125	4	20
Bis(2-chloroethyl)ether	2.00	1.83		ug/L		91	55 - 125	1	20
Bis(2-ethylhexyl) phthalate	2.00	2.45	J *	ug/L		122	70 - 185	160	20
bis(chloroisopropyl) ether	2.00	1.99		ug/L		99	44 - 130	2	20
Butyl benzyl phthalate	2.00	2.33		ug/L		117	60 - 167	1	20
Carbazole	2.00	1.99		ug/L		100	75 - 142	1	20
Chrysene	2.00	1.95		ug/L		98	70 - 125	1	20
Dibenz(a,h)anthracene	2.00	2.18		ug/L		109	69 - 154	4	20
Dibenzofuran	2.00	1.82		ug/L		91	60 - 125	4	20
Diethyl phthalate	2.00	1.99		ug/L		99	60 - 150	1	20
Dimethyl phthalate	2.00	1.99		ug/L		99	65 - 155	1	20
Di-n-butyl phthalate	2.00	2.26		ug/L		113	55 - 167	2	20
Di-n-octyl phthalate	2.00	2.51		ug/L		125	55 - 150	3	20
Fluoranthene	2.00	2.11		ug/L		106	70 - 145	2	20
Fluorene	2.00	1.90		ug/L		95	69 - 125	4	20
Hexachlorobenzene	2.00	2.11		ug/L		105	61 - 125	0	20
Hexachlorobutadiene	2.00	1.58		ug/L		79	25 - 125	14	20
Hexachlorocyclopentadiene	2.00	0.224	J * ^	ug/L		11	20 - 125	50	20
Hexachloroethane	2.00	1.51		ug/L		76	30 - 125	1	20
Indeno[1,2,3-cd]pyrene	2.00	2.53		ug/L		127	70 - 136	2	20
Isophorone	2.00	2.32		ug/L		116	64 - 125	2	20
Naphthalene	2.00	1.76		ug/L		88	56 - 125	5	20
Nitrobenzene	2.00	2.25		ug/L		113	62 - 125	8	20
N-Nitrosodi-n-propylamine	2.00	2.07		ug/L		103	60 - 120	4	20
N-Nitrosodiphenylamine	4.01	3.29		ug/L		82	40 - 135	1	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186383/3-A

Matrix: Water

Analysis Batch: 186668

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	4.00	2.20		ug/L		55	20 - 145	17	20
Phenanthrene	2.00	1.75		ug/L		87	70 - 125	1	20
Phenol	2.00	1.70		ug/L		85	53 - 130	5	20
Pyrene	2.00	2.08		ug/L		104	70 - 133	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	105	^	44 - 125
2-Fluorobiphenyl	81		50 - 120
2-Fluorophenol (Surr)	79		30 - 134
Nitrobenzene-d5 (Surr)	106		59 - 120
Phenol-d5 (Surr)	92		52 - 120
Terphenyl-d14 (Surr)	105		64 - 150

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-185311/1-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
4,4'-DDE	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
4,4'-DDT	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Aldrin	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
alpha-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
alpha-Chlordane	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
beta-BHC	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
delta-BHC	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Dieldrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan I	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan II	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endosulfan sulfate	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin aldehyde	ND		0.050		ug/L		03/26/15 15:03	03/31/15 10:39	1
Endrin ketone	ND		0.020		ug/L		03/26/15 15:03	03/31/15 10:39	1
gamma-BHC (Lindane)	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
gamma-Chlordane	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Heptachlor	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Heptachlor epoxide	ND		0.010		ug/L		03/26/15 15:03	03/31/15 10:39	1
Methoxychlor	ND		0.10		ug/L		03/26/15 15:03	03/31/15 10:39	1
Toxaphene	ND		1.0		ug/L		03/26/15 15:03	03/31/15 10:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	81		33 - 133	03/26/15 15:03	03/31/15 10:39	1
Tetrachloro-m-xylene	65		45 - 123	03/26/15 15:03	03/31/15 10:39	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-185311/2-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.160	0.103		ug/L		65	48 - 147
4,4'-DDE	0.160	0.103		ug/L		64	61 - 131
4,4'-DDT	0.160	0.105		ug/L		65	47 - 143
Aldrin	0.160	0.0942		ug/L		59	56 - 124
alpha-BHC	0.160	0.0899		ug/L		56	41 - 126
alpha-Chlordane	0.160	0.106		ug/L		66	58 - 133
beta-BHC	0.160	0.107		ug/L		67	56 - 114
delta-BHC	0.160	0.0581		ug/L		36	30 - 130
Dieldrin	0.160	0.107		ug/L		67	63 - 140
Endosulfan I	0.160	0.107		ug/L		67	54 - 151
Endosulfan II	0.160	0.110		ug/L		69	53 - 144
Endosulfan sulfate	0.160	0.0999		ug/L		62	45 - 130
Endrin	0.160	0.104		ug/L		65	57 - 137
Endrin aldehyde	0.160	0.129		ug/L		80	52 - 139
Endrin ketone	0.160	0.109		ug/L		68	52 - 150
gamma-BHC (Lindane)	0.160	0.0942		ug/L		59	46 - 127
gamma-Chlordane	0.160	0.108		ug/L		68	61 - 130
Heptachlor	0.160	0.0982		ug/L		61	46 - 138
Heptachlor epoxide	0.160	0.102		ug/L		64	58 - 142
Methoxychlor	0.160	0.111		ug/L		70	51 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	70		33 - 133
Tetrachloro-m-xylene	57		45 - 123

Lab Sample ID: LCSD 580-185311/3-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.160	0.101		ug/L		63	48 - 147	2	52
4,4'-DDE	0.160	0.101		ug/L		63	61 - 131	2	50
4,4'-DDT	0.160	0.138		ug/L		86	47 - 143	27	52
Aldrin	0.160	0.0930		ug/L		58	56 - 124	1	52
alpha-BHC	0.160	0.0926		ug/L		58	41 - 126	3	53
alpha-Chlordane	0.160	0.101		ug/L		63	58 - 133	5	52
beta-BHC	0.160	0.0941		ug/L		59	56 - 114	13	50
delta-BHC	0.160	0.0557		ug/L		35	30 - 130	4	56
Dieldrin	0.160	0.104		ug/L		65	63 - 140	2	51
Endosulfan I	0.160	0.102		ug/L		64	54 - 151	4	55
Endosulfan II	0.160	0.107		ug/L		67	53 - 144	3	19
Endosulfan sulfate	0.160	0.0980		ug/L		61	45 - 130	2	52
Endrin	0.160	0.124		ug/L		77	57 - 137	17	52
Endrin aldehyde	0.160	0.125		ug/L		78	52 - 139	2	51
Endrin ketone	0.160	0.107		ug/L		67	52 - 150	1	50
gamma-BHC (Lindane)	0.160	0.0951		ug/L		59	46 - 127	1	50
gamma-Chlordane	0.160	0.108		ug/L		68	61 - 130	0	51
Heptachlor	0.160	0.0974		ug/L		61	46 - 138	1	50

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-185311/3-A

Matrix: Water

Analysis Batch: 185623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	0.160	0.0992		ug/L		62	58 - 142	3	49
Methoxychlor	0.160	0.112		ug/L		70	51 - 147	1	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	72		33 - 133
Tetrachloro-m-xylene	56		45 - 123

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-185238/1-A

Matrix: Water

Analysis Batch: 185242

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185238

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		03/25/15 21:52	03/26/15 17:22	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		03/25/15 21:52	03/26/15 17:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	70		50 - 150	03/25/15 21:52	03/26/15 17:22	1

Lab Sample ID: LCS 580-185238/2-A

Matrix: Water

Analysis Batch: 185242

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185238

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	4.00	3.70		mg/L		92	59 - 120
Motor Oil (>C24-C36)	4.02	3.98		mg/L		99	71 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	78		50 - 150

Lab Sample ID: LCSD 580-185238/3-A

Matrix: Water

Analysis Batch: 185242

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185238

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4.00	3.78		mg/L		94	59 - 120	2	27
Motor Oil (>C24-C36)	4.02	4.04		mg/L		101	71 - 140	1	27

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	79		50 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-185944/1-A

Matrix: Water

Analysis Batch: 185950

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185944

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		04/02/15 20:26	04/03/15 05:27	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		04/02/15 20:26	04/03/15 05:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150				04/02/15 20:26	04/03/15 05:27	1

Lab Sample ID: LCS 580-185944/2-A

Matrix: Water

Analysis Batch: 185950

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)	4.00	4.06		mg/L		102	59 - 120		
Motor Oil (>C24-C36)	4.02	4.48		mg/L		111	71 - 140		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
o-Terphenyl	83		50 - 150						

Lab Sample ID: LCSD 580-185944/3-A

Matrix: Water

Analysis Batch: 185950

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185944

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	4.00	3.84		mg/L		96	59 - 120	6	27
Motor Oil (>C24-C36)	4.02	4.49		mg/L		112	71 - 140	0	27
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
o-Terphenyl	82		50 - 150						

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 185950

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185944

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)	0.13	Y	3.84	2.54		mg/L		63	59 - 120		
Motor Oil (>C24-C36)	ND	F2	3.85	3.15		mg/L		78	71 - 140		
Surrogate	MS %Recovery	MS Qualifier	Limits								
o-Terphenyl	59		50 - 150								

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185950

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185944

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	0.13	Y	4.11	3.08		mg/L		72	59 - 120	19	27
Motor Oil (>C24-C36)	ND	F2	4.12	4.17	F2	mg/L		97	71 - 140	28	27

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185950

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185944

Surrogate	MSD %Recovery	MSD Qualifier	Limits
<i>o</i> -Terphenyl	70		50 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-185930/20-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Arsenic	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Beryllium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Cadmium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Chromium	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Copper	ND		0.0020		mg/L		04/02/15 16:33	04/03/15 12:08	1
Lead	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Nickel	ND		0.0030		mg/L		04/02/15 16:33	04/03/15 12:08	1
Selenium	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Silver	ND		0.00040		mg/L		04/02/15 16:33	04/03/15 12:08	1
Thallium	ND		0.0010		mg/L		04/02/15 16:33	04/03/15 12:08	1
Zinc	ND		0.0070		mg/L		04/02/15 16:33	04/03/15 12:08	1

Lab Sample ID: LCS 580-185930/21-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.00	3.09		mg/L		103	80 - 120
Arsenic	4.00	4.03		mg/L		101	80 - 120
Beryllium	0.100	0.0997		mg/L		100	80 - 120
Cadmium	0.100	0.107		mg/L		107	80 - 120
Chromium	0.400	0.401		mg/L		100	80 - 120
Copper	0.500	0.509		mg/L		102	80 - 120
Lead	1.00	1.07		mg/L		107	80 - 120
Nickel	1.00	1.02		mg/L		102	80 - 120
Selenium	4.00	4.06		mg/L		101	80 - 120
Silver	0.600	0.692		mg/L		115	80 - 120
Thallium	4.00	4.23		mg/L		106	80 - 120
Zinc	4.00	4.08		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-185930/22-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.00	3.05		mg/L		102	80 - 120	1	20
Arsenic	4.00	4.05		mg/L		101	80 - 120	0	20
Beryllium	0.100	0.0953		mg/L		95	80 - 120	5	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-185930/22-A

Matrix: Water

Analysis Batch: 186042

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.100	0.108		mg/L		108	80 - 120	2	20
Chromium	0.400	0.401		mg/L		100	80 - 120	0	20
Copper	0.500	0.510		mg/L		102	80 - 120	0	20
Lead	1.00	1.07		mg/L		107	80 - 120	0	20
Nickel	1.00	1.03		mg/L		103	80 - 120	1	20
Selenium	4.00	4.08		mg/L		102	80 - 120	0	20
Silver	0.600	0.676		mg/L		113	80 - 120	2	20
Thallium	4.00	4.17		mg/L		104	80 - 120	1	20
Zinc	4.00	4.11		mg/L		103	80 - 120	1	20

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 186042

Client Sample ID: MW7-1-032315

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		3.00	3.03		mg/L		101	80 - 120		
Arsenic	ND		4.00	4.00		mg/L		100	80 - 120		
Beryllium	ND		0.100	0.0955		mg/L		95	80 - 120		
Cadmium	ND		0.100	0.105		mg/L		105	80 - 120		
Chromium	ND		0.400	0.388		mg/L		97	80 - 120		
Copper	ND		0.500	0.478		mg/L		96	80 - 120		
Lead	ND		1.00	1.04		mg/L		104	80 - 120		
Nickel	ND		1.00	1.00		mg/L		99	80 - 120		
Selenium	ND		4.00	4.09		mg/L		102	80 - 120		
Silver	ND		0.600	0.660		mg/L		110	80 - 120		
Thallium	ND		4.00	4.07		mg/L		102	80 - 120		
Zinc	ND		4.00	3.99		mg/L		100	80 - 120		

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 186042

Client Sample ID: MW7-1-032315

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		3.00	3.13		mg/L		104	80 - 120	3	20
Arsenic	ND		4.00	4.06		mg/L		101	80 - 120	1	20
Beryllium	ND		0.100	0.0944		mg/L		94	80 - 120	1	20
Cadmium	ND		0.100	0.106		mg/L		106	80 - 120	1	20
Chromium	ND		0.400	0.390		mg/L		98	80 - 120	1	20
Copper	ND		0.500	0.492		mg/L		98	80 - 120	3	20
Lead	ND		1.00	1.06		mg/L		106	80 - 120	2	20
Nickel	ND		1.00	1.01		mg/L		100	80 - 120	1	20
Selenium	ND		4.00	4.16		mg/L		104	80 - 120	2	20
Silver	ND		0.600	0.672		mg/L		112	80 - 120	2	20
Thallium	ND		4.00	4.18		mg/L		105	80 - 120	3	20
Zinc	ND		4.00	4.04		mg/L		101	80 - 120	1	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-48349-9 DU

Matrix: Water

Analysis Batch: 186042

Client Sample ID: MW7-1-032315

Prep Type: Total Recoverable

Prep Batch: 185930

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Antimony	ND		ND		mg/L		NC	20
Arsenic	ND		ND		mg/L		NC	20
Beryllium	ND		ND		mg/L		NC	20
Cadmium	ND		ND		mg/L		NC	20
Chromium	ND		ND		mg/L		NC	20
Copper	ND		ND		mg/L		NC	20
Lead	ND		ND		mg/L		NC	20
Nickel	ND		ND		mg/L		NC	20
Selenium	ND		ND		mg/L		NC	20
Silver	ND		ND		mg/L		NC	20
Thallium	ND		ND		mg/L		NC	20
Zinc	ND		ND		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-185784/21-A

Matrix: Water

Analysis Batch: 185823

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		04/01/15 11:42	04/01/15 14:13	1

Lab Sample ID: LCS 580-185784/22-A

Matrix: Water

Analysis Batch: 185823

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185784

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00180		mg/L		90	80 - 120

Lab Sample ID: LCSD 580-185784/23-A

Matrix: Water

Analysis Batch: 185823

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185784

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.00200	0.00179		mg/L		90	80 - 120	1	20

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 185823

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185784

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00200	0.00187		mg/L		93	80 - 120

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185823

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Prep Batch: 185784

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	ND		0.00200	0.00187		mg/L		93	80 - 120	0	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-48349-9 DU
Matrix: Water
Analysis Batch: 185823

Client Sample ID: MW7-1-032315
Prep Type: Total/NA
Prep Batch: 185784

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	ND		ND		mg/L		NC	20

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW3-2-032315

Date Collected: 03/23/15 08:35

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 16:31	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 17:38	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 12:24	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 15:52	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 16:58	AHP	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/26/15 22:49	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 12:58	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 15:14	FCW	TAL SEA

Client Sample ID: MW5-1-032315

Date Collected: 03/23/15 09:45

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 16:57	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 18:00	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 12:46	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 16:19	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 17:23	AHP	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/26/15 23:07	EKK	TAL SEA

Client Sample ID: MW2-1-032315

Date Collected: 03/23/15 11:15

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 17:23	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 18:22	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 13:07	AHP	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 16:45	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 17:48	AHP	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/26/15 23:25	EKK	TAL SEA

Client Sample ID: DUP-032315-01

Lab Sample ID: 580-48349-4

Date Collected: 03/23/15 10:00

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 17:49	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 18:44	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 13:29	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 17:11	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 18:13	AHP	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/27/15 00:02	EKK	TAL SEA

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 18:15	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 19:05	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 17:38	AHP	TAL SEA
Total/NA	Prep	3510C			185311	03/26/15 15:03	RBL	TAL SEA
Total/NA	Analysis	8081B		1	185623	03/31/15 12:05	EKK	TAL SEA
Total/NA	Prep	3510C			185238	03/25/15 21:52	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185242	03/27/15 00:20	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:02	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 14:36	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW6-1-032315

Lab Sample ID: 580-48349-6

Date Collected: 03/23/15 13:05

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 18:42	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 19:27	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 13:51	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 18:04	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 18:38	AHP	TAL SEA
Total/NA	Prep	3510C			185944	04/02/15 20:26	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185950	04/03/15 06:57	EKK	TAL SEA

Client Sample ID: FB-032315-01

Lab Sample ID: 580-48349-7

Date Collected: 03/23/15 13:30

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 19:08	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 19:49	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 14:13	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 18:30	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 19:03	AHP	TAL SEA
Total/NA	Prep	3510C			185944	04/02/15 20:26	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185950	04/03/15 07:15	EKK	TAL SEA

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 19:34	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 20:10	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 14:34	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 18:57	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 19:28	AHP	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			185311	03/26/15 15:03	RBL	TAL SEA
Total/NA	Analysis	8081B		1	185623	03/31/15 12:22	EKK	TAL SEA
Total/NA	Prep	3510C			185944	04/02/15 20:26	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185950	04/03/15 07:33	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 13:07	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 14:39	FCW	TAL SEA

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	185382	03/27/15 20:00	TL1	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270C SIM		1	185983	04/03/15 20:32	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270C SIM	RE	1	186663	04/14/15 14:56	AHP	TAL SEA
Total/NA	Prep	3520C			185203	03/25/15 13:20		TAL SEA
Total/NA	Analysis	8270D		1	186128	04/06/15 20:15	AHP	TAL SEA
Total/NA	Prep	3520C	RE		186383	04/08/15 16:19	ALC	TAL SEA
Total/NA	Analysis	8270D	RE	1	186668	04/13/15 19:53	AHP	TAL SEA
Total/NA	Prep	3510C			185944	04/02/15 20:26	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185950	04/03/15 07:51	EKK	TAL SEA
Total Recoverable	Prep	3005A			185930	04/02/15 16:33	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	186042	04/03/15 12:25	FCW	TAL SEA
Total/NA	Prep	7470A			185784	04/01/15 11:42	PAB	TAL SEA
Total/NA	Analysis	7470A		1	185823	04/01/15 14:20	FCW	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TestAmerica Seattle

Certification Summary

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,1,2,2-Tetrachloroethane
8270C SIM	3520C	Water	1-Methylnaphthalene
8270C SIM	3520C	Water	2-Methylnaphthalene
8270C SIM	3520C	Water	Acenaphthene
8270C SIM	3520C	Water	Acenaphthylene
8270C SIM	3520C	Water	Anthracene
8270C SIM	3520C	Water	Benzo[a]anthracene
8270C SIM	3520C	Water	Benzo[a]pyrene
8270C SIM	3520C	Water	Benzo[b]fluoranthene
8270C SIM	3520C	Water	Benzo[g,h,i]perylene
8270C SIM	3520C	Water	Benzo[k]fluoranthene
8270C SIM	3520C	Water	Chrysene
8270C SIM	3520C	Water	Dibenz(a,h)anthracene
8270C SIM	3520C	Water	Fluoranthene
8270C SIM	3520C	Water	Fluorene
8270C SIM	3520C	Water	Indeno[1,2,3-cd]pyrene
8270C SIM	3520C	Water	Naphthalene
8270C SIM	3520C	Water	Phenanthrene
8270C SIM	3520C	Water	Pyrene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	bis(chloroisopropyl) ether

Sample Summary

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48349-1	MW3-2-032315	Water	03/23/15 08:35	03/24/15 13:25
580-48349-2	MW5-1-032315	Water	03/23/15 09:45	03/24/15 13:25
580-48349-3	MW2-1-032315	Water	03/23/15 11:15	03/24/15 13:25
580-48349-4	DUP-032315-01	Water	03/23/15 10:00	03/24/15 13:25
580-48349-5	DUP-032315-02	Water	03/23/15 14:30	03/24/15 13:25
580-48349-6	MW6-1-032315	Water	03/23/15 13:05	03/24/15 13:25
580-48349-7	FB-032315-01	Water	03/23/15 13:30	03/24/15 13:25
580-48349-8	MW4-1-032315	Water	03/23/15 14:10	03/24/15 13:25
580-48349-9	MW7-1-032315	Water	03/23/15 15:50	03/24/15 13:25

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Short Hold

Chain of Custody Record

Client

ERM

Client Contact

M. Arnold

Date

3/23/15

Chain of Custody Number

27475

Address

1218 3rd Ave Ste. 1412

Telephone Number (Area Code)/Fax Number

425 462 8591

City

Seattle WA

State

WA

Zip Code

98101

Lab Contact

David Barker

Analysis (Attach list if more space is needed)

TPH-G *
TPH-D/HO
VOCs
SVOCs
Pesticides
PP Metals

Page

1 of 1

Project Name and Location (State)

K2 Site Vashon WA

Sampler

M. Arvide

Billing Contact

David Barker

Contract/Purchase Order/Quote No.

066125

Sample ID and Location/Description
(Containers for each sample may be combined on one line)

Date

Time

Air

Aqueous

Sed.

Soil

Unpres.

H2SO4

HNO3

HCl

NaOH

ZnAc/NaOH

MeOH

Containers & Preservatives

TPH-G *

TPH-D/HO

VOCs

SVOCs

Pesticides

PP Metals

Special Instructions/Conditions of Receipt

TPH-G.

TPH-G.

TPH-G.

TPH-G.

TPH-G.

TPH-G.

TPH-G.

TPH-G.

TPH-G.

TPH-G.

MW3-2-032315

3/23/15

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MW5-1-032315

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MW2-1-032315

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MW6-1-032315

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FB-032315-01

3/23/15

1330

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Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48349-1

Login Number: 48349

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Refer to Job Narrative for details.
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-48349-2

Client Project/Site: K2 Site, Vashon WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine

David Burk

Authorized for release by:
3/30/2015 3:54:43 PM

David Burk, Project Manager I
(253)248-4972
david.burk@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Job ID: 580-48349-2

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/24/2015 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.8° C, 0.9° C, 0.9° C and 3.2° C.

Except:

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): DUP-032315-02 (580-48349-5), MW6-1-032315 (580-48349-6).

Sample 05: Only 1 1L unpreserved amber was received. Also, the COC lists 15 containers should be received, but only 12 were received.

Sample -06: 1 250ml unpreserved amber lists "MW6" on the container label, while the COC lists "MW6-1-032315." The sample was logged in per the COC.

One of the two 1L unpreserved ambers received for the following sample was received only half full: MW2-1-032315 (580-48349-3).

The following samples were collected in an improper container: DUP-032315-02 (580-48349-5), MW4-1-032315 (580-48349-8). 250ml unpreserved containers were received for 8081 analysis instead of 125ml containers.

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Client Sample ID: MW3-2-032315

Lab Sample ID: 580-48349-1

Date Collected: 03/23/15 08:35

Matrix: Water

Date Received: 03/24/15 13:25

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			03/27/15 13:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					03/27/15 13:31	1
Trifluorotoluene (Surr)	113		50 - 150					03/27/15 13:31	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Client Sample ID: MW2-1-032315

Lab Sample ID: 580-48349-3

Date Collected: 03/23/15 11:15

Matrix: Water

Date Received: 03/24/15 13:25

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			03/27/15 14:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/27/15 14:02	1
Trifluorotoluene (Surr)	110		50 - 150					03/27/15 14:02	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Client Sample ID: DUP-032315-02

Lab Sample ID: 580-48349-5

Date Collected: 03/23/15 14:30

Matrix: Water

Date Received: 03/24/15 13:25

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			03/27/15 14:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/27/15 14:33	1
Trifluorotoluene (Surr)	113		50 - 150					03/27/15 14:33	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Client Sample ID: MW4-1-032315

Lab Sample ID: 580-48349-8

Date Collected: 03/23/15 14:10

Matrix: Water

Date Received: 03/24/15 13:25

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			03/27/15 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					03/27/15 15:04	1
Trifluorotoluene (Surr)	115		50 - 150					03/27/15 15:04	1

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Client Sample ID: MW7-1-032315

Lab Sample ID: 580-48349-9

Date Collected: 03/23/15 15:50

Matrix: Water

Date Received: 03/24/15 13:25

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			03/27/15 15:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					03/27/15 15:35	1
Trifluorotoluene (Surr)	112		50 - 150					03/27/15 15:35	1

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-185361/4

Matrix: Water

Analysis Batch: 185361

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			03/27/15 11:19	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					03/27/15 11:19	1
Trifluorotoluene (Surr)	117		50 - 150					03/27/15 11:19	1

Lab Sample ID: LCS 580-185361/5

Matrix: Water

Analysis Batch: 185361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.957		mg/L		96	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	100		50 - 150				
Trifluorotoluene (Surr)	103		50 - 150				

Lab Sample ID: LCSD 580-185361/6

Matrix: Water

Analysis Batch: 185361

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.950		mg/L		95	79 - 110	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		50 - 150						
Trifluorotoluene (Surr)	100		50 - 150						

Lab Sample ID: 580-48349-9 MS

Matrix: Water

Analysis Batch: 185361

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	ND		1.16	0.881		mg/L		76	50 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	96		50 - 150						
Trifluorotoluene (Surr)	88		50 - 150						

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185361

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	ND		1.16	0.819		mg/L		70	50 - 150	7	35

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-48349-9 MSD

Matrix: Water

Analysis Batch: 185361

Client Sample ID: MW7-1-032315

Prep Type: Total/NA

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		50 - 150
Trifluorotoluene (Surr)	85		50 - 150

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Client Sample ID: MW3-2-032315

Date Collected: 03/23/15 08:35

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	185361	03/27/15 13:31	TL1	TAL SEA

Client Sample ID: MW2-1-032315

Date Collected: 03/23/15 11:15

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	185361	03/27/15 14:02	TL1	TAL SEA

Client Sample ID: DUP-032315-02

Date Collected: 03/23/15 14:30

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	185361	03/27/15 14:33	TL1	TAL SEA

Client Sample ID: MW4-1-032315

Date Collected: 03/23/15 14:10

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	185361	03/27/15 15:04	TL1	TAL SEA

Client Sample ID: MW7-1-032315

Date Collected: 03/23/15 15:50

Date Received: 03/24/15 13:25

Lab Sample ID: 580-48349-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	185361	03/27/15 15:35	TL1	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

Analysis Method	Prep Method	Matrix	Analyte

Sample Summary

Client: ERM-West
Project/Site: K2 Site, Vashon WA

TestAmerica Job ID: 580-48349-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48349-1	MW3-2-032315	Water	03/23/15 08:35	03/24/15 13:25
580-48349-3	MW2-1-032315	Water	03/23/15 11:15	03/24/15 13:25
580-48349-5	DUP-032315-02	Water	03/23/15 14:30	03/24/15 13:25
580-48349-8	MW4-1-032315	Water	03/23/15 14:10	03/24/15 13:25
580-48349-9	MW7-1-032315	Water	03/23/15 15:50	03/24/15 13:25

Client

ERM

Client Contact

M. Arnold

Date

3/23/15

Chain of Custody Number

27475

Address

1218 3rd Ave Ste. 1412

Telephone Number (Area Code)/Fax Number

425 462 8591

Lab Number

48946

Page

1 of 1

City

Seattle WA

State

WA

Zip Code

98101

Sampler

M. Boine

Lab Contact

David Rarke

Analysis (Attach list if more space is needed)

TPH-G *

TPH-D/HO

VOCs

S/VOCs

Pesticides

PP Metals

Special Instructions/ Conditions of Receipt

TPH-G.

Project Name and Location (State)

K2 Site Vashon WA

Billing Contact

Contract/Purchase Order/Quote No.

266125

Sample ID, and Location/Description (Containers for each sample may be combined on one line)

MW3-2-032315

3/23/15

0835

Air

Aqueous

Sed.

Soil

Unpres.

H2SO4

HNO3

HCl

NaOH

ZnAc/NaOH

MeOH

TPH-G *

TPH-D/HO

VOCs

S/VOCs

Pesticides

PP Metals

X

X

X

MW5-1-032315

3/23/15

0945

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MW2-1-032315

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MW4-1-032315

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3/23/15

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Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-48349-2

Login Number: 48349

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Refer to Job Narrative for details.
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

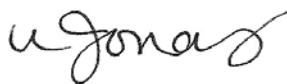
TestAmerica Job ID: 580-50545-1

Client Project/Site: K2 Site, Vashon, WA

For:

ERM-West
1218 3rd Ave
Suite 1412
Seattle, Washington 98101

Attn: Matthew Horine



Authorized for release by:

6/19/2015 10:38:13 AM

Wendy Jonas, Project Manager I
(253)922-2310

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Designee for

Stephanie Sanders, Project Manager I
(303)736-0196

stephanie.sanders@testamericainc.com

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results through

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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QC Sample Results	15
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Sample Summary	25
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Receipt Checklists	27



Case Narrative

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Job ID: 580-50545-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-50545-1

Comments

No additional comments.

Receipt

The samples were received on 6/5/2015 12:42 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

GC/MS Semi VOA

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: MW3-2-060415 (580-50545-4). Chromatographic evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-192433 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)ether, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated. A CCVL standard was analyzed at the reporting limit (RL) and all affected analytes were detected, demonstrating sensitivity down to the RL.

Method(s) 8270D: 4-Chloroaniline recovered below control limits for the LCS and LCSD associated with preparation batch 580-191462 and analytical batch 580-192433. This random marginal exceedance does not indicate a systematic control problem. The lab SOP allows up to four marginal exceedances when a full list spike is evaluated for the 8270D method. Qualified results have been reported.

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-191462 recovered outside control limits for Benzoic Acid. Benzoic Acid had passing recovery in both the LCS and LCSD.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW6-1-060415

Date Collected: 06/04/15 09:18

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-1

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.035		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
2-Methylnaphthalene	ND		0.025		ug/L		06/07/15 17:05	06/17/15 14:46	1
1-Methylnaphthalene	0.040		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Acenaphthylene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Acenaphthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Fluorene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Phenanthrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Anthracene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Fluoranthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Pyrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Benzo[a]anthracene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Chrysene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Benzo[a]pyrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Indeno[1,2,3-cd]pyrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Dibenz(a,h)anthracene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Benzo[g,h,i]perylene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Benzo[b]fluoranthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1
Benzo[k]fluoranthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	99		64 - 150	06/07/15 17:05	06/17/15 14:46	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
1,2-Dichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
1,3-Dichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
1,4-Dichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
1-Methylnaphthalene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,4,5-Trichlorophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,4,6-Trichlorophenol	ND		0.57		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,4-Dichlorophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,4-Dimethylphenol	ND		1.9		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,4-Dinitrophenol	ND		4.8		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,4-Dinitrotoluene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2,6-Dinitrotoluene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2-Chloronaphthalene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
2-Chlorophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2-Methylnaphthalene	ND		0.19		ug/L		06/07/15 17:05	06/17/15 16:42	1
2-Methylphenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2-Nitroaniline	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
2-Nitrophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
3 & 4 Methylphenol	ND		0.76		ug/L		06/07/15 17:05	06/17/15 16:42	1
3,3'-Dichlorobenzidine	ND		1.9		ug/L		06/07/15 17:05	06/17/15 16:42	1
3-Nitroaniline	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
4,6-Dinitro-2-methylphenol	ND		3.8		ug/L		06/07/15 17:05	06/17/15 16:42	1
4-Bromophenyl phenyl ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
4-Chloro-3-methylphenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
4-Chloroaniline	ND	*	0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
4-Chlorophenyl phenyl ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW6-1-060415

Lab Sample ID: 580-50545-1

Date Collected: 06/04/15 09:18

Matrix: Water

Date Received: 06/05/15 12:42

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		0.57		ug/L		06/07/15 17:05	06/17/15 16:42	1
4-Nitrophenol	ND		2.9		ug/L		06/07/15 17:05	06/17/15 16:42	1
Acenaphthene	ND		0.095		ug/L		06/07/15 17:05	06/17/15 16:42	1
Acenaphthylene	ND		0.076		ug/L		06/07/15 17:05	06/17/15 16:42	1
Anthracene	ND		0.038		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzo[a]anthracene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzo[a]pyrene	ND		0.038		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzo[b]fluoranthene	ND		0.076		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzo[g,h,i]perylene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzo[k]fluoranthene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzoic acid	ND	*	2.9		ug/L		06/07/15 17:05	06/17/15 16:42	1
Benzyl alcohol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Bis(2-chloroethoxy)methane	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Bis(2-chloroethyl)ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Bis(2-ethylhexyl) phthalate	ND		2.9		ug/L		06/07/15 17:05	06/17/15 16:42	1
bis(chloroisopropyl) ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Butyl benzyl phthalate	ND		0.57		ug/L		06/07/15 17:05	06/17/15 16:42	1
Carbazole	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Chrysene	ND		0.038		ug/L		06/07/15 17:05	06/17/15 16:42	1
Dibenz(a,h)anthracene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
Dibenzofuran	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Diethyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Dimethyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Di-n-butyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Di-n-octyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Fluoranthene	ND		0.048		ug/L		06/07/15 17:05	06/17/15 16:42	1
Fluorene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
Hexachlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Hexachlorobutadiene	ND		0.57		ug/L		06/07/15 17:05	06/17/15 16:42	1
Hexachlorocyclopentadiene	ND		1.9		ug/L		06/07/15 17:05	06/17/15 16:42	1
Hexachloroethane	ND		0.57		ug/L		06/07/15 17:05	06/17/15 16:42	1
Indeno[1,2,3-cd]pyrene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1
Isophorone	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Naphthalene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Nitrobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
N-Nitrosodi-n-propylamine	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
N-Nitrosodiphenylamine	ND		0.38		ug/L		06/07/15 17:05	06/17/15 16:42	1
Pentachlorophenol	ND		0.67		ug/L		06/07/15 17:05	06/17/15 16:42	1
Phenanthrene	ND		0.076		ug/L		06/07/15 17:05	06/17/15 16:42	1
Phenol	ND		0.57		ug/L		06/07/15 17:05	06/17/15 16:42	1
Pyrene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	105		44 - 125	06/07/15 17:05	06/17/15 16:42	1
2-Fluorobiphenyl	85		50 - 120	06/07/15 17:05	06/17/15 16:42	1
2-Fluorophenol (Surr)	74		30 - 134	06/07/15 17:05	06/17/15 16:42	1
Nitrobenzene-d5 (Surr)	94		59 - 120	06/07/15 17:05	06/17/15 16:42	1
Phenol-d5 (Surr)	91		52 - 120	06/07/15 17:05	06/17/15 16:42	1
Terphenyl-d14 (Surr)	122		64 - 150	06/07/15 17:05	06/17/15 16:42	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW5-1-060415

Date Collected: 06/04/15 10:40

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-2

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
2-Methylnaphthalene	ND		0.025		ug/L		06/07/15 17:05	06/17/15 15:08	1
1-Methylnaphthalene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Acenaphthylene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Acenaphthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Fluorene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Phenanthrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Anthracene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Fluoranthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Pyrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Benzo[a]anthracene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Chrysene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Benzo[a]pyrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Indeno[1,2,3-cd]pyrene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Dibenz(a,h)anthracene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Benzo[g,h,i]perylene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Benzo[b]fluoranthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1
Benzo[k]fluoranthene	ND		0.019		ug/L		06/07/15 17:05	06/17/15 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		64 - 150	06/07/15 17:05	06/17/15 15:08	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
1,2-Dichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
1,3-Dichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
1,4-Dichlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
1-Methylnaphthalene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,4,5-Trichlorophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,4,6-Trichlorophenol	ND		0.57		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,4-Dichlorophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,4-Dimethylphenol	ND		1.9		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,4-Dinitrophenol	ND		4.8		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,4-Dinitrotoluene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2,6-Dinitrotoluene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2-Chloronaphthalene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
2-Chlorophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2-Methylnaphthalene	ND		0.19		ug/L		06/07/15 17:05	06/17/15 17:08	1
2-Methylphenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2-Nitroaniline	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
2-Nitrophenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
3 & 4 Methylphenol	ND		0.77		ug/L		06/07/15 17:05	06/17/15 17:08	1
3,3'-Dichlorobenzidine	ND		1.9		ug/L		06/07/15 17:05	06/17/15 17:08	1
3-Nitroaniline	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
4,6-Dinitro-2-methylphenol	ND		3.8		ug/L		06/07/15 17:05	06/17/15 17:08	1
4-Bromophenyl phenyl ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
4-Chloro-3-methylphenol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
4-Chloroaniline	ND	*	0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
4-Chlorophenyl phenyl ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW5-1-060415

Lab Sample ID: 580-50545-2

Date Collected: 06/04/15 10:40

Matrix: Water

Date Received: 06/05/15 12:42

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		0.57		ug/L		06/07/15 17:05	06/17/15 17:08	1
4-Nitrophenol	ND		2.9		ug/L		06/07/15 17:05	06/17/15 17:08	1
Acenaphthene	ND		0.096		ug/L		06/07/15 17:05	06/17/15 17:08	1
Acenaphthylene	ND		0.077		ug/L		06/07/15 17:05	06/17/15 17:08	1
Anthracene	ND		0.038		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzo[a]anthracene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzo[a]pyrene	ND		0.038		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzo[b]fluoranthene	ND		0.077		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzo[g,h,i]perylene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzo[k]fluoranthene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzoic acid	ND	*	2.9		ug/L		06/07/15 17:05	06/17/15 17:08	1
Benzyl alcohol	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Bis(2-chloroethoxy)methane	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Bis(2-chloroethyl)ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Bis(2-ethylhexyl) phthalate	ND		2.9		ug/L		06/07/15 17:05	06/17/15 17:08	1
bis(chloroisopropyl) ether	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Butyl benzyl phthalate	ND		0.57		ug/L		06/07/15 17:05	06/17/15 17:08	1
Carbazole	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Chrysene	ND		0.038		ug/L		06/07/15 17:05	06/17/15 17:08	1
Dibenz(a,h)anthracene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
Dibenzofuran	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Diethyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Dimethyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Di-n-butyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Di-n-octyl phthalate	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Fluoranthene	ND		0.048		ug/L		06/07/15 17:05	06/17/15 17:08	1
Fluorene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
Hexachlorobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Hexachlorobutadiene	ND		0.57		ug/L		06/07/15 17:05	06/17/15 17:08	1
Hexachlorocyclopentadiene	ND		1.9		ug/L		06/07/15 17:05	06/17/15 17:08	1
Hexachloroethane	ND		0.57		ug/L		06/07/15 17:05	06/17/15 17:08	1
Indeno[1,2,3-cd]pyrene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1
Isophorone	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Naphthalene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Nitrobenzene	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
N-Nitrosodi-n-propylamine	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
N-Nitrosodiphenylamine	ND		0.38		ug/L		06/07/15 17:05	06/17/15 17:08	1
Pentachlorophenol	ND		0.67		ug/L		06/07/15 17:05	06/17/15 17:08	1
Phenanthrene	ND		0.077		ug/L		06/07/15 17:05	06/17/15 17:08	1
Phenol	ND		0.57		ug/L		06/07/15 17:05	06/17/15 17:08	1
Pyrene	ND		0.057		ug/L		06/07/15 17:05	06/17/15 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	107		44 - 125	06/07/15 17:05	06/17/15 17:08	1
2-Fluorobiphenyl	81		50 - 120	06/07/15 17:05	06/17/15 17:08	1
2-Fluorophenol (Surr)	73		30 - 134	06/07/15 17:05	06/17/15 17:08	1
Nitrobenzene-d5 (Surr)	92		59 - 120	06/07/15 17:05	06/17/15 17:08	1
Phenol-d5 (Surr)	91		52 - 120	06/07/15 17:05	06/17/15 17:08	1
Terphenyl-d14 (Surr)	120		64 - 150	06/07/15 17:05	06/17/15 17:08	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW2-1-060415

Date Collected: 06/04/15 11:58

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-3

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
2-Methylnaphthalene	ND		0.027		ug/L		06/07/15 17:05	06/17/15 15:30	1
1-Methylnaphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Acenaphthylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Acenaphthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Fluorene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Phenanthrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Benzo[a]anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Chrysene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Benzo[a]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Benzo[b]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1
Benzo[k]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	98		64 - 150	06/07/15 17:05	06/17/15 15:30	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
1,2-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
1,3-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
1,4-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
1-Methylnaphthalene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,4,5-Trichlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,4,6-Trichlorophenol	ND		0.61		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,4-Dichlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,4-Dimethylphenol	ND		2.0		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,4-Dinitrophenol	ND		5.1		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,4-Dinitrotoluene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2,6-Dinitrotoluene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2-Chloronaphthalene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
2-Chlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2-Methylnaphthalene	ND		0.20		ug/L		06/07/15 17:05	06/17/15 17:34	1
2-Methylphenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2-Nitroaniline	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
2-Nitrophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
3 & 4 Methylphenol	ND		0.82		ug/L		06/07/15 17:05	06/17/15 17:34	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		06/07/15 17:05	06/17/15 17:34	1
3-Nitroaniline	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
4,6-Dinitro-2-methylphenol	ND		4.1		ug/L		06/07/15 17:05	06/17/15 17:34	1
4-Bromophenyl phenyl ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
4-Chloro-3-methylphenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
4-Chloroaniline	ND	*	0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW2-1-060415

Lab Sample ID: 580-50545-3

Date Collected: 06/04/15 11:58

Matrix: Water

Date Received: 06/05/15 12:42

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		0.61		ug/L		06/07/15 17:05	06/17/15 17:34	1
4-Nitrophenol	ND		3.1		ug/L		06/07/15 17:05	06/17/15 17:34	1
Acenaphthene	ND		0.10		ug/L		06/07/15 17:05	06/17/15 17:34	1
Acenaphthylene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 17:34	1
Anthracene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzo[a]anthracene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzo[a]pyrene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzo[b]fluoranthene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzo[g,h,i]perylene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzo[k]fluoranthene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzoic acid	ND	*	3.1		ug/L		06/07/15 17:05	06/17/15 17:34	1
Benzyl alcohol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Bis(2-chloroethoxy)methane	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Bis(2-chloroethyl)ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Bis(2-ethylhexyl) phthalate	ND		3.1		ug/L		06/07/15 17:05	06/17/15 17:34	1
bis(chloroisopropyl) ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Butyl benzyl phthalate	ND		0.61		ug/L		06/07/15 17:05	06/17/15 17:34	1
Carbazole	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Chrysene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 17:34	1
Dibenz(a,h)anthracene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
Dibenzofuran	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Diethyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Dimethyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Di-n-butyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Di-n-octyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Fluoranthene	ND		0.051		ug/L		06/07/15 17:05	06/17/15 17:34	1
Fluorene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
Hexachlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Hexachlorobutadiene	ND		0.61		ug/L		06/07/15 17:05	06/17/15 17:34	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		06/07/15 17:05	06/17/15 17:34	1
Hexachloroethane	ND		0.61		ug/L		06/07/15 17:05	06/17/15 17:34	1
Indeno[1,2,3-cd]pyrene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1
Isophorone	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Naphthalene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Nitrobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
N-Nitrosodi-n-propylamine	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
N-Nitrosodiphenylamine	ND		0.41		ug/L		06/07/15 17:05	06/17/15 17:34	1
Pentachlorophenol	ND		0.71		ug/L		06/07/15 17:05	06/17/15 17:34	1
Phenanthrene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 17:34	1
Phenol	ND		0.61		ug/L		06/07/15 17:05	06/17/15 17:34	1
Pyrene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 17:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	109		44 - 125	06/07/15 17:05	06/17/15 17:34	1
2-Fluorobiphenyl	86		50 - 120	06/07/15 17:05	06/17/15 17:34	1
2-Fluorophenol (Surr)	72		30 - 134	06/07/15 17:05	06/17/15 17:34	1
Nitrobenzene-d5 (Surr)	95		59 - 120	06/07/15 17:05	06/17/15 17:34	1
Phenol-d5 (Surr)	92		52 - 120	06/07/15 17:05	06/17/15 17:34	1
Terphenyl-d14 (Surr)	127		64 - 150	06/07/15 17:05	06/17/15 17:34	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW3-2-060415

Date Collected: 06/04/15 11:18

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-4

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
2-Methylnaphthalene	ND		0.027		ug/L		06/07/15 17:05	06/17/15 15:52	1
1-Methylnaphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Acenaphthylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Acenaphthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Fluorene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Phenanthrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Benzo[a]anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Chrysene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Benzo[a]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Benzo[b]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1
Benzo[k]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	89		64 - 150	06/07/15 17:05	06/17/15 15:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
1,2-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
1,3-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
1,4-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
1-Methylnaphthalene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,4,5-Trichlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,4,6-Trichlorophenol	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,4-Dichlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,4-Dimethylphenol	ND		2.0		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,4-Dinitrophenol	ND		5.1		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,4-Dinitrotoluene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2,6-Dinitrotoluene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2-Chloronaphthalene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
2-Chlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2-Methylnaphthalene	ND		0.20		ug/L		06/07/15 17:05	06/17/15 18:00	1
2-Methylphenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2-Nitroaniline	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
2-Nitrophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
3 & 4 Methylphenol	ND		0.82		ug/L		06/07/15 17:05	06/17/15 18:00	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		06/07/15 17:05	06/17/15 18:00	1
3-Nitroaniline	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
4,6-Dinitro-2-methylphenol	ND		4.1		ug/L		06/07/15 17:05	06/17/15 18:00	1
4-Bromophenyl phenyl ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
4-Chloro-3-methylphenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
4-Chloroaniline	ND	*	0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW3-2-060415

Lab Sample ID: 580-50545-4

Date Collected: 06/04/15 11:18

Matrix: Water

Date Received: 06/05/15 12:42

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:00	1
4-Nitrophenol	ND		3.1		ug/L		06/07/15 17:05	06/17/15 18:00	1
Acenaphthene	ND		0.10		ug/L		06/07/15 17:05	06/17/15 18:00	1
Acenaphthylene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 18:00	1
Anthracene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzo[a]anthracene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzo[a]pyrene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzo[b]fluoranthene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzo[g,h,i]perylene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzo[k]fluoranthene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzoic acid	ND	*	3.1		ug/L		06/07/15 17:05	06/17/15 18:00	1
Benzyl alcohol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Bis(2-chloroethoxy)methane	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Bis(2-chloroethyl)ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Bis(2-ethylhexyl) phthalate	ND		3.1		ug/L		06/07/15 17:05	06/17/15 18:00	1
bis(chloroisopropyl) ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Butyl benzyl phthalate	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:00	1
Carbazole	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Chrysene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 18:00	1
Dibenz(a,h)anthracene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
Dibenzofuran	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Diethyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Dimethyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Di-n-butyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Di-n-octyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Fluoranthene	ND		0.051		ug/L		06/07/15 17:05	06/17/15 18:00	1
Fluorene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
Hexachlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Hexachlorobutadiene	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:00	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		06/07/15 17:05	06/17/15 18:00	1
Hexachloroethane	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:00	1
Indeno[1,2,3-cd]pyrene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1
Isophorone	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Naphthalene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Nitrobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
N-Nitrosodi-n-propylamine	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
N-Nitrosodiphenylamine	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:00	1
Pentachlorophenol	ND		0.72		ug/L		06/07/15 17:05	06/17/15 18:00	1
Phenanthrene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 18:00	1
Phenol	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:00	1
Pyrene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	52		44 - 125	06/07/15 17:05	06/17/15 18:00	1
2-Fluorobiphenyl	81		50 - 120	06/07/15 17:05	06/17/15 18:00	1
2-Fluorophenol (Surr)	37		30 - 134	06/07/15 17:05	06/17/15 18:00	1
Nitrobenzene-d5 (Surr)	97		59 - 120	06/07/15 17:05	06/17/15 18:00	1
Phenol-d5 (Surr)	42	X	52 - 120	06/07/15 17:05	06/17/15 18:00	1
Terphenyl-d14 (Surr)	121		64 - 150	06/07/15 17:05	06/17/15 18:00	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW7-1-060415

Date Collected: 06/04/15 09:08

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-5

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
2-Methylnaphthalene	ND		0.026		ug/L		06/07/15 17:05	06/17/15 16:14	1
1-Methylnaphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Acenaphthylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Acenaphthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Fluorene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Phenanthrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Benzo[a]anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Chrysene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Benzo[a]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Benzo[b]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1
Benzo[k]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 16:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	95		64 - 150	06/07/15 17:05	06/17/15 16:14	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
1,2-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
1,3-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
1,4-Dichlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
1-Methylnaphthalene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,4,5-Trichlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,4,6-Trichlorophenol	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,4-Dichlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,4-Dimethylphenol	ND		2.0		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,4-Dinitrophenol	ND		5.1		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,4-Dinitrotoluene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2,6-Dinitrotoluene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2-Chloronaphthalene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
2-Chlorophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2-Methylnaphthalene	ND		0.20		ug/L		06/07/15 17:05	06/17/15 18:26	1
2-Methylphenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2-Nitroaniline	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
2-Nitrophenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
3 & 4 Methylphenol	ND		0.82		ug/L		06/07/15 17:05	06/17/15 18:26	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		06/07/15 17:05	06/17/15 18:26	1
3-Nitroaniline	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
4,6-Dinitro-2-methylphenol	ND		4.1		ug/L		06/07/15 17:05	06/17/15 18:26	1
4-Bromophenyl phenyl ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
4-Chloro-3-methylphenol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
4-Chloroaniline	ND	*	0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
4-Chlorophenyl phenyl ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1

TestAmerica Seattle

Client Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW7-1-060415

Lab Sample ID: 580-50545-5

Date Collected: 06/04/15 09:08

Matrix: Water

Date Received: 06/05/15 12:42

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:26	1
4-Nitrophenol	ND		3.1		ug/L		06/07/15 17:05	06/17/15 18:26	1
Acenaphthene	ND		0.10		ug/L		06/07/15 17:05	06/17/15 18:26	1
Acenaphthylene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 18:26	1
Anthracene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzo[a]anthracene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzo[a]pyrene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzo[b]fluoranthene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzo[g,h,i]perylene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzo[k]fluoranthene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzoic acid	ND	*	3.1		ug/L		06/07/15 17:05	06/17/15 18:26	1
Benzyl alcohol	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Bis(2-chloroethoxy)methane	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Bis(2-chloroethyl)ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Bis(2-ethylhexyl) phthalate	ND		3.1		ug/L		06/07/15 17:05	06/17/15 18:26	1
bis(chloroisopropyl) ether	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Butyl benzyl phthalate	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:26	1
Carbazole	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Chrysene	ND		0.041		ug/L		06/07/15 17:05	06/17/15 18:26	1
Dibenz(a,h)anthracene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
Dibenzofuran	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Diethyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Dimethyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Di-n-butyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Di-n-octyl phthalate	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Fluoranthene	ND		0.051		ug/L		06/07/15 17:05	06/17/15 18:26	1
Fluorene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
Hexachlorobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Hexachlorobutadiene	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:26	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		06/07/15 17:05	06/17/15 18:26	1
Hexachloroethane	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:26	1
Indeno[1,2,3-cd]pyrene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1
Isophorone	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Naphthalene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Nitrobenzene	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
N-Nitrosodi-n-propylamine	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
N-Nitrosodiphenylamine	ND		0.41		ug/L		06/07/15 17:05	06/17/15 18:26	1
Pentachlorophenol	ND		0.71		ug/L		06/07/15 17:05	06/17/15 18:26	1
Phenanthrene	ND		0.082		ug/L		06/07/15 17:05	06/17/15 18:26	1
Phenol	ND		0.61		ug/L		06/07/15 17:05	06/17/15 18:26	1
Pyrene	ND		0.061		ug/L		06/07/15 17:05	06/17/15 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	107		44 - 125	06/07/15 17:05	06/17/15 18:26	1
2-Fluorobiphenyl	82		50 - 120	06/07/15 17:05	06/17/15 18:26	1
2-Fluorophenol (Surr)	73		30 - 134	06/07/15 17:05	06/17/15 18:26	1
Nitrobenzene-d5 (Surr)	94		59 - 120	06/07/15 17:05	06/17/15 18:26	1
Phenol-d5 (Surr)	88		52 - 120	06/07/15 17:05	06/17/15 18:26	1
Terphenyl-d14 (Surr)	123		64 - 150	06/07/15 17:05	06/17/15 18:26	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-191462/1-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
1,2-Dichlorobenzene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
1,3-Dichlorobenzene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
1,4-Dichlorobenzene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
1-Methylnaphthalene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,4,5-Trichlorophenol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,4,6-Trichlorophenol	ND		0.60		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,4-Dichlorophenol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,4-Dimethylphenol	ND		2.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,4-Dinitrophenol	ND		5.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,4-Dinitrotoluene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2,6-Dinitrotoluene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2-Chloronaphthalene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
2-Chlorophenol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2-Methylnaphthalene	ND		0.20		ug/L		06/07/15 17:05	06/17/15 15:25	1
2-Methylphenol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2-Nitroaniline	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
2-Nitrophenol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
3 & 4 Methylphenol	ND		0.80		ug/L		06/07/15 17:05	06/17/15 15:25	1
3,3'-Dichlorobenzidine	ND		2.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
3-Nitroaniline	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
4,6-Dinitro-2-methylphenol	ND		4.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
4-Bromophenyl phenyl ether	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
4-Chloro-3-methylphenol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
4-Chloroaniline	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
4-Chlorophenyl phenyl ether	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
4-Nitroaniline	ND		0.60		ug/L		06/07/15 17:05	06/17/15 15:25	1
4-Nitrophenol	ND		3.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
Acenaphthene	ND		0.10		ug/L		06/07/15 17:05	06/17/15 15:25	1
Acenaphthylene	ND		0.080		ug/L		06/07/15 17:05	06/17/15 15:25	1
Anthracene	ND		0.040		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzo[a]anthracene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzo[a]pyrene	ND		0.040		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzo[b]fluoranthene	ND		0.080		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzo[g,h,i]perylene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzo[k]fluoranthene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzoic acid	ND		3.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
Benzyl alcohol	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Bis(2-chloroethoxy)methane	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Bis(2-chloroethyl)ether	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Bis(2-ethylhexyl) phthalate	ND		3.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
bis(chloroisopropyl) ether	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Butyl benzyl phthalate	ND		0.60		ug/L		06/07/15 17:05	06/17/15 15:25	1
Carbazole	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Chrysene	ND		0.040		ug/L		06/07/15 17:05	06/17/15 15:25	1
Dibenz(a,h)anthracene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
Dibenzofuran	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Diethyl phthalate	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-191462/1-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Di-n-butyl phthalate	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Di-n-octyl phthalate	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Fluoranthene	ND		0.050		ug/L		06/07/15 17:05	06/17/15 15:25	1
Fluorene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
Hexachlorobenzene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Hexachlorobutadiene	ND		0.60		ug/L		06/07/15 17:05	06/17/15 15:25	1
Hexachlorocyclopentadiene	ND		2.0		ug/L		06/07/15 17:05	06/17/15 15:25	1
Hexachloroethane	ND		0.60		ug/L		06/07/15 17:05	06/17/15 15:25	1
Indeno[1,2,3-cd]pyrene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1
Isophorone	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Naphthalene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Nitrobenzene	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
N-Nitrosodi-n-propylamine	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
N-Nitrosodiphenylamine	ND		0.40		ug/L		06/07/15 17:05	06/17/15 15:25	1
Pentachlorophenol	ND		0.70		ug/L		06/07/15 17:05	06/17/15 15:25	1
Phenanthrene	ND		0.080		ug/L		06/07/15 17:05	06/17/15 15:25	1
Phenol	ND		0.60		ug/L		06/07/15 17:05	06/17/15 15:25	1
Pyrene	ND		0.060		ug/L		06/07/15 17:05	06/17/15 15:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	82		44 - 125	06/07/15 17:05	06/17/15 15:25	1
2-Fluorobiphenyl	86		50 - 120	06/07/15 17:05	06/17/15 15:25	1
2-Fluorophenol (Surr)	82		30 - 134	06/07/15 17:05	06/17/15 15:25	1
Nitrobenzene-d5 (Surr)	88		59 - 120	06/07/15 17:05	06/17/15 15:25	1
Phenol-d5 (Surr)	94		52 - 120	06/07/15 17:05	06/17/15 15:25	1
Terphenyl-d14 (Surr)	106		64 - 150	06/07/15 17:05	06/17/15 15:25	1

Lab Sample ID: LCS 580-191462/2-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	2.00	1.84		ug/L		92	40 - 125
1,2-Dichlorobenzene	2.00	1.78		ug/L		89	44 - 125
1,3-Dichlorobenzene	2.00	1.67		ug/L		84	40 - 125
1,4-Dichlorobenzene	2.00	1.73		ug/L		87	40 - 125
1-Methylnaphthalene	2.00	2.10		ug/L		105	54 - 125
2,4,5-Trichlorophenol	2.00	2.10		ug/L		105	66 - 130
2,4,6-Trichlorophenol	2.00	1.96		ug/L		98	55 - 140
2,4-Dichlorophenol	2.00	2.16		ug/L		108	50 - 140
2,4-Dimethylphenol	2.00	1.52	J	ug/L		76	30 - 135
2,4-Dinitrophenol	4.00	3.03	J	ug/L		76	24 - 146
2,4-Dinitrotoluene	2.00	2.18		ug/L		109	73 - 126
2,6-Dinitrotoluene	2.00	2.09		ug/L		104	67 - 134
2-Chloronaphthalene	2.00	1.96		ug/L		98	55 - 125
2-Chlorophenol	2.00	1.96		ug/L		98	57 - 125
2-Methylnaphthalene	2.00	2.11		ug/L		105	56 - 125

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-191462/2-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	2.00	1.94		ug/L		97	60 - 130
2-Nitroaniline	2.00	2.22		ug/L		111	52 - 140
2-Nitrophenol	2.00	1.94		ug/L		97	55 - 140
3 & 4 Methylphenol	2.00	2.08		ug/L		104	60 - 130
3,3'-Dichlorobenzidine	4.00	2.71		ug/L		68	20 - 175
3-Nitroaniline	2.00	1.60		ug/L		80	22 - 124
4,6-Dinitro-2-methylphenol	4.00	3.70	J	ug/L		92	50 - 136
4-Bromophenyl phenyl ether	2.00	2.27		ug/L		113	62 - 132
4-Chloro-3-methylphenol	2.00	1.98		ug/L		99	65 - 145
4-Chloroaniline	2.00	0.226	J *	ug/L		11	20 - 150
4-Chlorophenyl phenyl ether	2.00	2.14		ug/L		107	59 - 125
4-Nitroaniline	2.00	1.77		ug/L		88	49 - 125
4-Nitrophenol	4.00	3.70		ug/L		92	35 - 153
Acenaphthene	2.00	2.07		ug/L		103	63 - 125
Acenaphthylene	2.00	2.08		ug/L		104	62 - 125
Anthracene	2.00	1.86		ug/L		93	50 - 125
Benzo[a]anthracene	2.00	2.29		ug/L		115	65 - 125
Benzo[a]pyrene	2.00	1.87		ug/L		93	45 - 125
Benzo[b]fluoranthene	2.00	2.21		ug/L		111	70 - 129
Benzo[g,h,i]perylene	2.00	2.26		ug/L		113	65 - 153
Benzo[k]fluoranthene	2.00	1.95		ug/L		97	70 - 123
Benzoic acid	4.01	1.25	J	ug/L		31	20 - 144
Benzyl alcohol	2.00	1.66		ug/L		83	41 - 144
Bis(2-chloroethoxy)methane	2.00	2.00		ug/L		100	59 - 125
Bis(2-chloroethyl)ether	2.00	2.00		ug/L		100	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	2.88	J	ug/L		144	70 - 185
bis(chloroisopropyl) ether	2.00	2.08		ug/L		104	44 - 130
Butyl benzyl phthalate	2.00	2.43		ug/L		121	60 - 167
Carbazole	2.00	2.24		ug/L		112	75 - 142
Chrysene	2.00	2.12		ug/L		106	70 - 125
Dibenz(a,h)anthracene	2.00	2.31		ug/L		116	69 - 154
Dibenzofuran	2.00	2.06		ug/L		103	60 - 125
Diethyl phthalate	2.00	2.09		ug/L		105	60 - 150
Dimethyl phthalate	2.00	2.27		ug/L		114	65 - 155
Di-n-butyl phthalate	2.00	2.26		ug/L		113	55 - 167
Di-n-octyl phthalate	2.00	2.33		ug/L		117	55 - 150
Fluoranthene	2.00	2.14		ug/L		107	70 - 145
Fluorene	2.00	1.99		ug/L		99	69 - 125
Hexachlorobenzene	2.00	2.08		ug/L		104	61 - 125
Hexachlorobutadiene	2.00	1.81		ug/L		90	25 - 125
Hexachlorocyclopentadiene	2.00	0.767	J	ug/L		38	20 - 125
Hexachloroethane	2.00	1.67		ug/L		84	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	2.48		ug/L		124	70 - 136
Isophorone	2.00	2.28		ug/L		114	64 - 125
Naphthalene	2.00	1.87		ug/L		93	56 - 125
Nitrobenzene	2.00	2.10		ug/L		105	62 - 125
N-Nitrosodi-n-propylamine	2.00	2.15		ug/L		108	60 - 120
N-Nitrosodiphenylamine	4.01	3.48		ug/L		87	40 - 135

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-191462/2-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	4.00	3.02		ug/L		76	20 - 145
Phenanthrene	2.00	2.02		ug/L		101	70 - 125
Phenol	2.00	1.87		ug/L		93	53 - 130
Pyrene	2.00	2.12		ug/L		106	70 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	103		44 - 125
2-Fluorobiphenyl	95		50 - 120
2-Fluorophenol (Surr)	79		30 - 134
Nitrobenzene-d5 (Surr)	101		59 - 120
Phenol-d5 (Surr)	100		52 - 120
Terphenyl-d14 (Surr)	115		64 - 150

Lab Sample ID: LCSD 580-191462/3-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	2.00	1.94		ug/L		97	40 - 125	5	20
1,2-Dichlorobenzene	2.00	2.00		ug/L		100	44 - 125	12	20
1,3-Dichlorobenzene	2.00	1.92		ug/L		96	40 - 125	14	20
1,4-Dichlorobenzene	2.00	1.87		ug/L		94	40 - 125	8	20
1-Methylnaphthalene	2.00	2.19		ug/L		109	54 - 125	4	20
2,4,5-Trichlorophenol	2.00	2.08		ug/L		104	66 - 130	1	20
2,4,6-Trichlorophenol	2.00	2.02		ug/L		101	55 - 140	3	20
2,4-Dichlorophenol	2.00	2.19		ug/L		110	50 - 140	2	20
2,4-Dimethylphenol	2.00	1.45	J	ug/L		73	30 - 135	5	20
2,4-Dinitrophenol	4.00	2.74	J	ug/L		69	24 - 146	10	20
2,4-Dinitrotoluene	2.00	2.20		ug/L		110	73 - 126	1	20
2,6-Dinitrotoluene	2.00	2.10		ug/L		105	67 - 134	1	20
2-Chloronaphthalene	2.00	2.00		ug/L		100	55 - 125	2	20
2-Chlorophenol	2.00	2.08		ug/L		104	57 - 125	6	20
2-Methylnaphthalene	2.00	2.16		ug/L		108	56 - 125	2	20
2-Methylphenol	2.00	2.09		ug/L		105	60 - 130	8	20
2-Nitroaniline	2.00	2.38		ug/L		119	52 - 140	7	20
2-Nitrophenol	2.00	2.08		ug/L		104	55 - 140	7	20
3 & 4 Methylphenol	2.00	2.10		ug/L		105	60 - 130	1	20
3,3'-Dichlorobenzidine	4.00	3.10		ug/L		77	20 - 175	14	20
3-Nitroaniline	2.00	1.73		ug/L		87	22 - 124	8	20
4,6-Dinitro-2-methylphenol	4.00	3.76	J	ug/L		94	50 - 136	2	20
4-Bromophenyl phenyl ether	2.00	2.29		ug/L		115	62 - 132	1	20
4-Chloro-3-methylphenol	2.00	2.12		ug/L		106	65 - 145	7	20
4-Chloroaniline	2.00	1.26	*	ug/L		63	20 - 150	139	20
4-Chlorophenyl phenyl ether	2.00	2.21		ug/L		111	59 - 125	3	20
4-Nitroaniline	2.00	1.75		ug/L		87	49 - 125	1	20
4-Nitrophenol	4.00	3.63		ug/L		91	35 - 153	2	20
Acenaphthene	2.00	2.11		ug/L		106	63 - 125	2	20
Acenaphthylene	2.00	2.08		ug/L		104	62 - 125	0	20

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-191462/3-A

Matrix: Water

Analysis Batch: 192433

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	2.00	1.91		ug/L		95	50 - 125	2	20
Benzo[a]anthracene	2.00	2.31		ug/L		115	65 - 125	1	20
Benzo[a]pyrene	2.00	1.89		ug/L		94	45 - 125	1	20
Benzo[b]fluoranthene	2.00	2.16		ug/L		108	70 - 129	3	20
Benzo[g,h,i]perylene	2.00	2.23		ug/L		112	65 - 153	1	20
Benzo[k]fluoranthene	2.00	1.97		ug/L		98	70 - 123	1	20
Benzoic acid	4.01	0.929	J *	ug/L		23	20 - 144	29	20
Benzyl alcohol	2.00	1.79		ug/L		90	41 - 144	8	20
Bis(2-chloroethoxy)methane	2.00	2.07		ug/L		104	59 - 125	4	20
Bis(2-chloroethyl)ether	2.00	2.11		ug/L		105	55 - 125	5	20
Bis(2-ethylhexyl) phthalate	2.00	2.45	J	ug/L		122	70 - 185	16	20
bis(chloroisopropyl) ether	2.00	2.18		ug/L		109	44 - 130	5	20
Butyl benzyl phthalate	2.00	2.41		ug/L		120	60 - 167	1	20
Carbazole	2.00	2.27		ug/L		113	75 - 142	1	20
Chrysene	2.00	2.11		ug/L		106	70 - 125	0	20
Dibenz(a,h)anthracene	2.00	2.32		ug/L		116	69 - 154	0	20
Dibenzofuran	2.00	2.07		ug/L		103	60 - 125	0	20
Diethyl phthalate	2.00	2.09		ug/L		105	60 - 150	0	20
Dimethyl phthalate	2.00	2.26		ug/L		113	65 - 155	1	20
Di-n-butyl phthalate	2.00	2.29		ug/L		115	55 - 167	1	20
Di-n-octyl phthalate	2.00	2.32		ug/L		116	55 - 150	0	20
Fluoranthene	2.00	2.22		ug/L		111	70 - 145	3	20
Fluorene	2.00	2.04		ug/L		102	69 - 125	3	20
Hexachlorobenzene	2.00	2.12		ug/L		106	61 - 125	2	20
Hexachlorobutadiene	2.00	2.01		ug/L		101	25 - 125	11	20
Hexachlorocyclopentadiene	2.00	0.730	J	ug/L		37	20 - 125	5	20
Hexachloroethane	2.00	1.94		ug/L		97	30 - 125	15	20
Indeno[1,2,3-cd]pyrene	2.00	2.44		ug/L		122	70 - 136	1	20
Isophorone	2.00	2.31		ug/L		116	64 - 125	1	20
Naphthalene	2.00	1.96		ug/L		98	56 - 125	5	20
Nitrobenzene	2.00	2.20		ug/L		110	62 - 125	5	20
N-Nitrosodi-n-propylamine	2.00	2.21		ug/L		110	60 - 120	2	20
N-Nitrosodiphenylamine	4.01	3.51		ug/L		87	40 - 135	1	20
Pentachlorophenol	4.00	2.98		ug/L		75	20 - 145	1	20
Phenanthrene	2.00	2.05		ug/L		102	70 - 125	1	20
Phenol	2.00	1.97		ug/L		99	53 - 130	5	20
Pyrene	2.00	2.14		ug/L		107	70 - 133	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	102		44 - 125
2-Fluorobiphenyl	98		50 - 120
2-Fluorophenol (Surr)	90		30 - 134
Nitrobenzene-d5 (Surr)	107		59 - 120
Phenol-d5 (Surr)	109		52 - 120
Terphenyl-d14 (Surr)	116		64 - 150

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-191462/1-A

Matrix: Water

Analysis Batch: 192401

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
2-Methylnaphthalene	ND		0.026		ug/L		06/07/15 17:05	06/17/15 13:41	1
1-Methylnaphthalene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Acenaphthylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Acenaphthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Fluorene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Phenanthrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Benzo[a]anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Chrysene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Benzo[a]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Indeno[1,2,3-cd]pyrene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Dibenz(a,h)anthracene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Benzo[g,h,i]perylene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Benzo[b]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1
Benzo[k]fluoranthene	ND		0.020		ug/L		06/07/15 17:05	06/17/15 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		64 - 150	06/07/15 17:05	06/17/15 13:41	1

Lab Sample ID: LCS 580-191462/2-A

Matrix: Water

Analysis Batch: 192401

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	2.00	1.70		ug/L		85	56 - 125
2-Methylnaphthalene	2.00	1.69		ug/L		84	56 - 125
1-Methylnaphthalene	2.00	1.77		ug/L		88	54 - 125
Acenaphthylene	2.00	1.69		ug/L		84	62 - 125
Acenaphthene	2.00	1.75		ug/L		87	63 - 125
Fluorene	2.00	2.17		ug/L		108	69 - 125
Phenanthrene	2.00	1.74		ug/L		87	70 - 125
Anthracene	2.00	1.90		ug/L		95	50 - 125
Fluoranthene	2.00	2.03		ug/L		101	70 - 145
Pyrene	2.00	1.90		ug/L		95	70 - 133
Benzo[a]anthracene	2.00	1.96		ug/L		98	65 - 125
Chrysene	2.00	1.89		ug/L		94	70 - 125
Benzo[a]pyrene	2.00	1.89		ug/L		94	45 - 125
Indeno[1,2,3-cd]pyrene	2.00	2.13		ug/L		107	70 - 136
Dibenz(a,h)anthracene	2.00	2.07		ug/L		103	69 - 154
Benzo[g,h,i]perylene	2.00	1.93		ug/L		96	65 - 153
Benzo[b]fluoranthene	2.00	1.85		ug/L		92	70 - 129
Benzo[k]fluoranthene	2.00	2.16		ug/L		108	70 - 123

TestAmerica Seattle

QC Sample Results

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-191462/2-A
Matrix: Water
Analysis Batch: 192401

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 191462

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	96		64 - 150

Lab Sample ID: LCSD 580-191462/3-A
Matrix: Water
Analysis Batch: 192401

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 191462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	2.00	1.75		ug/L		87	56 - 125	3	20
2-Methylnaphthalene	2.00	1.69		ug/L		85	56 - 125	0	20
1-Methylnaphthalene	2.00	1.85		ug/L		92	54 - 125	4	20
Acenaphthylene	2.00	1.76		ug/L		88	62 - 125	4	20
Acenaphthene	2.00	1.83		ug/L		91	63 - 125	4	20
Fluorene	2.00	2.23		ug/L		111	69 - 125	3	20
Phenanthrene	2.00	1.72		ug/L		86	70 - 125	1	20
Anthracene	2.00	1.87		ug/L		94	50 - 125	2	20
Fluoranthene	2.00	1.99		ug/L		99	70 - 145	2	20
Pyrene	2.00	1.88		ug/L		94	70 - 133	1	20
Benzo[a]anthracene	2.00	1.96		ug/L		98	65 - 125	0	20
Chrysene	2.00	1.90		ug/L		95	70 - 125	1	20
Benzo[a]pyrene	2.00	1.84		ug/L		92	45 - 125	3	20
Indeno[1,2,3-cd]pyrene	2.00	2.06		ug/L		103	70 - 136	3	20
Dibenz(a,h)anthracene	2.00	2.05		ug/L		103	69 - 154	1	20
Benzo[g,h,i]perylene	2.00	1.90		ug/L		95	65 - 153	1	20
Benzo[b]fluoranthene	2.00	1.83		ug/L		91	70 - 129	1	20
Benzo[k]fluoranthene	2.00	2.08		ug/L		104	70 - 123	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	92		64 - 150

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW6-1-060415

Date Collected: 06/04/15 09:18

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D		1	192433	06/17/15 16:42	ERB	TAL SEA
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D SIM		1	192401	06/17/15 14:46	ERB	TAL SEA

Client Sample ID: MW5-1-060415

Date Collected: 06/04/15 10:40

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D		1	192433	06/17/15 17:08	ERB	TAL SEA
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D SIM		1	192401	06/17/15 15:08	ERB	TAL SEA

Client Sample ID: MW2-1-060415

Date Collected: 06/04/15 11:58

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D		1	192433	06/17/15 17:34	ERB	TAL SEA
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D SIM		1	192401	06/17/15 15:30	ERB	TAL SEA

Client Sample ID: MW3-2-060415

Date Collected: 06/04/15 11:18

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D		1	192433	06/17/15 18:00	ERB	TAL SEA
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D SIM		1	192401	06/17/15 15:52	ERB	TAL SEA

Client Sample ID: MW7-1-060415

Date Collected: 06/04/15 09:08

Date Received: 06/05/15 12:42

Lab Sample ID: 580-50545-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA
Total/NA	Analysis	8270D		1	192433	06/17/15 18:26	ERB	TAL SEA
Total/NA	Prep	3520C			191462	06/07/15 17:05	JDR	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Client Sample ID: MW7-1-060415

Lab Sample ID: 580-50545-5

Date Collected: 06/04/15 09:08

Matrix: Water

Date Received: 06/05/15 12:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D SIM		1	192401	06/17/15 16:14	ERB	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	bis(chloroisopropyl) ether

Sample Summary

Client: ERM-West
Project/Site: K2 Site, Vashon, WA

TestAmerica Job ID: 580-50545-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-50545-1	MW6-1-060415	Water	06/04/15 09:18	06/05/15 12:42
580-50545-2	MW5-1-060415	Water	06/04/15 10:40	06/05/15 12:42
580-50545-3	MW2-1-060415	Water	06/04/15 11:58	06/05/15 12:42
580-50545-4	MW3-2-060415	Water	06/04/15 11:18	06/05/15 12:42
580-50545-5	MW7-1-060415	Water	06/04/15 09:08	06/05/15 12:42

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-50545-1

Login Number: 50545

List Source: TestAmerica Seattle

List Number: 1

Creator: Escarez, Christabel C

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 4, 2015

Mike Arnold
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: Project: K2 Facility
ARI Job No. AGQ5

Dear Mike:

Please find enclosed the final results for the samples from the project referenced above. One soil sample and two soil samples were received on May 26, 2015. The sample was received intact.

The samples were analyzed for VOCs, as requested on the COC.

The CCAL is out of control high for all associated FORM III "Q" flagged analytes. All associated samples that contain analyte have been flagged with a "Q" qualifier.

The LCSD is out of control high for 2-Butanone, acrolein, acetone and acrylonitrile. The LCS is in control and no further action was taken.

The method blank contained acetone and methylene chloride at "J" qualified values. All associated samples that contain analyte have been flagged with a "Q" qualifer.

The analysis proceeded without any other incident of note.

An electronic copy of these reports will remain on file with ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottorn
Client Services Manager
206/695-6211

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Page	1	of	1
Date.	5/26/15	Ice Present?	Y
No of Coolers	1	Cooler Temps	4.9

ARI Assigned Number: #065	Turn-around Requested: Standard
ARI Client Company: ERM	Phone 405-462-8391
Client Contact Mike Arnold	
Client Project Name K2 Facility Site Characterization	
Client Project # 206125	Samplers: 1M Forine

[illegible]

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract



Cooler Receipt Form

ARI Client: ERM

Project Name: K2 Facility Site Char.

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier (Hand Delivered Other: _____)

Assigned ARI Job No: AG05

Tracking No. _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? YES (NO)

Were custody papers properly filled out (ink, signed, etc) YES (NO)

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1605 4.9

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID# 90877952

Cooler Accepted by: AV Date 5/26/15 Time 1605

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice Gel Packs Baggies Foam Block Paper Other: _____)

Was sufficient ice used (if appropriate)? NA (YES) (NO)

Were all bottles sealed in individual plastic bags? (YES) (NO)

Did all bottles arrive in good condition (unbroken)? (YES) (NO)

Were all bottle labels complete and legible? (YES) (NO)

Did the number of containers listed on COC match with the number of containers received? (YES) (NO)

Did all bottle labels and tags agree with custody papers? (YES) (NO)

Were all bottles used correct for the requested analyses? (YES) (NO)

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) (NA) YES (NO)

Were all VOC vials free of air bubbles? (NA) YES (NO)

Was sufficient amount of sample sent in each bottle? (YES) (NO)

Date VOC Trip Blank was made at ARI (NA)

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment _____ Split by _____

Samples Logged by: AV Date 5/26/15 Time 1723

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By _____ Date _____

Small Air Bubbles - 2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report



ARI Job No: AGQ5
Client: ERM-West
Project Event: 266125
Project Name: K2 Facility Site Characterization

Sample ID	ARI		Matrix	Sample Date/Time	VTSR
	Lab ID	LIMS ID			
1. B4-4-3	AGQ5A	15-10057	Soil	05/26/15 13:30	05/26/15 16:05
2. B4-5-3	AGQ5B	15-10058	Soil	05/26/15 13:55	05/26/15 16:05



Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but $\geq$ the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($< 20\%$ RSD, $< 20\%$ Drift or minimum RRF).



- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference
- X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
- Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**



Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Method Information

Printed: 06/03/2015 10:00 am

8260C VOA Solid in Solid (EPA 8260C)

Preservation: NaHSO₄, MeOH, Cool <6°C

Container: VOA Vial, Clear, 40 mL, Na2S2O3

Amount Required: 15 g

Hold Time: 14 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Dichlorodifluoromethane	0.207	1.00 ug/kg		30	67-142	30	67-142	30
Chloromethane	0.263	1.00 ug/kg		30	65-129	30	65-129	30
Vinyl Chloride	0.235	1.00 ug/kg		30	74-134	30	74-134	30
Bromomethane	0.187	1.00 ug/kg		30	40-172	30	40-172	30
Chloroethane	0.462	1.00 ug/kg		30	53-154	30	53-154	30
Trichlorofluoromethane	0.266	1.00 ug/kg		30	57-161	30	57-161	30
Acrolein	3.81	50.0 ug/kg		30	60-130	30	60-130	30
Acetone	0.482	5.00 ug/kg		30	48-132	30	48-132	30
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.287	2.00 ug/kg		30	72-142	30	72-142	30
1,1-Dichloroethene	0.336	1.00 ug/kg		30	73-138	30	73-138	30
Bromoethane	0.440	2.00 ug/kg		30	74-132	30	74-132	30
Iodomethane	0.215	1.00 ug/kg		30	34-181	30	34-181	30
Methylene Chloride	0.635	2.00 ug/kg		30	61-128	30	61-128	30
Carbon Disulfide	0.559	1.00 ug/kg		30	72-146	30	72-146	30
Acrylonitrile	1.03	5.00 ug/kg		30	59-124	30	59-124	30
Methyl tert-butyl Ether	0.231	1.00 ug/kg		30	68-124	30	68-124	30
trans-1,2-Dichloroethene	0.266	1.00 ug/kg		30	73-131	30	73-131	30
Vinyl Acetate	0.381	5.00 ug/kg		30	54-138	30	54-138	30
1,1-Dichloroethane	0.203	1.00 ug/kg		30	65-139	30	65-139	30
2-Butanone	0.513	5.00 ug/kg		30	64-120	30	64-120	30
2,2-Dichloropropane	0.292	1.00 ug/kg		30	77-137	30	77-137	30
cis-1,2-Dichloroethene	0.240	1.00 ug/kg		30	75-124	30	75-124	30
Chloroform	0.234	1.00 ug/kg		30	75-126	30	75-126	30
Bromochloromethane	0.323	1.00 ug/kg		30	69-133	30	69-133	30
1,1,1-Trichloroethane	0.226	1.00 ug/kg		30	78-133	30	78-133	30
1,1-Dichloropropene	0.312	1.00 ug/kg		30	80-123	30	80-123	30
Carbon tetrachloride	0.213	1.00 ug/kg		30	76-136	30	76-136	30
1,2-Dichloroethane	0.191	1.00 ug/kg		30	77-120	30	77-120	30
Benzene	0.296	1.00 ug/kg		30	80-120	30	80-120	30
Trichloroethene	0.212	1.00 ug/kg		30	80-120	30	80-120	30
1,2-Dichloropropane	0.162	1.00 ug/kg		30	74-120	30	74-120	30
Bromodichloromethane	0.254	1.00 ug/kg		30	80-122	30	80-122	30
Dibromomethane	0.147	1.00 ug/kg		30	80-120	30	80-120	30
2-Chloroethyl vinyl ether	0.276	5.00 ug/kg		30	20-157	30	20-157	30
4-Methyl-2-Pentanone	0.420	5.00 ug/kg		30	70-124	30	70-124	30
cis-1,3-Dichloropropene	0.226	1.00 ug/kg		30	80-124	30	80-124	30
Toluene	0.151	1.00 ug/kg		30	78-120	30	78-120	30
trans-1,3-Dichloropropene	0.216	1.00 ug/kg		30	80-126	30	80-126	30
1,1,2-Trichloroethane	0.286	1.00 ug/kg		30	77-120	30	77-120	30
1,2-Dibromoethane	0.176	1.00 ug/kg		30	79-120	30	79-120	30
2-Hexanone	0.439	5.00 ug/kg		30	62-128	30	62-128	30
1,3-Dichloropropane	0.209	1.00 ug/kg		30	77-120	30	77-120	30
Tetrachloroethene	0.257	1.00 ug/kg		30	76-131	30	76-131	30
Dibromochloromethane	0.266	1.00 ug/kg		30	77-123	30	77-123	30
Chlorobenzene	0.219	1.00 ug/kg		30	80-120	30	80-120	30
1,1,1,2-Tetrachloroethane	0.233	1.00 ug/kg		30	80-120	30	80-120	30
Ethylbenzene	0.202	1.00 ug/kg		30	80-120	30	80-120	30
m,p-Xylene	0.392	1.00 ug/kg		30	80-123	30	80-123	30
o-Xylene	0.224	1.00 ug/kg		30	80-120	30	80-120	30
Styrene	0.138	1.00 ug/kg		30	80-122	30	80-122	30
Bromoform	0.297	1.00 ug/kg		30	63-120	30	63-120	30
Isopropyl Benzene	0.233	1.00 ug/kg		30	77-127	30	77-127	30
1,1,2,2-Tetrachloroethane	0.253	1.00 ug/kg		30	71-120	30	71-120	30
1,2,3-Trichloropropane	0.517	2.00 ug/kg		30	75-120	30	75-120	30

Analytical Method Information

(Continued)

Printed: 06/03/2015 10:00 am

8260C VOA Solid in Solid (EPA 8260C) (Continued)

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike----	--Blank Spike / LCS--
					%Rec RPD	%Rec RPD
trans-1,4-Dichloro 2-Butene	0.437	5.00 ug/kg		30	62-127	30
n-Propylbenzene	0.272	1.00 ug/kg		30	76-126	30
Bromobenzene	0.153	1.00 ug/kg		30	75-120	30
1,3,5-Trimethylbenzene	0.254	1.00 ug/kg		30	77-126	30
2-Chlorotoluene	0.300	1.00 ug/kg		30	76-120	30
4-Chlorotoluene	0.277	1.00 ug/kg		30	75-121	30
t-Butylbenzene	0.306	1.00 ug/kg		30	77-125	30
1,2,4-Trimethylbenzene	0.230	1.00 ug/kg		30	77-125	30
s-Butylbenzene	0.240	1.00 ug/kg		30	77-127	30
4-Isopropyl Toluene	0.236	1.00 ug/kg		30	78-131	30
1,3-Dichlorobenzene	0.227	1.00 ug/kg		30	76-120	30
1,4-Dichlorobenzene	0.232	1.00 ug/kg		30	75-120	30
n-Butylbenzene	0.262	1.00 ug/kg		30	75-134	30
1,2-Dichlorobenzene	0.293	1.00 ug/kg		30	77-120	30
1,2-Dibromo-3-Chloropropane	0.586	5.00 ug/kg		30	61-128	30
1,2,4-Trichlorobenzene	0.332	5.00 ug/kg		30	75-130	30
Hexachloro-1,3-Butadiene	0.410	5.00 ug/kg		30	72-135	30
Naphthalene	0.429	5.00 ug/kg		30	71-122	30
1,2,3-Trichlorobenzene	0.305	5.00 ug/kg		30	76-122	30
n-Hexane	1.00	1.00 ug/kg				
2-Pentanone	5.00	5.00 ug/kg				
Surr: 1,2-Dichloroethane-d4			80-149			
Surr: 1,2-Dichlorobenzene-d4			80-120			
Surr: Toluene-d8			77-120			
Surr: 4-Bromofluorobenzene			80-120			
Surr: Dibromofluoromethane			80-120			
Pentafluorobenzene						
Chlorobenzene-d5						
1,4-Difluorobenzene						
1,4-Dichlorobenzene-d4						

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: B4-4-3

SAMPLE



Lab Sample ID: AGQ5A

LIMS ID: 15-10057

Matrix: Soil

Data Release Authorized: *mw*

Reported: 06/01/15

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization
266125

Date Sampled: 05/26/15

Date Received: 05/26/15

Instrument/Analyst: NT15/PAB

Date Analyzed: 05/28/15 17:20

Sample Amount: 5.15 g-dry-wt

Purge Volume: 5.0 mL

Moisture: 14.8%

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	1.9	3.8	B
67-64-1	Acetone	4.9	19	QB
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	4.9	3.1	J
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	4.9	< 4.9	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	4.9	< 4.9	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	4.9	< 4.9	U
591-78-6	2-Hexanone	4.9	< 4.9	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	1.5	
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.9	< 1.9	U
179601-23-1	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	49	< 49	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	1.9	< 1.9	U
107-13-1	Acrylonitrile	4.9	< 4.9	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	4.9	< 4.9	U
96-18-4	1,2,3-Trichloropropane	1.9	< 1.9	U
110-57-6	trans-1,4-Dichloro-2-butene	4.9	< 4.9	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: B4-4-3

SAMPLE



Lab Sample ID: AGQ5A

LIMS ID: 15-10057

Matrix: Soil

Date Analyzed: 05/28/15 17:20

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization
266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	4.9	< 4.9	U
106-93-4	1,2-Dibromoethane	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	4.9	< 4.9	U
91-20-3	Naphthalene	4.9	< 4.9	U
87-61-6	1,2,3-Trichlorobenzene	4.9	< 4.9	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	130%
d8-Toluene	104%
Bromofluorobenzene	105%
d4-1,2-Dichlorobenzene	105%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: B4-5-3

SAMPLE



Lab Sample ID: AGQ5B

LIMS ID: 15-10058

Matrix: Soil

Data Release Authorized: *mm*

Reported: 06/01/15

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization

266125

Date Sampled: 05/26/15

Date Received: 05/26/15

Instrument/Analyst: NT15/PAB

Date Analyzed: 05/28/15 17:47

Sample Amount: 5.69 g-dry-wt

Purge Volume: 5.0 mL

Moisture: 14.1%

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.9	< 0.9	U
74-83-9	Bromomethane	0.9	< 0.9	U
75-01-4	Vinyl Chloride	0.9	< 0.9	U
75-00-3	Chloroethane	0.9	< 0.9	U
75-09-2	Methylene Chloride	1.8	2.7	B
67-64-1	Acetone	4.4	12	QB
75-15-0	Carbon Disulfide	0.9	< 0.9	U
75-35-4	1,1-Dichloroethene	0.9	< 0.9	U
75-34-3	1,1-Dichloroethane	0.9	< 0.9	U
156-60-5	trans-1,2-Dichloroethene	0.9	< 0.9	U
156-59-2	cis-1,2-Dichloroethene	0.9	< 0.9	U
67-66-3	Chloroform	0.9	< 0.9	U
107-06-2	1,2-Dichloroethane	0.9	< 0.9	U
78-93-3	2-Butanone	4.4	< 4.4	U
71-55-6	1,1,1-Trichloroethane	0.9	< 0.9	U
56-23-5	Carbon Tetrachloride	0.9	< 0.9	U
108-05-4	Vinyl Acetate	4.4	< 4.4	U
75-27-4	Bromodichloromethane	0.9	< 0.9	U
78-87-5	1,2-Dichloropropane	0.9	< 0.9	U
10061-01-5	cis-1,3-Dichloropropene	0.9	< 0.9	U
79-01-6	Trichloroethene	0.9	0.7	J
124-48-1	Dibromochloromethane	0.9	< 0.9	U
79-00-5	1,1,2-Trichloroethane	0.9	< 0.9	U
71-43-2	Benzene	0.9	< 0.9	U
10061-02-6	trans-1,3-Dichloropropene	0.9	< 0.9	U
110-75-8	2-Chloroethylvinylether	4.4	< 4.4	U
75-25-2	Bromoform	0.9	< 0.9	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	4.4	< 4.4	U
591-78-6	2-Hexanone	4.4	< 4.4	U
127-18-4	Tetrachloroethene	0.9	< 0.9	U
79-34-5	1,1,2,2-Tetrachloroethane	0.9	< 0.9	U
108-88-3	Toluene	0.9	2.6	
108-90-7	Chlorobenzene	0.9	< 0.9	U
100-41-4	Ethylbenzene	0.9	< 0.9	U
100-42-5	Styrene	0.9	< 0.9	U
75-69-4	Trichlorofluoromethane	0.9	< 0.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.8	< 1.8	U
179601-23-1	m,p-Xylene	0.9	< 0.9	U
95-47-6	o-Xylene	0.9	< 0.9	U
95-50-1	1,2-Dichlorobenzene	0.9	< 0.9	U
541-73-1	1,3-Dichlorobenzene	0.9	< 0.9	U
106-46-7	1,4-Dichlorobenzene	0.9	< 0.9	U
107-02-8	Acrolein	44	< 44	U
74-88-4	Iodomethane	0.9	< 0.9	U
74-96-4	Bromoethane	1.8	< 1.8	U
107-13-1	Acrylonitrile	4.4	< 4.4	U
563-58-6	1,1-Dichloropropene	0.9	< 0.9	U
74-95-3	Dibromomethane	0.9	< 0.9	U
630-20-6	1,1,1,2-Tetrachloroethane	0.9	< 0.9	U
96-12-8	1,2-Dibromo-3-chloropropane	4.4	< 4.4	U
96-18-4	1,2,3-Trichloropropane	1.8	< 1.8	U
110-57-6	trans-1,4-Dichloro-2-butene	4.4	< 4.4	U
108-67-8	1,3,5-Trimethylbenzene	0.9	< 0.9	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: B4-5-3

SAMPLE



Lab Sample ID: AGQ5B

LIMS ID: 15-10058

Matrix: Soil

Date Analyzed: 05/28/15 17:47

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization
266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	0.9	< 0.9	U
87-68-3	Hexachlorobutadiene	4.4	< 4.4	U
106-93-4	1,2-Dibromoethane	0.9	< 0.9	U
74-97-5	Bromochloromethane	0.9	< 0.9	U
594-20-7	2,2-Dichloropropane	0.9	< 0.9	U
142-28-9	1,3-Dichloropropane	0.9	< 0.9	U
98-82-8	Isopropylbenzene	0.9	< 0.9	U
103-65-1	n-Propylbenzene	0.9	< 0.9	U
108-86-1	Bromobenzene	0.9	< 0.9	U
95-49-8	2-Chlorotoluene	0.9	< 0.9	U
106-43-4	4-Chlorotoluene	0.9	< 0.9	U
98-06-6	tert-Butylbenzene	0.9	< 0.9	U
135-98-8	sec-Butylbenzene	0.9	< 0.9	U
99-87-6	4-Isopropyltoluene	0.9	< 0.9	U
104-51-8	n-Butylbenzene	0.9	< 0.9	U
120-82-1	1,2,4-Trichlorobenzene	4.4	< 4.4	U
91-20-3	Naphthalene	4.4	< 4.4	U
87-61-6	1,2,3-Trichlorobenzene	4.4	< 4.4	U
1634-04-4	Methyl tert-Butyl Ether	0.9	< 0.9	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	132%
d8-Toluene	103%
Bromofluorobenzene	105%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MB-052815A

Page 1 of 2

METHOD BLANK

Lab Sample ID: MB-052815A

QC Report No: AGQ5-ERM-West

LIMS ID: 15-10057

Project: K2 Facility Site Characterization

Matrix: Soil

266125

Data Release Authorized: *mw*

Date Sampled: NA

Reported: 06/01/15

Date Received: NA

Instrument/Analyst: NT15/PAB

Sample Amount: 5.00 g-dry-wt

Date Analyzed: 05/28/15 15:31

Purge Volume: 5.0 mL

Moisture: NA

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	1.8	J
67-64-1	Acetone	5.0	3.5	J
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	< 2.0	U
179601-23-1	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MB-052815A

METHOD BLANK

ANALYTICAL
RESOURCES
INCORPORATED 

Lab Sample ID: MB-052815A

LIMS ID: 15-10057

Matrix: Soil

Date Analyzed: 05/28/15 15:31

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization
266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	1,2-Dibromoethane	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	111%
d8-Toluene	101%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	100%

VOA SURROGATE RECOVERY SUMMARY



Matrix: Soil

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization
266125

ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
MB-052815A	Method Blank	Low	111%	101%	100%	100%	0
LCS-052815A	Lab Control	Low	111%	102%	100%	101%	0
LCSD-052815A	Lab Control Dup	Low	112%	100%	99.8%	102%	0
AGQ5A	B4-4-3	Low	130%	104%	105%	105%	0
AGQ5B	B4-5-3	Low	132%	103%	105%	104%	0

SW8260C	LCS/MB LIMITS		QC LIMITS	
	Low	Med	Low	Med
(DCE) = d4-1,2-Dichloroethane	80-149	80-124	80-149	80-124
(TOL) = d8-Toluene	77-120	80-120	77-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120	80-120	80-120

Log Number Range: 15-10057 to 15-10058

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: LCS-052815A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-052815A

LIMS ID: 15-10057

Matrix: Soil

Data Release Authorized: *mm*

Reported: 06/01/15

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization
266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT15/PAB

LCSD: NT15/PAB

Date Analyzed LCS: 05/28/15 13:56

LCSD: 05/28/15 14:23

Sample Amount LCS: 5.00 g-dry-wt

LCSD: 5.00 g-dry-wt

Purge Volume LCS: 5.0 mL

LCSD: 5.0 mL

Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	54.2	50.0	108%	54.7	50.0	109%	0.9%
Bromomethane	47.3	50.0	94.6%	44.8	50.0	89.6%	5.4%
Vinyl Chloride	56.8	50.0	114%	53.6	50.0	107%	5.8%
Chloroethane	63.2 Q	50.0	126%	59.0 Q	50.0	118%	6.9%
Methylene Chloride	54.9 B	50.0	110%	53.8 B	50.0	108%	2.0%
Acetone	295 QB	250	118%	336 QB	250	134%	13.0%
Carbon Disulfide	60.9 Q	50.0	122%	58.1 Q	50.0	116%	4.7%
1,1-Dichloroethene	59.4 Q	50.0	119%	56.5 Q	50.0	113%	5.0%
1,1-Dichloroethane	55.6	50.0	111%	54.0	50.0	108%	2.9%
trans-1,2-Dichloroethene	57.0	50.0	114%	54.8	50.0	110%	3.9%
cis-1,2-Dichloroethene	54.9	50.0	110%	53.3	50.0	107%	3.0%
Chloroform	56.1	50.0	112%	54.3	50.0	109%	3.3%
1,2-Dichloroethane	51.2	50.0	102%	51.4	50.0	103%	0.4%
2-Butanone	287	250	115%	318	250	127%	10.2%
1,1,1-Trichloroethane	57.4	50.0	115%	55.4	50.0	111%	3.5%
Carbon Tetrachloride	46.5	50.0	93.0%	43.9	50.0	87.8%	5.8%
Vinyl Acetate	57.9	50.0	116%	59.2	50.0	118%	2.2%
Bromodichloromethane	55.0	50.0	110%	53.0	50.0	106%	3.7%
1,2-Dichloropropane	50.1	50.0	100%	48.6	50.0	97.2%	3.0%
cis-1,3-Dichloropropene	53.1	50.0	106%	51.6	50.0	103%	2.9%
Trichloroethene	51.4	50.0	103%	49.0	50.0	98.0%	4.8%
Dibromochloromethane	58.6	50.0	117%	58.0	50.0	116%	1.0%
1,1,2-Trichloroethane	49.3	50.0	98.6%	49.1	50.0	98.2%	0.4%
Benzene	50.3	50.0	101%	48.6	50.0	97.2%	3.4%
trans-1,3-Dichloropropene	53.3	50.0	107%	52.2	50.0	104%	2.1%
2-Chloroethylvinylether	52.7	50.0	105%	54.3	50.0	109%	3.0%
Bromoform	49.8	50.0	99.6%	50.7	50.0	101%	1.8%
4-Methyl-2-Pentanone (MIBK)	258	250	103%	278	250	111%	7.5%
2-Hexanone	268	250	107%	294	250	118%	9.3%
Tetrachloroethene	52.4	50.0	105%	49.0	50.0	98.0%	6.7%
1,1,2,2-Tetrachloroethane	52.5	50.0	105%	54.8	50.0	110%	4.3%
Toluene	47.0	50.0	94.0%	46.2	50.0	92.4%	1.7%
Chlorobenzene	49.1	50.0	98.2%	47.9	50.0	95.8%	2.5%
Ethylbenzene	51.5	50.0	103%	49.5	50.0	99.0%	4.0%
Styrene	51.1	50.0	102%	49.5	50.0	99.0%	3.2%
Trichlorofluoromethane	66.5 Q	50.0	133%	60.7 Q	50.0	121%	9.1%
1,1,2-Trichloro-1,2,2-trifluoroethane	61.4 Q	50.0	123%	57.4 Q	50.0	115%	6.7%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2



Sample ID: LCS-052815A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-052815A

LIMS ID: 15-10057

Matrix: Soil

QC Report No: AGQ5-ERM-West

Project: K2 Facility Site Characterization

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
m,p-Xylene	102	100	102%	96.6	100	96.6%	5.4
o-Xylene	49.9	50.0	99.8%	48.7	50.0	97.4%	2.4
1,2-Dichlorobenzene	49.4	50.0	98.8%	47.9	50.0	95.8%	3.1
1,3-Dichlorobenzene	49.6	50.0	99.2%	47.4	50.0	94.8%	4.5
1,4-Dichlorobenzene	49.8	50.0	99.6%	46.4	50.0	92.8%	7.1
Acrolein	292	250	117%	327	250	131%	11.3
Iodomethane	69.3	50.0	139%	66.9	50.0	134%	3.5
Bromoethane	57.5	50.0	115%	55.2	50.0	110%	4.1
Acrylonitrile	57.8	50.0	116%	64.9	50.0	130%	11.6
1,1-Dichloropropene	52.5	50.0	105%	49.7	50.0	99.4%	5.5
Dibromomethane	50.8	50.0	102%	50.9	50.0	102%	0.2
1,1,1,2-Tetrachloroethane	52.7	50.0	105%	51.0	50.0	102%	3.3
1,2-Dibromo-3-chloropropane	59.7 Q	50.0	119%	63.8 Q	50.0	128%	6.6
1,2,3-Trichloropropane	52.0	50.0	104%	54.3	50.0	109%	4.3
trans-1,4-Dichloro-2-butene	56.8 Q	50.0	114%	59.8 Q	50.0	120%	5.1
1,3,5-Trimethylbenzene	52.3	50.0	105%	50.4	50.0	101%	3.7
1,2,4-Trimethylbenzene	52.6	50.0	105%	50.2	50.0	100%	4.7
Hexachlorobutadiene	54.2	50.0	108%	49.8	50.0	99.6%	8.5
1,2-Dibromoethane	50.5	50.0	101%	50.9	50.0	102%	0.8
Bromochloromethane	55.1	50.0	110%	54.2	50.0	108%	1.6
2,2-Dichloropropane	60.4 Q	50.0	121%	57.8 Q	50.0	116%	4.4
1,3-Dichloropropane	49.0	50.0	98.0%	49.1	50.0	98.2%	0.2
Isopropylbenzene	52.7	50.0	105%	50.4	50.0	101%	4.5
n-Propylbenzene	54.2	50.0	108%	51.2	50.0	102%	5.7
Bromobenzene	49.1	50.0	98.2%	48.1	50.0	96.2%	2.1
2-Chlorotoluene	51.7	50.0	103%	49.2	50.0	98.4%	5.0
4-Chlorotoluene	51.4	50.0	103%	49.2	50.0	98.4%	4.4
tert-Butylbenzene	52.6	50.0	105%	50.1	50.0	100%	4.9
sec-Butylbenzene	53.7	50.0	107%	50.9	50.0	102%	5.4
4-Isopropyltoluene	54.3	50.0	109%	51.0	50.0	102%	6.3
n-Butylbenzene	57.1	50.0	114%	52.7	50.0	105%	8.0
1,2,4-Trichlorobenzene	54.1	50.0	108%	49.2	50.0	98.4%	9.5
Naphthalene	53.7	50.0	107%	52.7	50.0	105%	1.9
1,2,3-Trichlorobenzene	54.7	50.0	109%	49.4	50.0	98.8%	10.2
Methyl tert-Butyl Ether	51.3	50.0	103%	50.9	50.0	102%	0.8

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	111%	112%
d8-Toluene	102%	100%
Bromofluorobenzene	100%	99.8%
d4-1,2-Dichlorobenzene	101%	102%



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 11, 2015

Mike Arnold
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: Project: K2 Facility Site Characterization
ARI Job No. AGU0

Dear Mike:

Please find enclosed the final results for the samples from the project referenced above. Two soil samples were received on May 28, 2015. The samples were received intact.

The samples were analyzed for VOCs, as requested on the COC.

The CCAL is out of control low for all associated FORM III "Q" flagged analytes. All associated sample concentrations were non-detect for "Q" flagged analytes.

The LCSD is out of control high for Acetone, Dibromochloromethane, Acrylonitrile and 2-Butanone.

The analysis proceeded without any other incident of note.

An electronic copy of these reports will remain on file with ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Amanda Volgardsen
-for-
Kelly Bottem
Client Services Manager
206/695-6211

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Page	1	of	1
Date	5/28/15	Ice Present?	Y
No. of Coolers:	1	Cooler Temps:	0.4

ARI Assigned Number:	AGUP	Turn-around Requested	Standard
ARI Client Company	ERM	Phone:	425-462-8591
Client Contact:	Mike Arnold		
Client Project Name	K2 Facility Site Characterization		
Client Project #	266125	Samplers	M. Haim, S. Zernova

[illegible][illegible]

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client ERM

Project Name: K2 facility site characterization

COC No(s) _____ NA

Delivered by Fed-Ex UPS Courier Hand Delivered Other _____

Assigned ARI Job No ABUR

Tracking No _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of cooler? _____

YES NO

Were custody papers included with the cooler? _____

YES NO

Were custody papers properly filled out (ink, signed, etc) _____

YES NO

Temperature of Cooler(s) (°C) (recommended 2 0-6 0 °C for chemistry) _____

Time: _____

0.4

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 908-21922

Cooler Accepted by IS Date: 5-28-15 Time 1745

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____

YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other _____

Was sufficient ice used (if appropriate)? _____ NA

YES NO

Were all bottles sealed in individual plastic bags? _____

YES NO

Did all bottles arrive in good condition (unbroken)? _____

YES NO

Were all bottle labels complete and legible? _____

YES NO

Did the number of containers listed on COC match with the number of containers received? _____

YES NO

Did all bottle labels and tags agree with custody papers? _____

YES NO

Were all bottles used correct for the requested analyses? _____

YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) _____

NA YES NO

Were all VOC vials free of air bubbles? _____

NA YES NO

Was sufficient amount of sample sent in each bottle? _____

YES NO

Date VOC Trip Blank was made at ARI _____

NA

Was Sample Split by ARI NA YES _____ Date/Time _____ Equipment: _____ Split by _____

Samples Logged by IS Date 5-29-15 Time 1808

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By _____ Date _____

Small Air Bubbles - 2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm	Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report



ARI Job No: AGU0
Client: ERM-West
Project Event: 266125
Project Name: K2 Facility Site Characterization

Sample ID		ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	B4-2-3	AGU0A	15-10161	Soil	05/28/15 11:40	05/28/15 17:45
2.	B4-3-3	AGU0B	15-10162	Soil	05/28/15 12:20	05/28/15 17:45



Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but $\geq$ the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($<20\%$ RSD, $<20\%$ Drift or minimum RRF).



- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria"
(Dioxin/Furan analysis only)
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference
- X Analyte signal includes interference from polychlorinated diphenyl ethers.
(Dioxin/Furan analysis only)
- Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**



Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: B4-2-3

SAMPLE



Lab Sample ID: AGU0A

LIMS ID: 15-10161

Matrix: Soil

Data Release Authorized: *MMW*

Reported: 06/02/15

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization
266125

Date Sampled: 05/28/15

Date Received: 05/28/15

Instrument/Analyst: NT15/PAB

Date Analyzed: 05/29/15 16:56

Sample Amount: 4.76 g-dry-wt

Purge Volume: 5.0 mL

Moisture: 12.3%

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.1	3.1	
67-64-1	Acetone	5.2	35	
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.2	< 5.2	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.2	< 5.2	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	4.1	
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.2	< 5.2	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.2	< 5.2	U
591-78-6	2-Hexanone	5.2	< 5.2	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	1.4	
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.1	< 2.1	U
179601-23-1	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	52	< 52	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	2.1	< 2.1	U
107-13-1	Acrylonitrile	5.2	< 5.2	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	< 5.2	U
96-18-4	1,2,3-Trichloropropane	2.1	< 2.1	U
110-57-6	trans-1,4-Dichloro-2-butene	5.2	< 5.2	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: B4-2-3

SAMPLE



Lab Sample ID: AGU0A

LIMS ID: 15-10161

Matrix: Soil

Date Analyzed: 05/29/15 16:56

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization
266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.2	< 5.2	U
106-93-4	1,2-Dibromoethane	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.2	< 5.2	U
91-20-3	Naphthalene	5.2	< 5.2	U
87-61-6	1,2,3-Trichlorobenzene	5.2	< 5.2	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in ug/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	130%
d8-Toluene	102%
Bromofluorobenzene	105%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: B4-3-3

SAMPLE



Lab Sample ID: AGU0B

LIMS ID: 15-10162

Matrix: Soil

Data Release Authorized: *MM*

Reported: 06/02/15

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization
266125

Date Sampled: 05/28/15

Date Received: 05/28/15

Instrument/Analyst: NT15/PAB

Date Analyzed: 05/29/15 17:24

Sample Amount: 4.62 g-dry-wt

Purge Volume: 5.0 mL

Moisture: 13.9%

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.1	< 1.1	U
74-83-9	Bromomethane	1.1	< 1.1	U
75-01-4	Vinyl Chloride	1.1	< 1.1	U
75-00-3	Chloroethane	1.1	< 1.1	U
75-09-2	Methylene Chloride	2.2	2.9	
67-64-1	Acetone	5.4	37	
75-15-0	Carbon Disulfide	1.1	< 1.1	U
75-35-4	1,1-Dichloroethene	1.1	< 1.1	U
75-34-3	1,1-Dichloroethane	1.1	< 1.1	U
156-60-5	trans-1,2-Dichloroethene	1.1	< 1.1	U
156-59-2	cis-1,2-Dichloroethene	1.1	< 1.1	U
67-66-3	Chloroform	1.1	< 1.1	U
107-06-2	1,2-Dichloroethane	1.1	< 1.1	U
78-93-3	2-Butanone	5.4	< 5.4	U
71-55-6	1,1,1-Trichloroethane	1.1	< 1.1	U
56-23-5	Carbon Tetrachloride	1.1	< 1.1	U
108-05-4	Vinyl Acetate	5.4	< 5.4	U
75-27-4	Bromodichloromethane	1.1	< 1.1	U
78-87-5	1,2-Dichloropropane	1.1	< 1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	< 1.1	U
79-01-6	Trichloroethene	1.1	< 1.1	U
124-48-1	Dibromochloromethane	1.1	< 1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	< 1.1	U
71-43-2	Benzene	1.1	< 1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	< 1.1	U
110-75-8	2-Chloroethylvinylether	5.4	< 5.4	U
75-25-2	Bromoform	1.1	< 1.1	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.4	< 5.4	U
591-78-6	2-Hexanone	5.4	< 5.4	U
127-18-4	Tetrachloroethene	1.1	< 1.1	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	< 1.1	U
108-88-3	Toluene	1.1	1.3	
108-90-7	Chlorobenzene	1.1	< 1.1	U
100-41-4	Ethylbenzene	1.1	< 1.1	U
100-42-5	Styrene	1.1	< 1.1	U
75-69-4	Trichlorofluoromethane	1.1	< 1.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.2	< 2.2	U
179601-23-1	m,p-Xylene	1.1	< 1.1	U
95-47-6	o-Xylene	1.1	< 1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	< 1.1	U
541-73-1	1,3-Dichlorobenzene	1.1	< 1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	< 1.1	U
107-02-8	Acrolein	54	< 54	U
74-88-4	Iodomethane	1.1	< 1.1	U
74-96-4	Bromoethane	2.2	< 2.2	U
107-13-1	Acrylonitrile	5.4	< 5.4	U
563-58-6	1,1-Dichloropropene	1.1	< 1.1	U
74-95-3	Dibromomethane	1.1	< 1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	< 1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	< 5.4	U
96-18-4	1,2,3-Trichloropropane	2.2	< 2.2	U
110-57-6	trans-1,4-Dichloro-2-butene	5.4	< 5.4	U
108-67-8	1,3,5-Trimethylbenzene	1.1	< 1.1	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: B4-3-3

SAMPLE



Lab Sample ID: AGU0B

LIMS ID: 15-10162

Matrix: Soil

Date Analyzed: 05/29/15 17:24

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization
266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.1	< 1.1	U
87-68-3	Hexachlorobutadiene	5.4	< 5.4	U
106-93-4	1,2-Dibromoethane	1.1	< 1.1	U
74-97-5	Bromochloromethane	1.1	< 1.1	U
594-20-7	2,2-Dichloropropane	1.1	< 1.1	U
142-28-9	1,3-Dichloropropane	1.1	< 1.1	U
98-82-8	Isopropylbenzene	1.1	< 1.1	U
103-65-1	n-Propylbenzene	1.1	< 1.1	U
108-86-1	Bromobenzene	1.1	< 1.1	U
95-49-8	2-Chlorotoluene	1.1	< 1.1	U
106-43-4	4-Chlorotoluene	1.1	< 1.1	U
98-06-6	tert-Butylbenzene	1.1	< 1.1	U
135-98-8	sec-Butylbenzene	1.1	< 1.1	U
99-87-6	4-Isopropyltoluene	1.1	< 1.1	U
104-51-8	n-Butylbenzene	1.1	< 1.1	U
120-82-1	1,2,4-Trichlorobenzene	5.4	< 5.4	U
91-20-3	Naphthalene	5.4	< 5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	< 5.4	U
1634-04-4	Methyl tert-Butyl Ether	1.1	< 1.1	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	132%
d8-Toluene	104%
Bromofluorobenzene	104%
d4-1,2-Dichlorobenzene	106%

VOA SURROGATE RECOVERY SUMMARY



Matrix: Soil

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization
266125

ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
MB-052915A	Method Blank	Low	118%	102%	100%	101%	0
LCS-052915A	Lab Control	Low	112%	102%	99.3%	98.0%	0
LCSD-052915A	Lab Control Dup	Low	117%	101%	98.3%	102%	0
AGU0A	B4-2-3	Low	130%	102%	105%	104%	0
AGU0B	B4-3-3	Low	132%	104%	104%	106%	0

SW8260C	LCS/MB LIMITS		QC LIMITS	
	Low	Med	Low	Med
(DCE) = d4-1,2-Dichloroethane	80-149	80-124	80-149	80-124
(TOL) = d8-Toluene	77-120	80-120	77-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120	80-120	80-120

Log Number Range: 15-10161 to 15-10162

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: LCS-052915A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-052915A

LIMS ID: 15-10161

Matrix: Soil

Data Release Authorized: *mw*

Reported: 06/02/15

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT15/PAB

LCSD: NT15/PAB

Date Analyzed LCS: 05/29/15 11:09

LCSD: 05/29/15 13:46

Sample Amount LCS: 5.00 g-dry-wt

LCSD: 5.00 g-dry-wt

Purge Volume LCS: 5.0 mL

LCSD: 5.0 mL

Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	49.2	50.0	98.4%	59.4	50.0	119%	18.8%
Bromomethane	39.4 Q	50.0	78.8%	54.2 Q	50.0	108%	31.6%
Vinyl Chloride	49.0	50.0	98.0%	61.7	50.0	123%	22.9%
Chloroethane	53.0	50.0	106%	72.1	50.0	144%	30.5%
Methylene Chloride	47.8	50.0	95.6%	56.5	50.0	113%	16.7%
Acetone	262	250	105%	345	250	138%	27.3%
Carbon Disulfide	54.4	50.0	109%	64.9	50.0	130%	17.6%
1,1-Dichloroethene	54.0	50.0	108%	62.3	50.0	125%	14.3%
1,1-Dichloroethane	49.8	50.0	99.6%	60.0	50.0	120%	18.6%
trans-1,2-Dichloroethene	51.0	50.0	102%	62.0	50.0	124%	19.5%
cis-1,2-Dichloroethene	49.0	50.0	98.0%	59.8	50.0	120%	19.9%
Chloroform	50.2	50.0	100%	59.7	50.0	119%	17.3%
1,2-Dichloroethane	46.9	50.0	93.8%	54.1	50.0	108%	14.3%
2-Butanone	286	250	114%	340	250	136%	17.3%
1,1,1-Trichloroethane	51.2	50.0	102%	63.1	50.0	126%	20.8%
Carbon Tetrachloride	39.6 Q	50.0	79.2%	49.6 Q	50.0	99.2%	22.4%
Vinyl Acetate	52.2	50.0	104%	62.6	50.0	125%	18.1%
Bromodichloromethane	45.8	50.0	91.6%	57.0	50.0	114%	21.8%
1,2-Dichloropropane	44.6	50.0	89.2%	52.0	50.0	104%	15.3%
cis-1,3-Dichloropropene	46.7	50.0	93.4%	55.8	50.0	112%	17.8%
Trichloroethene	45.2	50.0	90.4%	53.1	50.0	106%	16.1%
Dibromochloromethane	50.1	50.0	100%	61.9	50.0	124%	21.1%
1,1,2-Trichloroethane	44.5	50.0	89.0%	51.6	50.0	103%	14.8%
Benzene	44.9	50.0	89.8%	51.7	50.0	103%	14.1%
trans-1,3-Dichloropropene	47.1	50.0	94.2%	55.5	50.0	111%	16.4%
2-Chloroethylvinylether	47.1	50.0	94.2%	53.4	50.0	107%	12.5%
Bromoform	43.0	50.0	86.0%	53.8	50.0	108%	22.3%
4-Methyl-2-Pentanone (MIBK)	246	250	98.4%	265	250	106%	7.4%
2-Hexanone	250	250	100%	271	250	108%	8.1%
Tetrachloroethene	46.7	50.0	93.4%	55.2	50.0	110%	16.7%
1,1,2,2-Tetrachloroethane	44.8	50.0	89.6%	55.0	50.0	110%	20.4%
Toluene	42.3	50.0	84.6%	51.8	50.0	104%	20.2%
Chlorobenzene	43.8	50.0	87.6%	50.9	50.0	102%	15.0%
Ethylbenzene	45.3	50.0	90.6%	52.5	50.0	105%	14.7%
Styrene	45.4	50.0	90.8%	52.4	50.0	105%	14.3%
Trichlorofluoromethane	55.7	50.0	111%	78.7	50.0	157%	34.2%
1,1,2-Trichloro-1,2,2-trifluoroethane	57.3	50.0	115%	66.2	50.0	132%	14.4%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: LCS-052915A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-052915A

QC Report No: AGU0-ERM-West

LTMS ID: 15-10161

Project: K2 Facility Site Characterization

Matrix: Soil

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
m,p-Xylene	89.7	100	89.7%	105	100	105%	15.7%
o-Xylene	43.0	50.0	86.0%	52.2	50.0	104%	19.3%
1,2-Dichlorobenzene	42.4	50.0	84.8%	50.8	50.0	102%	18.0%
1,3-Dichlorobenzene	45.0	50.0	90.0%	51.8	50.0	104%	14.0%
1,4-Dichlorobenzene	44.0	50.0	88.0%	51.1	50.0	102%	14.9%
Acrolein	300	250	120%	326	250	130%	8.3%
Iodomethane	62.8	50.0	126%	53.9	50.0	108%	15.3%
Bromoethane	52.2	50.0	104%	63.0	50.0	126%	18.8%
Acrylonitrile	58.8	50.0	118%	63.1	50.0	126%	7.1%
1,1-Dichloropropene	46.1	50.0	92.2%	54.8	50.0	110%	17.2%
Dibromomethane	46.5	50.0	93.0%	53.3	50.0	107%	13.6%
1,1,1,2-Tetrachloroethane	45.7	50.0	91.4%	54.3	50.0	109%	17.2%
1,2-Dibromo-3-chloropropane	47.2	50.0	94.4%	61.0	50.0	122%	25.5%
1,2,3-Trichloropropane	46.5	50.0	93.0%	55.2	50.0	110%	17.1%
trans-1,4-Dichloro-2-butene	49.7	50.0	99.4%	59.7	50.0	119%	18.3%
1,3,5-Trimethylbenzene	46.7	50.0	93.4%	54.9	50.0	110%	16.1%
1,2,4-Trimethylbenzene	47.3	50.0	94.6%	54.2	50.0	108%	13.6%
Hexachlorobutadiene	46.4	50.0	92.8%	52.6	50.0	105%	12.5%
1,2-Dibromoethane	46.6	50.0	93.2%	53.4	50.0	107%	13.6%
Bromochloromethane	50.5	50.0	101%	60.5	50.0	121%	18.0%
2,2-Dichloropropane	52.6	50.0	105%	66.1	50.0	132%	22.7%
1,3-Dichloropropane	44.0	50.0	88.0%	51.0	50.0	102%	14.7%
Isopropylbenzene	46.8	50.0	93.6%	55.2	50.0	110%	16.5%
n-Propylbenzene	48.2	50.0	96.4%	56.0	50.0	112%	15.0%
Bromobenzene	44.1	50.0	88.2%	51.8	50.0	104%	16.1%
2-Chlorotoluene	46.0	50.0	92.0%	53.4	50.0	107%	14.9%
4-Chlorotoluene	46.3	50.0	92.6%	53.5	50.0	107%	14.4%
tert-Butylbenzene	46.2	50.0	92.4%	54.4	50.0	109%	16.3%
sec-Butylbenzene	47.6	50.0	95.2%	55.6	50.0	111%	15.5%
4-Isopropyltoluene	48.8	50.0	97.6%	56.3	50.0	113%	14.3%
n-Butylbenzene	50.8	50.0	102%	57.8	50.0	116%	12.9%
1,2,4-Trichlorobenzene	42.8	50.0	85.6%	54.4	50.0	109%	23.9%
Naphthalene	42.6	50.0	85.2%	53.5	50.0	107%	22.7%
1,2,3-Trichlorobenzene	42.0	50.0	84.0%	52.8	50.0	106%	22.8%
Methyl tert-Butyl Ether	50.6	50.0	101%	60.1	50.0	120%	17.2%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	112%	117%
d8-Toluene	102%	101%
Bromofluorobenzene	99.3%	98.3%
d4-1,2-Dichlorobenzene	98.0%	102%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2



Sample ID: MB-052915A

METHOD BLANK

Lab Sample ID: MB-052915A

LIMS ID: 15-10161

Matrix: Soil

Data Release Authorized: *MW*

Reported: 06/02/15

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT15/PAB

Date Analyzed: 05/29/15 12:04

Sample Amount: 5.00 g-dry-wt

Purge Volume: 5.0 mL

Moisture: NA

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	< 2.0	U
179601-23-1	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MB-052915A

METHOD BLANK

Lab Sample ID: MB-052915A

LIMS ID: 15-10161

Matrix: Soil

Date Analyzed: 05/29/15 12:04

QC Report No: AGU0-ERM-West

Project: K2 Facility Site Characterization
266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	1,2-Dibromoethane	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	118%
d8-Toluene	102%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	101%



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 4, 2015

Mike Arnold
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: Project: K2 Facility
ARI Job No. AGY6

Dear Mike:

Please find enclosed the final results for the samples from the project referenced above. One soil sample and one soil sample was received on June 1, 2015. The sample was received intact.

The sample was analyzed for VOCs, as requested on the COC.

The CCAL is out of control high for all associated FORM III "Q" flagged analytes. All associated sample concentrations were non-detect for "Q" flagged analytes.

The LCS and LCSD are out of control high for 2-Butanone. The associated sample was non detect and no further action was taken

The analysis proceeded without any other incident of note.

An electronic copy of these reports will remain on file with ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem
Client Services Manager
206/695-6211

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arlabs.com



Page: 1	of 1
Date: 6/11/15	Ice Present? y
No. of Coolers: 1	Cooler Temps: 0.2

ARI Assigned Number:	AGY6	Turn-around Requested:	Standard
ARI Client Company	ERM	Phone	425-462-8591
Client Contact:	M. Ke Arnold		
Client Project Name:	K2 Facility		
Client Project #	26625	Samplers:	M. Forline

[illegible][illegible]

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract

Sample ID Cross Reference Report



ARI Job No: AGY6
Client: ERM-West
Project Event: 266125
Project Name: K2 Facility

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. B3-5-3	AGY6A	15-10316	Soil	06/01/15 12:30	06/01/15 16:30



Cooler Receipt Form

ARI Client: ERM

Project Name K2 FACILITY

COC No(s) _____ (NA)

Delivered by Fed-Ex UPS Courier Hand Delivered Other _____

Assigned ARI Job No: AGY6

Tracking No _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? _____

YES (NO)

Were custody papers included with the cooler? _____

YES (NO)

Were custody papers properly filled out (ink, signed, etc) _____

YES (NO)

Temperature of Cooler(s) (°C) (recommended 2 0-6 0 °C for chemistry)

Time 1630

0.2

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID# 90877952

Cooler Accepted by: AL Date 6/1/15 Time: 1630

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____

YES (NO)

What kind of packing material was used? _____ Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other _____

Was sufficient ice used (if appropriate)? _____

NA YES (NO)

Were all bottles sealed in individual plastic bags? _____

YES (NO)

Did all bottles arrive in good condition (unbroken)? _____

YES (NO)

Were all bottle labels complete and legible? _____

YES (NO)

Did the number of containers listed on COC match with the number of containers received? _____

YES (NO)

Did all bottle labels and tags agree with custody papers? _____

YES (NO)

Were all bottles used correct for the requested analyses? _____

YES (NO)

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)

NA YES (NO)

Were all VOC vials free of air bubbles? _____

NA YES (NO)

Was sufficient amount of sample sent in each bottle? _____

YES (NO)

Date VOC Trip Blank was made at ARI _____

NA

Was Sample Split by ARI (NA) YES _____ Date/Time _____ Equipment _____ Split by: _____

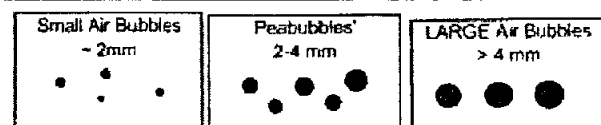
Samples Logged by: CA Date: 6-1-15 Time: 1652

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By _____ Date: _____



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: B3-5-3

SAMPLE



Lab Sample ID: AGY6A

LIMS ID: 15-10316

Matrix: Soil

Data Release Authorized: *AB*

Reported: 06/03/15

QC Report No: AGY6-ERM-West

Project: K2 Facility

266125

Date Sampled: 06/01/15

Date Received: 06/01/15

Instrument/Analyst: NT15/PAB

Date Analyzed: 06/02/15 20:15

Sample Amount: 4.54 g-dry-wt

Purge Volume: 5.0 mL

Moisture: 14.8%

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.1	< 1.1	U
74-83-9	Bromomethane	1.1	< 1.1	U
75-01-4	Vinyl Chloride	1.1	< 1.1	U
75-00-3	Chloroethane	1.1	< 1.1	U
75-09-2	Methylene Chloride	2.2	4.1	
67-64-1	Acetone	5.5	16	
75-15-0	Carbon Disulfide	1.1	< 1.1	U
75-35-4	1,1-Dichloroethene	1.1	< 1.1	U
75-34-3	1,1-Dichloroethane	1.1	< 1.1	U
156-60-5	trans-1,2-Dichloroethene	1.1	< 1.1	U
156-59-2	cis-1,2-Dichloroethene	1.1	< 1.1	U
67-66-3	Chloroform	1.1	< 1.1	U
107-06-2	1,2-Dichloroethane	1.1	< 1.1	U
78-93-3	2-Butanone	5.5	< 5.5	U
71-55-6	1,1,1-Trichloroethane	1.1	< 1.1	U
56-23-5	Carbon Tetrachloride	1.1	< 1.1	U
108-05-4	Vinyl Acetate	5.5	< 5.5	U
75-27-4	Bromodichloromethane	1.1	< 1.1	U
78-87-5	1,2-Dichloropropane	1.1	< 1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	< 1.1	U
79-01-6	Trichloroethene	1.1	< 1.1	U
124-48-1	Dibromochloromethane	1.1	< 1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	< 1.1	U
71-43-2	Benzene	1.1	< 1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	< 1.1	U
110-75-8	2-Chloroethylvinylether	5.5	< 5.5	U
75-25-2	Bromoform	1.1	< 1.1	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.5	< 5.5	U
591-78-6	2-Hexanone	5.5	< 5.5	U
127-18-4	Tetrachloroethene	1.1	< 1.1	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	< 1.1	U
108-88-3	Toluene	1.1	< 1.1	U
108-90-7	Chlorobenzene	1.1	< 1.1	U
100-41-4	Ethylbenzene	1.1	< 1.1	U
100-42-5	Styrene	1.1	< 1.1	U
75-69-4	Trichlorofluoromethane	1.1	< 1.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.2	< 2.2	U
179601-23-1	m,p-Xylene	1.1	< 1.1	U
95-47-6	o-Xylene	1.1	< 1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	< 1.1	U
541-73-1	1,3-Dichlorobenzene	1.1	< 1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	< 1.1	U
107-02-8	Acrolein	55	< 55	U
74-88-4	Iodomethane	1.1	< 1.1	U
74-96-4	Bromoethane	2.2	< 2.2	U
107-13-1	Acrylonitrile	5.5	< 5.5	U
563-58-6	1,1-Dichloropropene	1.1	< 1.1	U
74-95-3	Dibromomethane	1.1	< 1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	< 1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	< 5.5	U
96-18-4	1,2,3-Trichloropropane	2.2	< 2.2	U
110-57-6	trans-1,4-Dichloro-2-butene	5.5	< 5.5	U
108-67-8	1,3,5-Trimethylbenzene	1.1	< 1.1	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: B3-5-3

SAMPLE



Lab Sample ID: AGY6A

LIMS ID: 15-10316

Matrix: Soil

Date Analyzed: 06/02/15 20:15

QC Report No: AGY6-ERM-West

Project: K2 Facility

266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.1	< 1.1	U
87-68-3	Hexachlorobutadiene	5.5	< 5.5	U
106-93-4	1,2-Dibromoethane	1.1	< 1.1	U
74-97-5	Bromochloromethane	1.1	< 1.1	U
594-20-7	2,2-Dichloropropane	1.1	< 1.1	U
142-28-9	1,3-Dichloropropane	1.1	< 1.1	U
98-82-8	Isopropylbenzene	1.1	< 1.1	U
103-65-1	n-Propylbenzene	1.1	< 1.1	U
108-86-1	Bromobenzene	1.1	< 1.1	U
95-49-8	2-Chlorotoluene	1.1	< 1.1	U
106-43-4	4-Chlorotoluene	1.1	< 1.1	U
98-06-6	tert-Butylbenzene	1.1	< 1.1	U
135-98-8	sec-Butylbenzene	1.1	< 1.1	U
99-87-6	4-Isopropyltoluene	1.1	< 1.1	U
104-51-8	n-Butylbenzene	1.1	< 1.1	U
120-82-1	1,2,4-Trichlorobenzene	5.5	< 5.5	U
91-20-3	Naphthalene	5.5	< 5.5	U
87-61-6	1,2,3-Trichlorobenzene	5.5	< 5.5	U
1634-04-4	Methyl tert-Butyl Ether	1.1	< 1.1	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	136%
d8-Toluene	104%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: MB-060215A
METHOD BLANK

Lab Sample ID: MB-060215A

LIMS ID: 15-10316

Matrix: Soil

Data Release Authorized: 

Reported: 06/03/15

QC Report No: AGY6-ERM-West

Project: K2 Facility

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT15/PAB

Date Analyzed: 06/02/15 17:30

Sample Amount: 5.00 g-dry-wt

Purge Volume: 5.0 mL

Moisture: NA

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	< 2.0	U
179601-23-1	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropene	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropene	2.0	< 2.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MB-060215A

METHOD BLANK



Lab Sample ID: MB-060215A

LIMS ID: 15-10316

Matrix: Soil

Date Analyzed: 06/02/15 17:30

QC Report No: AGY6-ERM-West

Project: K2 Facility

266125

CAS Number	Analyte	LOQ	Result	Q
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	1,2-Dibromoethane	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	115%
d8-Toluene	102%
Bromofluorobenzene	95.9%
d4-1,2-Dichlorobenzene	102%

VOA SURROGATE RECOVERY SUMMARY



Matrix: Soil

QC Report No: AGY6-ERM-West
Project: K2 Facility
266125

ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
MB-060215A	Method Blank	Low	115%	102%	95.9%	102%	0
LCS-060215A	Lab Control	Low	120%	103%	98.3%	103%	0
LCSD-060215A	Lab Control Dup	Low	120%	101%	97.6%	103%	0
AGY6A	B3-5-3	Low	136%	104%	103%	103%	0

SW8260C	LCS/MB LIMITS		QC LIMITS	
	Low	Med	Low	Med
(DCE) = d4-1,2-Dichloroethane	80-149	80-124	80-149	80-124
(TOL) = d8-Toluene	77-120	80-120	77-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120	80-120	80-120

Log Number Range: 15-10316 to 15-10316

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-060215A

Page 1 of 2

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060215A

LIMS ID: 15-10316

Matrix: Soil

Data Release Authorized: *AB*

Reported: 06/03/15

QC Report No: AGY6-ERM-West

Project: K2 Facility

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT15/PAB

LCSD: NT15/PAB

Date Analyzed LCS: 06/02/15 16:35

LCSD: 06/02/15 17:02

Sample Amount LCS: 5.00 g-dry-wt

LCSD: 5.00 g-dry-wt

Purge Volume LCS: 5.0 mL

LCSD: 5.0 mL

Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	53.0	50.0	106%	52.0	50.0	104%	1.9%
Bromomethane	50.8	50.0	102%	51.3	50.0	103%	1.0%
Vinyl Chloride	54.3	50.0	109%	53.9	50.0	108%	0.7%
Chloroethane	68.0 Q	50.0	136%	65.7 Q	50.0	131%	3.4%
Methylene Chloride	50.0	50.0	100%	51.0	50.0	102%	2.0%
Acetone	238	250	95.2%	225	250	90.0%	5.6%
Carbon Disulfide	58.5 Q	50.0	117%	57.6 Q	50.0	115%	1.6%
1,1-Dichloroethene	56.5	50.0	113%	55.9	50.0	112%	1.1%
1,1-Dichloroethane	53.1	50.0	106%	53.6	50.0	107%	0.9%
trans-1,2-Dichloroethene	55.1	50.0	110%	54.9	50.0	110%	0.4%
cis-1,2-Dichloroethene	52.8	50.0	106%	53.4	50.0	107%	1.1%
Chloroform	48.0	50.0	96.0%	54.6	50.0	109%	12.9%
1,2-Dichloroethane	48.2	50.0	96.4%	48.7	50.0	97.4%	1.0%
2-Butanone	317 Q	250	127%	331 Q	250	132%	4.3%
1,1,1-Trichloroethane	55.7	50.0	111%	55.8	50.0	112%	0.2%
Carbon Tetrachloride	43.2	50.0	86.4%	41.9	50.0	83.8%	3.1%
Vinyl Acetate	56.6	50.0	113%	59.5	50.0	119%	5.0%
Bromodichloromethane	46.9	50.0	93.8%	50.2	50.0	100%	6.8%
1,2-Dichloropropane	45.0	50.0	90.0%	45.4	50.0	90.8%	0.9%
cis-1,3-Dichloropropene	48.3	50.0	96.6%	48.7	50.0	97.4%	0.8%
Trichloroethene	47.0	50.0	94.0%	46.4	50.0	92.8%	1.3%
Dibromochloromethane	52.7	50.0	105%	55.1	50.0	110%	4.5%
1,1,2-Trichloroethane	45.1	50.0	90.2%	46.2	50.0	92.4%	2.4%
Benzene	45.9	50.0	91.8%	45.6	50.0	91.2%	0.7%
trans-1,3-Dichloropropene	48.2	50.0	96.4%	49.0	50.0	98.0%	1.6%
2-Chloroethylvinylether	47.5	50.0	95.0%	48.2	50.0	96.4%	1.5%
Bromoform	47.4	50.0	94.8%	48.1	50.0	96.2%	1.5%
4-Methyl-2-Pentanone (MIBK)	240	250	96.0%	249	250	99.6%	3.7%
2-Hexanone	249	250	99.6%	260	250	104%	4.3%
Tetrachloroethene	48.1	50.0	96.2%	46.3	50.0	92.6%	3.8%
1,1,2,2-Tetrachloroethane	48.8	50.0	97.6%	50.5	50.0	101%	3.4%
Toluene	55.3	50.0	111%	46.5	50.0	93.0%	17.3%
Chlorobenzene	44.8	50.0	89.6%	44.5	50.0	89.0%	0.7%
Ethylbenzene	46.4	50.0	92.8%	46.3	50.0	92.6%	0.2%
Styrene	45.5	50.0	91.0%	46.0	50.0	92.0%	1.1%
Trichlorofluoromethane	74.7 Q	50.0	149%	71.3 Q	50.0	143%	4.7%
1,1,2-Trichloro-1,2,2-trifluoroetha	59.6 Q	50.0	119%	57.7 Q	50.0	115%	3.2%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2



Sample ID: LCS-060215A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060215A

LIMS ID: 15-10316

Matrix: Soil

QC Report No: AGY6-ERM-West

Project: K2 Facility

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
m,p-Xylene	92.0	100	92.0%	90.8	100	90.8%	1.3%
o-Xylene	46.9	50.0	93.8%	44.8	50.0	89.6%	4.6%
1,2-Dichlorobenzene	45.0	50.0	90.0%	44.8	50.0	89.6%	0.4%
1,3-Dichlorobenzene	46.1	50.0	92.2%	44.9	50.0	89.8%	2.6%
1,4-Dichlorobenzene	45.3	50.0	90.6%	44.3	50.0	88.6%	2.2%
Acrolein	301	250	120%	312	250	125%	3.6%
Iodomethane	54.4	50.0	109%	48.2	50.0	96.4%	12.1%
Bromoethane	55.8	50.0	112%	55.1	50.0	110%	1.3%
Acrylonitrile	59.7	50.0	119%	61.4	50.0	123%	2.8%
1,1-Dichloropropene	48.2	50.0	96.4%	47.2	50.0	94.4%	2.1%
Dibromomethane	47.6	50.0	95.2%	48.0	50.0	96.0%	0.8%
1,1,1,2-Tetrachloroethane	47.7	50.0	95.4%	48.0	50.0	96.0%	0.6%
1,2-Dibromo-3-chloropropane	56.9	50.0	114%	56.7	50.0	113%	0.4%
1,2,3-Trichloropropane	48.7	50.0	97.4%	49.9	50.0	99.8%	2.4%
trans-1,4-Dichloro-2-butene	53.6	50.0	107%	53.5	50.0	107%	0.2%
1,3,5-Trimethylbenzene	48.4	50.0	96.8%	47.6	50.0	95.2%	1.7%
1,2,4-Trimethylbenzene	47.7	50.0	95.4%	46.6	50.0	93.2%	2.3%
Hexachlorobutadiene	46.2	50.0	92.4%	45.6	50.0	91.2%	1.3%
1,2-Dibromoethane	46.5	50.0	93.0%	47.6	50.0	95.2%	2.3%
Bromochloromethane	52.9	50.0	106%	54.7	50.0	109%	3.3%
2,2-Dichloropropane	57.6	50.0	115%	57.0	50.0	114%	1.0%
1,3-Dichloropropane	45.1	50.0	90.2%	45.6	50.0	91.2%	1.1%
Isopropylbenzene	48.4	50.0	96.8%	48.6	50.0	97.2%	0.4%
n-Propylbenzene	49.9	50.0	99.8%	48.6	50.0	97.2%	2.6%
Bromobenzene	44.6	50.0	89.2%	45.6	50.0	91.2%	2.2%
2-Chlorotoluene	47.1	50.0	94.2%	46.7	50.0	93.4%	0.9%
4-Chlorotoluene	46.8	50.0	93.6%	46.3	50.0	92.6%	1.1%
tert-Butylbenzene	47.4	50.0	94.8%	47.0	50.0	94.0%	0.8%
sec-Butylbenzene	49.4	50.0	98.8%	47.8	50.0	95.6%	3.3%
4-Isopropyltoluene	49.7	50.0	99.4%	48.6	50.0	97.2%	2.2%
n-Butylbenzene	51.6	50.0	103%	49.6	50.0	99.2%	4.0%
1,2,4-Trichlorobenzene	48.0	50.0	96.0%	45.6	50.0	91.2%	5.1%
Naphthalene	49.4	50.0	98.8%	49.0	50.0	98.0%	0.8%
1,2,3-Trichlorobenzene	48.3	50.0	96.6%	46.6	50.0	93.2%	3.6%
Methyl tert-Butyl Ether	46.5	50.0	93.0%	48.1	50.0	96.2%	3.4%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	120%	120%
d8-Toluene	103%	101%
Bromofluorobenzene	98.3%	97.6%
d4-1,2-Dichlorobenzene	103%	103%



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 16, 2015

Mike Arnold
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: Project: K2 Facility
ARI Job No. AH15

Dear Mike:

Please find enclosed the final results for the samples from the project referenced above. Ten water samples were received on June 5, 2015. The samples were received intact.

The samples were analyzed for VOCs, as requested on the COC.

The VOCs CCALs are out of control low for all associated FORM III "Q" flagged analytes. All associated sample concentrations that contain analyte have been flagged with a "Q" qualifier.

The VOCs 6/10/15 LCSD is out of control low for acrylonitrile, 2-Pentanone and 1,2,3-trichlorobenzene. The LCS is in control.

The VOCs 6/9/15 LCSD is out of control low for acrylonitrile. The LCS is in control.

The analysis proceeded without any other incident of note.

An electronic copy of these reports will remain on file with ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem
Client Services Manager
206/695-6211

1 of 35

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: W15	Turn-around Requested: Standard	Page: 1 of 1
ARI Client Company: ERM	Phone: 425-462-8991	Date: 6/4/15
Client Contact: M. Ke Arnold		No of Coolers: 1
Client Project Name: K2 Facility Vashon, WA		Ice Present?
Client Project # 266125	Samplers: M. Horine + M. Candell	Cooler Temps:

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com



Client Project Name		K2 Facility		Vashon, WA	
Client Project #	266135	Samplers	M. Horine + M. Candel		
Sample ID	Date	Time	Matrix	No Containers	
MW6-1-060415	6/4/15	0918	W	3	X
MW5-1-060415	6/4/15	1040	W	3	X
MW3-2-060415	6/4/15	1118	W	3	X
MW7-1-060415	6/4/15	0908	W	3	X
MW3-5-060415	6/4/15	1433	W	3	X
MW3-4-060415	6/4/15	1356	W	3	X
MW3-3-060415	6/4/15	1242	W	3	X
MW4-1-060415	6/4/15	1300	W	3	X
MW4-2-060415	6/4/15	1403	W	3	X
MW4-6-060415	6/4/15	1442	W	3	X
Comments/Special Instructions	Relinquished by (Signature)	Received by (Signature)			Relinquished by (Signature)
	Printed Name	Printed Name			Printed Name
	Company	Company			Company
	Date & Time	Date & Time			Date & Time
		Matt Candel		Rich Horne	
		ERM		API	
6/5/15		815		6/5/15	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client ERM

Project Name K2 Facility Vaso

COC No(s) _____ NA

Delivered by Fed-Ex UPS Courier Hand Delivered Other _____

Assigned ARI Job No AH15

Tracking No _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc) YES NO

Temperature of Cooler(s) (°C) (recommended 2 0-6 0 °C for chemistry) 9.00 5.6

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID# 90877952

Cooler Accepted by [Signature] Date 6/5/15 Time 8:15

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Paggies Foam Block Paper Other _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Was Sample Split by ARI: NA YES Date/Time _____ Equipment: _____ Split by _____

Samples Logged by TS Date 6-5-15 Time 15:01

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By _____ Date _____

Small Air Bubbles ~ 2mm 	Peabubbles 2-4 mm 	LARGE Air Bubbles > 4 mm 	Small → "sm" (< 2 mm) Peabubbles → "pb" (2 to < 4 mm) Large → "lg" (4 to < 6 mm) Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report



ARI Job No: AHI5
Client: ERM-West
Project Event: 266125
Project Name: K2 Facility Vashon, WA

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW6-1-060415	AHI5A	15-10582	Water	06/04/15 09:18	06/05/15 08:15
2. MW5-1-060415	AHI5B	15-10583	Water	06/04/15 10:40	06/05/15 08:15
3. MW3-2-060415	AHI5C	15-10584	Water	06/04/15 11:18	06/05/15 08:15
4. MW7-1-060415	AHI5D	15-10585	Water	06/04/15 09:08	06/05/15 08:15
5. MW3-5-060415	AHI5E	15-10586	Water	06/04/15 14:33	06/05/15 08:15
6. MW3-4-060415	AHI5F	15-10587	Water	06/04/15 13:56	06/05/15 08:15
7. MW3-3-060415	AHI5G	15-10588	Water	06/04/15 12:42	06/05/15 08:15
8. MW4-1-060415	AHI5H	15-10589	Water	06/04/15 13:00	06/05/15 08:15
9. MW4-2-060415	AHI5I	15-10590	Water	06/04/15 14:03	06/05/15 08:15
10. MW4-6-060415	AHI5J	15-10591	Water	06/04/15 14:42	06/05/15 08:15

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: LCS-060915A
LAB CONTROL SAMPLE

Lab Sample ID: LCS-060915A

LIMS ID: 15-10582

Matrix: Water

 Data Release Authorized: *B*

Reported: 06/12/15

QC Report No: AH15-ERM-West

Project: K2 Facility Vashon, WA

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT7/PAB

LCSD: NT7/PAB

Date Analyzed LCS: 06/09/15 12:54

LCSD: 06/09/15 14:02

Sample Amount LCS: 10.0 mL

LCSD: 10.0 mL

Purge Volume LCS: 10.0 mL

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	8.18	10.0	81.8%	8.26	10.0	82.6%	1.0%
Bromomethane	9.86	10.0	98.6%	8.72	10.0	87.2%	12.3%
Vinyl Chloride	8.91	10.0	89.1%	8.55	10.0	85.5%	4.1%
Chloroethane	8.77	10.0	87.7%	8.82	10.0	88.2%	0.6%
Methylene Chloride	8.36	10.0	83.6%	8.39	10.0	83.9%	0.4%
Acetone	40.2	50.0	80.4%	41.8	50.0	83.6%	3.9%
Carbon Disulfide	9.16	10.0	91.6%	8.84	10.0	88.4%	3.6%
1,1-Dichloroethene	8.68	10.0	86.8%	8.87	10.0	88.7%	2.2%
1,1-Dichloroethane	8.46	10.0	84.6%	8.51	10.0	85.1%	0.6%
trans-1,2-Dichloroethene	8.12	10.0	81.2%	7.98	10.0	79.8%	1.7%
cis-1,2-Dichloroethene	8.38	10.0	83.8%	8.47	10.0	84.7%	1.1%
Chloroform	8.47	10.0	84.7%	8.52	10.0	85.2%	0.6%
1,2-Dichloroethane	8.72	10.0	87.2%	8.70	10.0	87.0%	0.2%
2-Butanone	39.4 Q	50.0	78.8%	40.6 Q	50.0	81.2%	3.0%
1,1,1-Trichloroethane	8.58	10.0	85.8%	8.65	10.0	86.5%	0.8%
Carbon Tetrachloride	9.12	10.0	91.2%	8.92	10.0	89.2%	2.2%
Vinyl Acetate	8.06	10.0	80.6%	8.26	10.0	82.6%	2.5%
Bromodichloromethane	8.78	10.0	87.8%	8.82	10.0	88.2%	0.5%
1,2-Dichloropropane	8.41	10.0	84.1%	8.26	10.0	82.6%	1.8%
cis-1,3-Dichloropropene	8.96	10.0	89.6%	8.89	10.0	88.9%	0.8%
Trichloroethene	8.55	10.0	85.5%	8.70	10.0	87.0%	1.7%
Dibromochloromethane	8.72	10.0	87.2%	8.65	10.0	86.5%	0.8%
1,1,2-Trichloroethane	8.13	10.0	81.3%	8.13	10.0	81.3%	0.0%
Benzene	8.80	10.0	88.0%	8.71	10.0	87.1%	1.0%
trans-1,3-Dichloropropene	8.88	10.0	88.8%	8.80	10.0	88.0%	0.9%
2-Chloroethylvinylether	8.80	10.0	88.0%	8.66	10.0	86.6%	1.6%
Bromoform	8.79	10.0	87.9%	8.71	10.0	87.1%	0.9%
4-Methyl-2-Pentanone (MIBK)	40.6	50.0	81.2%	40.4	50.0	80.8%	0.5%
2-Hexanone	41.3	50.0	82.6%	42.2	50.0	84.4%	2.2%
Tetrachloroethene	8.62	10.0	86.2%	8.68	10.0	86.8%	0.7%
1,1,2,2-Tetrachloroethane	8.86	10.0	88.6%	8.65	10.0	86.5%	2.4%
Toluene	8.78	10.0	87.8%	8.56	10.0	85.6%	2.5%
Chlorobenzene	8.47	10.0	84.7%	8.54	10.0	85.4%	0.8%
Ethylbenzene	8.61	10.0	86.1%	8.71	10.0	87.1%	1.2%
Styrene	9.16	10.0	91.6%	9.19	10.0	91.9%	0.3%
Trichlorofluoromethane	10.7	10.0	107%	11.0	10.0	110%	2.8%
1,1,2-Trichloro-1,2,2-trifluoroetha	8.68	10.0	86.8%	8.61	10.0	86.1%	0.8%
m,p-Xylene	18.0	20.0	90.0%	17.9	20.0	89.5%	0.6%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: LCS-060915A
LAB CONTROL SAMPLE

Lab Sample ID: LCS-060915A

QC Report No: AHI5-ERM-West

LIMS ID: 15-10582

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	8.93	10.0	89.3%	8.99	10.0	89.9%	0.7%
1,2-Dichlorobenzene	9.90	10.0	99.0%	9.82	10.0	98.2%	0.8%
1,3-Dichlorobenzene	8.39	10.0	83.9%	8.47	10.0	84.7%	0.9%
1,4-Dichlorobenzene	8.08	10.0	80.8%	8.07	10.0	80.7%	0.1%
Acrolein	46.7	50.0	93.4%	44.7	50.0	89.4%	4.4%
Iodomethane	10.1	10.0	101%	9.31	10.0	93.1%	8.1%
Bromoethane	9.20	10.0	92.0%	8.99	10.0	89.9%	2.3%
Acrylonitrile	7.77 Q	10.0	77.7%	7.58 Q	10.0	75.8%	2.5%
1,1-Dichloropropene	8.84	10.0	88.4%	8.56	10.0	85.6%	3.2%
Dibromomethane	8.30	10.0	83.0%	8.34	10.0	83.4%	0.5%
1,1,1,2-Tetrachloroethane	8.61	10.0	86.1%	8.54	10.0	85.4%	0.8%
1,2-Dibromo-3-chloropropane	8.64	10.0	86.4%	8.46	10.0	84.6%	2.1%
1,2,3-Trichloropropane	8.20	10.0	82.0%	8.11	10.0	81.1%	1.1%
trans-1,4-Dichloro-2-butene	8.73	10.0	87.3%	8.76	10.0	87.6%	0.3%
1,3,5-Trimethylbenzene	8.80	10.0	88.0%	8.78	10.0	87.8%	0.2%
1,2,4-Trimethylbenzene	8.99	10.0	89.9%	8.87	10.0	88.7%	1.3%
Hexachlorobutadiene	8.55	10.0	85.5%	8.71	10.0	87.1%	1.9%
1,2-Dibromoethane	8.47	10.0	84.7%	8.23	10.0	82.3%	2.9%
Bromochloromethane	8.56	10.0	85.6%	8.69	10.0	86.9%	1.5%
2,2-Dichloropropane	8.85	10.0	88.5%	8.84	10.0	88.4%	0.1%
1,3-Dichloropropane	8.23	10.0	82.3%	8.25	10.0	82.5%	0.2%
Isopropylbenzene	9.13	10.0	91.3%	9.08	10.0	90.8%	0.5%
n-Propylbenzene	8.38	10.0	83.8%	8.31	10.0	83.1%	0.8%
Bromobenzene	8.18	10.0	81.8%	8.13	10.0	81.3%	0.6%
2-Chlorotoluene	8.61	10.0	86.1%	8.68	10.0	86.8%	0.8%
4-Chlorotoluene	8.70	10.0	87.0%	8.67	10.0	86.7%	0.3%
tert-Butylbenzene	9.02	10.0	90.2%	9.02	10.0	90.2%	0.0%
sec-Butylbenzene	9.18	10.0	91.8%	9.08	10.0	90.8%	1.1%
4-Isopropyltoluene	9.25	10.0	92.5%	9.29	10.0	92.9%	0.4%
n-Butylbenzene	9.22	10.0	92.2%	9.34	10.0	93.4%	1.3%
1,2,4-Trichlorobenzene	8.34	10.0	83.4%	8.32	10.0	83.2%	0.2%
Naphthalene	9.48	10.0	94.8%	9.17	10.0	91.7%	3.3%
1,2,3-Trichlorobenzene	8.03 Q	10.0	80.3%	7.97 Q	10.0	79.7%	0.7%
Methyl tert-Butyl Ether	8.30	10.0	83.0%	8.19	10.0	81.9%	1.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	100%	101%
d8-Toluene	100%	97.8%
Bromofluorobenzene	102%	101%
d4-1,2-Dichlorobenzene	99.8%	100%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: LCS-061015A
LAB CONTROL SAMPLE

Lab Sample ID: LCS-061015A

LIMS ID: 15-10591

Matrix: Water

Data Release Authorized: *AB*

Reported: 06/12/15

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT7/PAB

LCSD: NT7/PAB

Date Analyzed LCS: 06/10/15 10:20

LCSD: 06/10/15 10:44

Sample Amount LCS: 10.0 mL

LCSD: 10.0 mL

Purge Volume LCS: 10.0 mL

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	8.29	10.0	82.9%	7.82	10.0	78.2%	5.8%
Bromomethane	10.2	10.0	102%	10.5	10.0	105%	2.9%
Vinyl Chloride	8.64	10.0	86.4%	8.11	10.0	81.1%	6.3%
Chloroethane	9.89	10.0	98.9%	9.57	10.0	95.7%	3.3%
Methylene Chloride	7.85	10.0	78.5%	8.43	10.0	84.3%	7.1%
Acetone	41.1	50.0	82.2%	41.7	50.0	83.4%	1.4%
Carbon Disulfide	9.68	10.0	96.8%	9.26	10.0	92.6%	4.4%
1,1-Dichloroethene	9.24	10.0	92.4%	8.86	10.0	88.6%	4.2%
1,1-Dichloroethane	8.47	10.0	84.7%	8.58	10.0	85.8%	1.3%
trans-1,2-Dichloroethene	8.02	10.0	80.2%	8.51	10.0	85.1%	5.9%
cis-1,2-Dichloroethene	8.56	10.0	85.6%	8.45	10.0	84.5%	1.3%
Chloroform	8.73	10.0	87.3%	8.70	10.0	87.0%	0.3%
1,2-Dichloroethane	9.03	10.0	90.3%	8.79	10.0	87.9%	2.7%
2-Butanone	42.0 Q	50.0	84.0%	39.3 Q	50.0	78.6%	6.6%
1,1,1-Trichloroethane	9.01	10.0	90.1%	8.82	10.0	88.2%	2.1%
Carbon Tetrachloride	9.37	10.0	93.7%	9.26	10.0	92.6%	1.2%
Vinyl Acetate	8.39	10.0	83.9%	8.12	10.0	81.2%	3.3%
Bromodichloromethane	9.18	10.0	91.8%	8.78	10.0	87.8%	4.5%
1,2-Dichloropropane	8.50	10.0	85.0%	8.25	10.0	82.5%	3.0%
cis-1,3-Dichloropropene	9.27	10.0	92.7%	9.13	10.0	91.3%	1.5%
Trichloroethene	8.82	10.0	88.2%	8.72	10.0	87.2%	1.1%
Dibromochloromethane	9.25	10.0	92.5%	8.96	10.0	89.6%	3.2%
1,1,2-Trichloroethane	8.40 Q	10.0	84.0%	8.11 Q	10.0	81.1%	3.5%
Benzene	8.87	10.0	88.7%	8.91	10.0	89.1%	0.4%
trans-1,3-Dichloropropene	9.09	10.0	90.9%	8.94	10.0	89.4%	1.7%
2-Chloroethylvinylether	9.07	10.0	90.7%	8.88	10.0	88.8%	2.1%
Bromoform	9.27	10.0	92.7%	8.96	10.0	89.6%	3.4%
4-Methyl-2-Pentanone (MIBK)	41.5 Q	50.0	83.0%	41.1 Q	50.0	82.2%	1.0%
2-Hexanone	43.7	50.0	87.4%	41.5	50.0	83.0%	5.2%
Tetrachloroethene	9.15	10.0	91.5%	8.71	10.0	87.1%	4.9%
1,1,2,2-Tetrachloroethane	9.09	10.0	90.9%	8.76	10.0	87.6%	3.7%
Toluene	9.02	10.0	90.2%	8.79	10.0	87.9%	2.6%
Chlorobenzene	8.80	10.0	88.0%	8.66	10.0	86.6%	1.6%
Ethylbenzene	9.01	10.0	90.1%	8.98	10.0	89.8%	0.3%
Styrene	9.97	10.0	99.7%	9.72	10.0	97.2%	2.5%
Trichlorofluoromethane	11.9	10.0	119%	11.1	10.0	111%	7.0%
1,1,2-Trichloro-1,2,2-trifluoroethane	9.42	10.0	94.2%	8.68	10.0	86.8%	8.2%
m,p-Xylene	18.8	20.0	94.0%	18.5	20.0	92.5%	1.6%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Sample ID: LCS-061015A

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LAB CONTROL SAMPLE

Lab Sample ID: LCS-061015A

QC Report No: AHI5-ERM-West

LIMS ID: 15-10591

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	9.40	10.0	94.0%	9.27	10.0	92.7%	1.4%
1,2-Dichlorobenzene	10.3	10.0	103%	9.79	10.0	97.9%	5.1%
1,3-Dichlorobenzene	8.66	10.0	86.6%	8.37	10.0	83.7%	3.4%
1,4-Dichlorobenzene	8.49 Q	10.0	84.9%	8.05 Q	10.0	80.5%	5.3%
Acrolein	41.8	50.0	83.6%	43.8	50.0	87.6%	4.7%
Iodomethane	10.9	10.0	109%	10.5	10.0	105%	3.7%
Bromoethane	10.3	10.0	103%	9.57	10.0	95.7%	7.3%
Acrylonitrile	7.95 Q	10.0	79.5%	7.44 Q	10.0	74.4%	6.6%
1,1-Dichloropropene	8.80	10.0	88.0%	8.89	10.0	88.9%	1.0%
Dibromomethane	8.43	10.0	84.3%	8.14	10.0	81.4%	3.5%
1,1,1,2-Tetrachloroethane	9.16	10.0	91.6%	8.92	10.0	89.2%	2.7%
1,2-Dibromo-3-chloropropane	8.80	10.0	88.0%	8.49	10.0	84.9%	3.6%
1,2,3-Trichloropropane	8.52	10.0	85.2%	8.35	10.0	83.5%	2.0%
trans-1,4-Dichloro-2-butene	9.05	10.0	90.5%	8.56	10.0	85.6%	5.6%
1,3,5-Trimethylbenzene	9.10	10.0	91.0%	8.91	10.0	89.1%	2.1%
1,2,4-Trimethylbenzene	9.21	10.0	92.1%	9.03	10.0	90.3%	2.0%
Hexachlorobutadiene	9.04	10.0	90.4%	8.70	10.0	87.0%	3.8%
1,2-Dibromoethane	8.36	10.0	83.6%	8.43	10.0	84.3%	0.8%
Bromochloromethane	8.75	10.0	87.5%	8.79	10.0	87.9%	0.5%
2,2-Dichloropropane	8.98	10.0	89.8%	8.93	10.0	89.3%	0.6%
1,3-Dichloropropane	8.53	10.0	85.3%	8.39	10.0	83.9%	1.7%
Isopropylbenzene	9.38	10.0	93.8%	9.06	10.0	90.6%	3.5%
n-Propylbenzene	8.66	10.0	86.6%	8.35	10.0	83.5%	3.6%
Bromobenzene	8.45	10.0	84.5%	8.08	10.0	80.8%	4.5%
2-Chlorotoluene	8.96	10.0	89.6%	8.69	10.0	86.9%	3.1%
4-Chlorotoluene	9.09	10.0	90.9%	8.72	10.0	87.2%	4.2%
tert-Butylbenzene	9.35	10.0	93.5%	8.96	10.0	89.6%	4.3%
sec-Butylbenzene	9.41	10.0	94.1%	9.17	10.0	91.7%	2.6%
4-Isopropyltoluene	9.58	10.0	95.8%	9.22	10.0	92.2%	3.8%
n-Butylbenzene	9.61	10.0	96.1%	9.20	10.0	92.0%	4.4%
1,2,4-Trichlorobenzene	8.58	10.0	85.8%	8.40	10.0	84.0%	2.1%
Naphthalene	9.72	10.0	97.2%	9.56	10.0	95.6%	1.7%
1,2,3-Trichlorobenzene	8.25 Q	10.0	82.5%	7.97 Q	10.0	79.7%	3.5%
Methyl tert-Butyl Ether	8.11	10.0	81.1%	8.63	10.0	86.3%	6.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	103%	101%
d8-Toluene	99.5%	99.8%
Bromofluorobenzene	104%	103%
d4-1,2-Dichlorobenzene	102%	98.9%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW6-1-060415

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SAMPLE

Lab Sample ID: AHI5A

QC Report No: AHI5-ERM-West

LIMS ID: 15-10582

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: *AB*

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 18:08

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	0.21	
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW6-1-060415

SAMPLE



Lab Sample ID: AHI5A

LIMS ID: 15-10582

Matrix: Water

Date Analyzed: 06/09/15 18:08

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	99.9%
Bromofluorobenzene	97.5%
d4-1,2-Dichlorobenzene	105%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW5-1-060415

Page 1 of 2

SAMPLE

Lab Sample ID: AHI5B

QC Report No: AHI5-ERM-West

LIMS ID: 15-10583

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: *[Signature]*

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 18:33

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW5-1-060415

SAMPLE



Lab Sample ID: AHI5B

LIMS ID: 15-10583

Matrix: Water

Date Analyzed: 06/09/15 18:33

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	97.6%
Bromofluorobenzene	98.2%
d4-1,2-Dichlorobenzene	101%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW3-2-060415

Page 1 of 2

SAMPLE

Lab Sample ID: AHI5C

QC Report No: AHI5-ERM-West

LIMS ID: 15-10584

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: *JS*

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 18:57

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	0.29	
75-34-3	1,1-Dichloroethane	0.20	0.38	
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	1.6	
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	1.7	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW3-2-060415

SAMPLE

ANALYTICAL
RESOURCES
INCORPORATED

Lab Sample ID: AHI5C

LIMS ID: 15-10584

Matrix: Water

Date Analyzed: 06/09/15 18:57

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA
266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	97.8%
Bromofluorobenzene	96.0%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW7-1-060415

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SAMPLE

Lab Sample ID: AHI5D

QC Report No: AHI5-ERM-West

LIMS ID: 15-10585

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: 

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 19:22

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	0.20	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	2.2	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW7-1-060415

SAMPLE



Lab Sample ID: AHI5D

QC Report No: AHI5-ERM-West

LIMS ID: 15-10585

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Date Analyzed: 06/09/15 19:22

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	99.7%
Bromofluorobenzene	96.8%
d4-1,2-Dichlorobenzene	100%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW3-5-060415

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SAMPLE

Lab Sample ID: AHI5E

QC Report No: AHI5-ERM-West

LIMS ID: 15-10586

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized:

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 19:47

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	0.25	
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	0.39	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	0.27	
56-23-5	Carbon Tetrachloride	0.20	0.29	
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	26	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	2.8	
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW3-5-060415

SAMPLE



Lab Sample ID: AHI5E

LIMS ID: 15-10586

Matrix: Water

Date Analyzed: 06/09/15 19:47

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	98.4%
Bromofluorobenzene	98.7%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW3-4-060415

Page 1 of 2

SAMPLE

Lab Sample ID: AHI5F

QC Report No: AHI5-ERM-West

LIMS ID: 15-10587

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: *[Signature]*

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 20:11

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	20	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW3-4-060415

SAMPLE



Lab Sample ID: AHI5F

LIMS ID: 15-10587

Matrix: Water

Date Analyzed: 06/09/15 20:11

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	98.3%
Bromofluorobenzene	96.3%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW3-3-060415

Page 1 of 2

SAMPLE

Lab Sample ID: AHI5G

QC Report No: AHI5-ERM-West

LIMS ID: 15-10588

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: 

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 20:36

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	13	
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	3.4	
75-34-3	1,1-Dichloroethane	0.20	0.54	
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	0.26	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	1.1	
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	0.84	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW3-3-060415

SAMPLE



Lab Sample ID: AHI5G

LIMS ID: 15-10588

Matrix: Water

Date Analyzed: 06/09/15 20:36

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	98.1%
Bromofluorobenzene	97.3%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-1-060415

Page 1 of 2

SAMPLE

Lab Sample ID: AHI5H

QC Report No: AHI5-ERM-West

LIMS ID: 15-10589

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized:

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 21:01

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	0.27	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	1.1	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW4-1-060415

SAMPLE



Lab Sample ID: AHI5H

LIMS ID: 15-10589

Matrix: Water

Date Analyzed: 06/09/15 21:01

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA
266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%
d8-Toluene	101%
Bromofluorobenzene	98.0%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-2-060415

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SAMPLE

Lab Sample ID: AHI5I

QC Report No: AHI5-ERM-West

LIMS ID: 15-10590

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: 

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 21:25

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	3.2	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	13	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	0.76	
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW4-2-060415

SAMPLE



Lab Sample ID: AHI5I

LIMS ID: 15-10590

Matrix: Water

Date Analyzed: 06/09/15 21:25

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	98.5%
Bromofluorobenzene	96.6%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-6-060415

Page 1 of 2

SAMPLE

Lab Sample ID: AHI5J

QC Report No: AHI5-ERM-West

LIMS ID: 15-10591

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: *[Signature]*

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 21:50

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	2.0	
75-00-3	Chloroethane	0.20	0.33	
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	0.54	
156-59-2	cis-1,2-Dichloroethene	0.20	35	
67-66-3	Chloroform	0.20	0.25	
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	130	ES
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	0.71	
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW4-6-060415

SAMPLE



Lab Sample ID: AHI5J

LIMS ID: 15-10591

Matrix: Water

Date Analyzed: 06/09/15 21:50

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA
266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	104%
Bromofluorobenzene	97.5%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-6-060415

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DILUTION

Lab Sample ID: AHI5J

QC Report No: AHI5-ERM-West

LIMS ID: 15-10591

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized: 

Date Sampled: 06/04/15

Reported: 06/12/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 1.00 mL

Date Analyzed: 06/10/15 12:19

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	5.0	< 5.0	U
74-83-9	Bromomethane	10	< 10	U
75-01-4	Vinyl Chloride	2.0	2.0	
75-00-3	Chloroethane	2.0	< 2.0	U
75-09-2	Methylene Chloride	10	< 10	U
67-64-1	Acetone	50	< 50	U
75-15-0	Carbon Disulfide	2.0	< 2.0	U
75-35-4	1,1-Dichloroethene	2.0	< 2.0	U
75-34-3	1,1-Dichloroethane	2.0	< 2.0	U
156-60-5	trans-1,2-Dichloroethene	2.0	< 2.0	U
156-59-2	cis-1,2-Dichloroethene	2.0	36	
67-66-3	Chloroform	2.0	< 2.0	U
107-06-2	1,2-Dichloroethane	2.0	< 2.0	U
78-93-3	2-Butanone	50	< 50	U
71-55-6	1,1,1-Trichloroethane	2.0	< 2.0	U
56-23-5	Carbon Tetrachloride	2.0	< 2.0	U
108-05-4	Vinyl Acetate	2.0	< 2.0	U
75-27-4	Bromodichloromethane	2.0	< 2.0	U
78-87-5	1,2-Dichloropropane	2.0	< 2.0	U
10061-01-5	cis-1,3-Dichloropropene	2.0	< 2.0	U
79-01-6	Trichloroethene	2.0	290	
124-48-1	Dibromochloromethane	2.0	< 2.0	U
79-00-5	1,1,2-Trichloroethane	2.0	< 2.0	U
71-43-2	Benzene	2.0	< 2.0	U
10061-02-6	trans-1,3-Dichloropropene	2.0	< 2.0	U
110-75-8	2-Chloroethylvinylether	10	< 10	U
75-25-2	Bromoform	2.0	< 2.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	50	< 50	U
591-78-6	2-Hexanone	50	< 50	U
127-18-4	Tetrachloroethene	2.0	< 2.0	U
79-34-5	1,1,2,2-Tetrachloroethane	2.0	< 2.0	U
108-88-3	Toluene	2.0	< 2.0	U
108-90-7	Chlorobenzene	2.0	< 2.0	U
100-41-4	Ethylbenzene	2.0	< 2.0	U
100-42-5	Styrene	2.0	< 2.0	U
75-69-4	Trichlorofluoromethane	2.0	< 2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	< 2.0	U
179601-23-1	m,p-Xylene	4.0	< 4.0	U
95-47-6	o-Xylene	2.0	< 2.0	U
95-50-1	1,2-Dichlorobenzene	2.0	< 2.0	U
541-73-1	1,3-Dichlorobenzene	2.0	< 2.0	U
106-46-7	1,4-Dichlorobenzene	2.0	< 2.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW4-6-060415

DILUTION

Lab Sample ID: AHI5J

LIMS ID: 15-10591

Matrix: Water

Date Analyzed: 06/10/15 12:19

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	50	< 50	U
74-88-4	Iodomethane	10	< 10	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	10	< 10	U
563-58-6	1,1-Dichloropropene	2.0	< 2.0	U
74-95-3	Dibromomethane	2.0	< 2.0	U
630-20-6	1,1,1,2-Tetrachloroethane	2.0	< 2.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	5.0	< 5.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	< 10	U
108-67-8	1,3,5-Trimethylbenzene	2.0	< 2.0	U
95-63-6	1,2,4-Trimethylbenzene	2.0	< 2.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	1,2-Dibromoethane	2.0	< 2.0	U
74-97-5	Bromochloromethane	2.0	< 2.0	U
594-20-7	2,2-Dichloropropane	2.0	< 2.0	U
142-28-9	1,3-Dichloropropane	2.0	< 2.0	U
98-82-8	Isopropylbenzene	2.0	< 2.0	U
103-65-1	n-Propylbenzene	2.0	< 2.0	U
108-86-1	Bromobenzene	2.0	< 2.0	U
95-49-8	2-Chlorotoluene	2.0	< 2.0	U
106-43-4	4-Chlorotoluene	2.0	< 2.0	U
98-06-6	tert-Butylbenzene	2.0	< 2.0	U
135-98-8	sec-Butylbenzene	2.0	< 2.0	U
99-87-6	4-Isopropyltoluene	2.0	< 2.0	U
104-51-8	n-Butylbenzene	2.0	< 2.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U
1634-04-4	Methyl tert-Butyl Ether	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	97.1%
Bromofluorobenzene	99.1%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: MB-060915A

METHOD BLANK

Lab Sample ID: MB-060915A

LIMS ID: 15-10582

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/12/15

QC Report No: AH15-ERM-West

Project: K2 Facility Vashon, WA

266125

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT7/PAB

Date Analyzed: 06/09/15 13:19

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MB-060915A

METHOD BLANK



Lab Sample ID: MB-060915A

LIMS ID: 15-10582

Matrix: Water

Date Analyzed: 06/09/15 13:19

QC Report No: AH15-ERM-West

Project: K2 Facility Vashon, WA
266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	97.3%
Bromofluorobenzene	99.3%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MB-061015A

Page 1 of 2

METHOD BLANK

Lab Sample ID: MB-061015A

QC Report No: AHI5-ERM-West

LIMS ID: 15-10591

Project: K2 Facility Vashon, WA

Matrix: Water

266125

Data Release Authorized:

Date Sampled: NA

Reported: 06/12/15

Date Received: NA

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/10/15 11:09

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MB-061015A

METHOD BLANK

Lab Sample ID: MB-061015A

LIMS ID: 15-10591

Matrix: Water

Date Analyzed: 06/10/15 11:09

QC Report No: AHI5-ERM-West

Project: K2 Facility Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	98.1%
Bromofluorobenzene	95.7%
d4-1,2-Dichlorobenzene	103%

VOA SURROGATE RECOVERY SUMMARY



Matrix: Water

QC Report No: AHI5-ERM-West
Project: K2 Facility Vashon, WA
266125

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-060915A	Method Blank	10	102%	97.3%	99.3%	102%	0
LCS-060915A	Lab Control	10	100%	100%	102%	99.8%	0
LCSD-060915A	Lab Control Dup	10	101%	97.8%	101%	100%	0
AHI5A	MW6-1-060415	10	105%	99.9%	97.5%	105%	0
AHI5B	MW5-1-060415	10	104%	97.6%	98.2%	101%	0
AHI5C	MW3-2-060415	10	103%	97.8%	96.0%	104%	0
AHI5D	MW7-1-060415	10	105%	99.7%	96.8%	100%	0
AHI5E	MW3-5-060415	10	105%	98.4%	98.7%	102%	0
AHI5F	MW3-4-060415	10	104%	98.3%	96.3%	102%	0
AHI5G	MW3-3-060415	10	104%	98.1%	97.3%	102%	0
AHI5H	MW4-1-060415	10	107%	101%	98.0%	104%	0
AHI5I	MW4-2-060415	10	104%	98.5%	96.6%	103%	0
MB-061015A	Method Blank	10	105%	98.1%	95.7%	103%	0
LCS-061015A	Lab Control	10	103%	99.5%	104%	102%	0
LCSD-061015A	Lab Control Dup	10	101%	99.8%	103%	98.9%	0
AHI5J	MW4-6-060415	10	105%	104%	97.5%	103%	0
AHI5JDL	MW4-6-060415	10	103%	97.1%	99.1%	102%	0

LCS/MB LIMITS

QC LIMITS

SW8260C

(DCE) = d4-1,2-Dichloroethane
(TOL) = d8-Toluene
(BFB) = Bromofluorobenzene
(DCB) = d4-1,2-Dichlorobenzene(80-120)
(80-120)
(80-120)
(80-120)(80-120)
(80-120)
(80-120)
(80-120)

Prep Method: SW5030B

Log Number Range: 15-10582 to 15-10591

AHI5: 00035



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 15, 2015

Mike Arnold
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: Project: K2 Facility
ARI Job No. AHJ0

Dear Mike:

Please find enclosed the final results for the samples from the project referenced above. Six water samples were received on June 5, 2015. The sample was received intact.

The sample were analyzed for VOCs and Dissolved Metals, as requested on the COC.

The VOCs CCALs are out of control low for all associated FORM III "Q" flagged analytes. All associated sample concentrations that contain analyte have been flagged with a "Q" qualifier.

The VOCs 6/8/15 LCS is out of control low for several analytes. The LCSD is in control.

The VOCs surrogate TOL is out of control high in association with sample MW-4-5-060515. The sample was re-analyzed at a dilution with surrogate recoveries in control

The analysis proceeded without any other incident of note.

An electronic copy of these reports will remain on file with ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem
Client Services Manager
206/695-6211

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arlabs.com



Page: 1	of 1
Date: 6/5/15	Ice Present? X 25
No of Coolers: 1	Cooler Temps 3.7

ARI Assigned Number:	Turn-around Requested: Standard
ARI Client Company	Phone 425-462-8591
Client Contact	M. Ke Arnold

Client Project Name:	Kd Site			
Client Project #:	266125			
Samplers:	M. Brine G. Turner			
	etals*	060104	080603	Analysis Requested

[illegible]

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Sample ID Cross Reference Report



ARI Job No: AHJ0
Client: ERM-West
Project Event: 266125
Project Name: K2 Site Vashon,WA

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MW1-1-060515	AHJOA	15-10620	Water	06/05/15 08:42	06/05/15 16:15
2. MW1-2-060515	AHJOB	15-10621	Water	06/05/15 09:38	06/05/15 16:15
3. MW4-3-060515	AHJOC	15-10622	Water	06/05/15 10:40	06/05/15 16:15
4. MW4-5-060515	AHJOD	15-10623	Water	06/05/15 12:13	06/05/15 16:15
5. MW1-3-060515	AHJOE	15-10624	Water	06/05/15 13:35	06/05/15 16:15
6. MW4-4-060515	AHJOF	15-10625	Water	06/05/15 12:35	06/05/15 16:15



Cooler Receipt Form

ARI Client ERM

COC No(s) _____

Assigned ARI Job No AH30

Project Name: K2 Site Vashon, WA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No _____

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES ☒ NO ☒

Were custody papers included with the cooler? YES ☒ NO ☐

Were custody papers properly filled out (ink, signed, etc.) YES ☒ NO ☐

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1615 3.7

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID# 90377952

Cooler Accepted by: CA Date 6-5-15 Time: 1615

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES ☒ NO ☒

What kind of packing material was used? .. Bubble Wrap ☒ Wet Ice ☒ Gel Packs ☒ Baggies ☐ Foam Block ☐ Paper ☐ Other: _____

Was sufficient ice used (if appropriate)? NA YES ☒ NO ☐

Were all bottles sealed in individual plastic bags? YES ☒ NO ☒

Did all bottles arrive in good condition (unbroken)? YES ☒ NO ☐

Were all bottle labels complete and legible? YES ☒ NO ☐

Did the number of containers listed on COC match with the number of containers received? .. YES ☒ NO ☐

Did all bottle labels and tags agree with custody papers? YES ☒ NO ☐

Were all bottles used correct for the requested analyses? YES ☒ NO ☐

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs).. NA YES ☒ NO ☐

Were all VOC vials free of air bubbles? NA YES ☒ NO ☐

Was sufficient amount of sample sent in each bottle? YES ☒ NO ☐

Date VOC Trip Blank was made at ARI NA

Was Sample Split by ARI . ☒ NA YES Date/Time: _____ Equipment _____ Split by _____

Samples Logged by TS Date: 6-6-15 Time: 1001

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By _____ Date _____

Small Air Bubbles ~ 2mm 	Peabubbles 2-4 mm 	LARGE Air Bubbles > 4 mm 	Small → "sm" (< 2 mm) Peabubbles → "pb" (2 to < 4 mm) Large → "lg" (4 to < 6 mm) Headspace → "hs" (> 6 mm)



ARI Job No: AHJO

PC: Kelly
VTSR: 06/05/15

Inquiry Number: NONE
Analysis Requested: 06/08/15
Contact: Arnold, Mike
Client: ERM-West
Logged by: TS
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: 266125
Project: K2 Site Vashon, WA
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM	ARI ID	CLIENT ID	CN	WAD	NH3	COD	POG	MET	PHEN	PHOS	TKN	NO23	TOC	S2	TPHD	Fe2+	DMET DOC	FLT	FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
15-10620	AHJOA	MW1-1-060515						DIS									N					2146	4mL	6-08-15 TH
15-10621	AHJOB	MW1-2-060515						DIS									N							

Filtered + Preserved in Lab
6-08-15 TH

Checked By TS Date 6-6-15

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW1-1-060515

Page 1 of 2

SAMPLE

Lab Sample ID: AHJ0A

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10620

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *MMW*

Date Sampled: 06/05/15

Reported: 06/10/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/08/15 16:49

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	1.4	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-2	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW1-1-060515

SAMPLE



Lab Sample ID: AHJ0A

LIMS ID: 15-10620

Matrix: Water

Date Analyzed: 06/08/15 16:49

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	99.6%
Bromofluorobenzene	96.8%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW1-2-060515

Page 1 of 2

SAMPLE

Lab Sample ID: AHJ0B

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10621

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *mm*

Date Sampled: 06/05/15

Reported: 06/10/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/08/15 17:14

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	0.68	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW1-2-060515

SAMPLE



Lab Sample ID: AHJ0B

LIMS ID: 15-10621

Matrix: Water

Date Analyzed: 06/08/15 17:14

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	97.6%
Bromocfluorobenzene	95.9%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-3-060515

Page 1 of 2

SAMPLE

Lab Sample ID: AHJ0C

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10622

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *MW*

Date Sampled: 06/05/15

Reported: 06/10/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/08/15 17:39

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	0.69	
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	0.44	
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	6.3	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	60	E
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	0.58	
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW4-3-060515

SAMPLE

ANALYTICAL
RESOURCES
INCORPORATED

Lab Sample ID: AHJ0C

LIMS ID: 15-10622

Matrix: Water

Date Analyzed: 06/08/15 17:39

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	99.1%
Bromofluorobenzene	97.1%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 1 of 2

**ANALYTICAL
RESOURCES
INCORPORATED**

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: 06/05/15

Date Received: 06/05/15

Sample Amount: 3.33 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	1.5	< 1.5	U
74-83-9	Bromomethane	3.0	< 3.0	U
75-01-4	Vinyl Chloride	0.60	0.60	
75-00-3	Chloroethane	0.60	< 0.60	U
75-09-2	Methylene Chloride	3.0	< 3.0	U
67-64-1	Acetone	15	< 15	U
75-15-0	Carbon Disulfide	0.60	< 0.60	U
75-35-4	1,1-Dichloroethene	0.60	< 0.60	U
75-34-3	1,1-Dichloroethane	0.60	< 0.60	U
156-60-5	trans-1,2-Dichloroethene	0.60	< 0.60	U
156-59-2	cis-1,2-Dichloroethene	0.60	5.7	
67-66-3	Chloroform	0.60	< 0.60	U
107-06-2	1,2-Dichloroethane	0.60	< 0.60	U
78-93-3	2-Butanone	15	< 15	U
71-55-6	1,1,1-Trichloroethane	0.60	< 0.60	U
56-23-5	Carbon Tetrachloride	0.60	< 0.60	U
108-05-4	Vinyl Acetate	0.60	< 0.60	U
75-27-4	Bromodichloromethane	0.60	< 0.60	U
78-87-5	1,2-Dichloropropane	0.60	< 0.60	U
10061-01-5	cis-1,3-Dichloropropene	0.60	< 0.60	U
79-01-6	Trichloroethene	0.60	65	
124-48-1	Dibromochloromethane	0.60	< 0.60	U
79-00-5	1,1,2-Trichloroethane	0.60	< 0.60	U
71-43-2	Benzene	0.60	< 0.60	U
10061-02-6	trans-1,3-Dichloropropene	0.60	< 0.60	U
110-75-8	2-Chloroethylvinylether	3.0	< 3.0	U
75-25-2	Bromoform	0.60	< 0.60	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	15	< 15	U
591-78-6	2-Hexanone	15	< 15	U
127-18-4	Tetrachloroethene	0.60	< 0.60	U
79-34-5	1,1,2,2-Tetrachloroethane	0.60	< 0.60	U
108-88-3	Toluene	0.60	< 0.60	U
108-90-7	Chlorobenzene	0.60	< 0.60	U
100-41-4	Ethylbenzene	0.60	< 0.60	U
100-42-5	Styrene	0.60	< 0.60	U
75-69-4	Trichlorofluoromethane	0.60	< 0.60	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.60	< 0.60	U
173601-23-1	m,p-Xylene	1.2	< 1.2	U
95-47-6	o-Xylene	0.60	< 0.60	U
95-50-1	1,2-Dichlorobenzene	0.60	< 0.60	U
541-73-1	1,3-Dichlorobenzene	0.60	< 0.60	U
106-46-7	1,4-Dichlorobenzene	0.60	< 0.60	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW4-3-060515

DILUTION



Lab Sample ID: AHJ0C

LIMS ID: 15-10622

Matrix: Water

Date Analyzed: 06/09/15 16:05

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	15	< 15	U
74-88-4	Iodomethane	3.0	< 3.0	U
74-96-4	Bromoethane	0.60	< 0.60	U
107-13-1	Acrylonitrile	3.0	< 3.0	U
563-58-6	1,1-Dichloropropene	0.60	< 0.60	U
74-95-3	Dibromomethane	0.60	< 0.60	U
630-20-6	1,1,1,2-Tetrachloroethane	0.60	< 0.60	U
96-12-8	1,2-Dibromo-3-chloropropane	1.5	< 1.5	U
96-18-4	1,2,3-Trichloropropane	1.5	< 1.5	U
110-57-6	trans-1,4-Dichloro-2-butene	3.0	< 3.0	U
108-67-8	1,3,5-Trimethylbenzene	0.60	< 0.60	U
95-63-6	1,2,4-Trimethylbenzene	0.60	< 0.60	U
87-68-3	Hexachlorobutadiene	1.5	< 1.5	U
106-93-4	1,2-Dibromoethane	0.60	< 0.60	U
74-97-5	Bromochloromethane	0.60	< 0.60	U
594-20-7	2,2-Dichloropropane	0.60	< 0.60	U
142-28-9	1,3-Dichloropropane	0.60	< 0.60	U
98-82-8	Isopropylbenzene	0.60	< 0.60	U
103-65-1	n-Propylbenzene	0.60	< 0.60	U
108-86-1	Bromobenzene	0.60	< 0.60	U
95-49-8	2-Chlorotoluene	0.60	< 0.60	U
106-43-4	4-Chlorotoluene	0.60	< 0.60	U
98-06-6	tert-Butylbenzene	0.60	< 0.60	U
135-98-8	sec-Butylbenzene	0.60	< 0.60	U
99-87-6	4-Isopropyltoluene	0.60	< 0.60	U
104-51-8	n-Butylbenzene	0.60	< 0.60	U
120-82-1	1,2,4-Trichlorobenzene	1.5	< 1.5	U
91-20-3	Naphthalene	1.5	< 1.5	U
87-61-6	1,2,3-Trichlorobenzene	1.5	< 1.5	U
1634-04-4	Methyl tert-Butyl Ether	1.5	< 1.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	98.2%
Bromofluorobenzene	96.9%
d4-1,2-Dichlorobenzene	100%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-5-060515

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SAMPLE

Lab Sample ID: AHJ0D

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10623

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *MMW*

Date Sampled: 06/05/15

Reported: 06/10/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/08/15 18:03

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	5.9	
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	0.92	
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	1.8	
156-59-2	cis-1,2-Dichloroethene	0.20	110	E
67-66-3	Chloroform	0.20	0.57	
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-97-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	310	ES
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	0.37	
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	2.2	
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW4-5-060515

SAMPLE

Lab Sample ID: AHJ0D

LIMS ID: 15-10623

Matrix: Water

Date Analyzed: 06/08/15 18:03

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
103-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	124%
Bromofluorobenzene	99.0%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2



Sample ID: MW4-5-060515

DILUTION

Lab Sample ID: AHJ0D

LIMS ID: 15-10623

Matrix: Water

Data Release Authorized: *MW*

Reported: 06/10/15

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: 06/05/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Date Analyzed: 06/09/15 16:30

Sample Amount: 0.100 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	50	< 50	U
74-83-9	Bromomethane	100	< 100	U
75-01-4	Vinyl Chloride	20	< 20	U
75-00-3	Chloroethane	20	< 20	U
75-09-2	Methylene Chloride	100	< 100	U
67-64-1	Acetone	500	< 500	U
75-15-0	Carbon Disulfide	20	< 20	U
75-35-4	1,1-Dichloroethene	20	< 20	U
75-34-3	1,1-Dichloroethane	20	< 20	U
156-60-5	trans-1,2-Dichloroethene	20	< 20	U
156-59-2	cis-1,2-Dichloroethene	20	180	
67-66-3	Chloroform	20	< 20	U
107-06-2	1,2-Dichloroethane	20	< 20	U
78-93-3	2-Butanone	500	< 500	U
71-55-6	1,1,1-Trichloroethane	20	< 20	U
56-23-5	Carbon Tetrachloride	20	< 20	U
108-05-4	Vinyl Acetate	20	< 20	U
75-27-4	Bromodichloromethane	20	< 20	U
78-87-5	1,2-Dichloropropane	20	< 20	U
10061-01-5	cis-1,3-Dichloropropene	20	< 20	U
79-01-6	Trichloroethene	20	1,600	
124-48-1	Dibromochloromethane	20	< 20	U
79-00-5	1,1,2-Trichloroethane	20	< 20	U
71-43-2	Benzene	20	< 20	U
10061-02-6	trans-1,3-Dichloropropene	20	< 20	U
110-75-8	2-Chloroethylvinylether	100	< 100	U
75-25-2	Bromoform	20	< 20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	500	< 500	U
591-78-6	2-Hexanone	500	< 500	U
127-18-4	Tetrachloroethene	20	< 20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	< 20	U
108-88-3	Toluene	20	< 20	U
108-90-7	Chlorobenzene	20	< 20	U
100-41-4	Ethylbenzene	20	< 20	U
100-42-5	Styrene	20	< 20	U
75-69-4	Trichlorofluoromethane	20	< 20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	20	< 20	U
179601-23-1	m,p-Xylene	40	< 40	U
95-47-6	o-Xylene	20	< 20	U
95-50-1	1,2-Dichlorobenzene	20	< 20	U
541-73-1	1,3-Dichlorobenzene	20	< 20	U
106-46-7	1,4-Dichlorobenzene	20	< 20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW4-5-060515

DILUTION

Lab Sample ID: AHJ0D

LIMS ID: 15-10623

Matrix: Water

Date Analyzed: 06/09/15 16:30

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	500	< 500	U
74-88-4	Iodomethane	100	< 100	U
74-96-4	Bromoethane	20	< 20	U
107-13-1	Acrylonitrile	100	< 100	U
563-58-6	1,1-Dichloropropene	20	< 20	U
74-95-3	Dibromomethane	20	< 20	U
630-20-6	1,1,1,2-Tetrachloroethane	20	< 20	U
96-12-8	1,2-Dibromo-3-chloropropane	50	< 50	U
96-18-4	1,2,3-Trichloropropane	50	< 50	U
110-57-6	trans-1,4-Dichloro-2-butene	100	< 100	U
108-67-8	1,3,5-Trimethylbenzene	20	< 20	U
95-63-6	1,2,4-Trimethylbenzene	20	< 20	U
87-68-3	Hexachlorobutadiene	50	< 50	U
106-93-4	1,2-Dibromoethane	20	< 20	U
74-97-5	Bromochloromethane	20	< 20	U
594-20-7	2,2-Dichloropropane	20	< 20	U
142-28-9	1,3-Dichloropropane	20	< 20	U
98-82-8	Isopropylbenzene	20	< 20	U
103-65-1	n-Propylbenzene	20	< 20	U
108-86-1	Bromobenzene	20	< 20	U
95-49-8	2-Chlorotoluene	20	< 20	U
106-43-4	4-Chlorotoluene	20	< 20	U
98-06-6	tert-Butylbenzene	20	< 20	U
135-98-8	sec-Butylbenzene	20	< 20	U
99-87-6	4-Isopropyltoluene	20	< 20	U
104-51-8	n-Butylbenzene	20	< 20	U
120-82-1	1,2,4-Trichlorobenzene	50	< 50	U
91-20-3	Naphthalene	50	< 50	U
87-61-6	1,2,3-Trichlorobenzene	50	< 50	U
1634-04-4	Methyl tert-Butyl Ether	50	< 50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	96.9%
Bromofluorobenzene	98.5%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW1-3-060515

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SAMPLE

Lab Sample ID: AHJOE

QC Report No: AHJO-ERM-West

LIMS ID: 15-10624

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *mmw*

Date Sampled: 06/05/15

Reported: 06/10/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 16:54

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	5.0	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MW1-3-060515

SAMPLE



Lab Sample ID: AHJOE

LIMS ID: 15-10624

Matrix: Water

Date Analyzed: 06/09/15 16:54

QC Report No: AHJO-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	100%
Bromofluorobenzene	98.5%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW4-4-060515

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SAMPLE

Lab Sample ID: AHJ0F

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10625

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *[Signature]*

Date Sampled: 06/05/15

Reported: 06/10/15

Date Received: 06/05/15

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 17:19

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	6.8	
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	2.0	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	31	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-i	4-Methyl-2-Pentanone (MJBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	0.22	
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MW4-4-060515

SAMPLE



Lab Sample ID: AHJ0F

LIMS ID: 15-10625

Matrix: Water

Date Analyzed: 06/09/15 17:19

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromobethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	98.0%
Bromofluorobenzene	98.4%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MB-060815A

Page 1 of 2

METHOD BLANK

Lab Sample ID: MB-060815A

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10620

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *mm*

Date Sampled: NA

Reported: 06/10/15

Date Received: NA

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/08/15 13:16

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: MB-060815A

METHOD BLANK



Lab Sample ID: MB-060815A

LIMS ID: 15-10620

Matrix: Water

Date Analyzed: 06/08/15 13:16

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
93-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	96.9%
Bromofluorobenzene	98.2%
d4-1,2-Dichlorobenzene	101%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MB-060915A

Page 1 of 2

METHOD BLANK

Lab Sample ID: MB-060915A

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10624

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *mm*

Date Sampled: NA

Reported: 06/10/15

Date Received: NA

Instrument/Analyst: NT7/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/09/15 13:19

Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MB-060915A

METHOD BLANK

Lab Sample ID: MB-060915A

LIMS ID: 15-10624

Matrix: Water

Date Analyzed: 06/09/15 13:19

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U
1634-04-4	Methyl tert-Butyl Ether	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	97.3%
Bromofluorobenzene	99.3%
d4-1,2-Dichlorobenzene	102%

VOA SURROGATE RECOVERY SUMMARY



Matrix: Water

 QC Report No: AHJ0-ERM-West
 Project: K2 Site Vashon, WA
 266125

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-060815A	Method Blank	10	101%	96.9%	98.2%	101%	0
LCS-060815A	Lab Control	10	99.3%	99.9%	102%	99.1%	0
LCSD-060815A	Lab Control Dup	10	99.0%	100%	104%	99.4%	0
AHJ0A	MW1-1-060515	10	103%	99.6%	96.8%	102%	0
AHJ0B	MW1-2-060515	10	102%	97.6%	95.9%	102%	0
AHJ0C	MW4-3-060515	10	103%	99.1%	97.1%	102%	0
AHJ0CDL	MW4-3-060515	10	103%	98.2%	96.9%	100%	0
AHJ0D	MW4-5-060515	10	104%	124%	99.0%	102%	1
AHJ0DDL	MW4-5-060515	10	103%	96.9%	98.5%	103%	0
MB-060915A	Method Blank	10	102%	97.3%	99.3%	102%	0
LCS-060915A	Lab Control	10	100%	100%	102%	99.8%	0
LCSD-060915A	Lab Control Dup	10	101%	97.8%	101%	100%	0
AHJ0E	MW1-3-060515	10	105%	100%	98.5%	104%	0
AHJ0F	MW4-4-060515	10	104%	98.0%	98.4%	103%	0

LCS/MB LIMITS

QC LIMITS

SW8260C

(DCE) = d4-1,2-Dichloroethane
 (TOL) = d8-Toluene
 (BFB) = Bromofluorobenzene
 (DCB) = d4-1,2-Dichlorobenzene

(80-120)
 (80-120)
 (80-120)
 (80-120)

(80-120)
 (80-120)
 (80-120)
 (80-120)

Prep Method: SW5030B
 Log Number Range: 15-10620 to 15-10625

AHJ0-266125

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-060815A

Page 1 of 2

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060815A

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10620

Project: K2 Site Vashon, WA

Matrix: Water

266125

Data Release Authorized: *mw*

Date Sampled: NA

Reported: 06/10/15

Date Received: NA

Instrument/Analyst LCS: NT7/PAB

Sample Amount LCS: 10.0 mL

LCSD: NT7/PAB

LCSD: 10.0 mL

Date Analyzed LCS: 06/08/15 12:27

Purge Volume LCS: 10.0 mL

LCSD: 06/08/15 12:51

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	8.13	10.0	81.3%	8.61	10.0	86.1%	5.7
Bromomethane	8.69	10.0	86.9%	10.4	10.0	104%	17.9%
Vinyl Chloride	8.45	10.0	84.5%	9.08	10.0	90.8%	7.2%
Chloroethane	8.86	10.0	88.6%	10.2	10.0	102%	14.1%
Methylene Chloride	8.90	10.0	89.0%	9.51	10.0	95.1%	6.6%
Acetone	39.4	50.0	78.8%	43.0	50.0	86.0%	8.7%
Carbon Disulfide	9.36	10.0	93.6%	9.69	10.0	96.9%	3.5%
1,1-Dichloroethene	8.67	10.0	86.7%	9.17	10.0	91.7%	5.6%
1,1-Dichloroethane	8.43	10.0	84.3%	9.06	10.0	90.6%	7.2%
trans-1,2-Dichloroethene	8.40	10.0	84.0%	8.96	10.0	89.6%	6.5%
cis-1,2-Dichloroethene	8.40	10.0	84.0%	9.01	10.0	90.1%	7.0%
Chloroform	8.54	10.0	85.4%	9.08	10.0	90.8%	6.1%
1,2-Dichloroethane	8.48	10.0	84.8%	9.10	10.0	91.0%	7.1%
2-Butanone	38.6	50.0	77.2%	41.2	50.0	82.4%	6.5%
1,1,1-Trichloroethane	8.66	10.0	86.6%	9.24	10.0	92.4%	6.5%
Carbon Tetrachloride	8.98	10.0	89.8%	9.82	10.0	98.2%	8.9%
Vinyl Acetate	8.00	10.0	80.0%	8.74	10.0	87.4%	8.8%
Bromodichloromethane	8.96	10.0	89.6%	9.52	10.0	95.2%	6.1%
1,2-Dichloropropane	8.35	10.0	83.5%	8.95	10.0	89.5%	6.9%
cis-1,3-Dichloropropene	8.84	10.0	88.4%	9.69	10.0	96.9%	9.2%
Trichloroethene	8.53	10.0	85.3%	9.11	10.0	91.1%	6.6%
Dibromochloromethane	8.76	10.0	87.6%	9.55	10.0	95.5%	8.6%
1,1,2-Trichloroethane	8.13	10.0	81.3%	8.89	10.0	88.9%	8.9%
Benzene	8.76	10.0	87.6%	9.39	10.0	93.9%	6.9%
trans-1,3-Dichloropropene	8.71	10.0	87.1%	9.44	10.0	94.4%	8.0%
2-Chloroethylvinylether	8.71	10.0	87.1%	9.50	10.0	95.0%	8.7%
Bromoform	8.85	10.0	88.5%	9.34	10.0	93.4%	5.4%
4-Methyl-2-Pentanone (MIBK)	39.4	50.0	78.8%	43.3	50.0	86.6%	9.4%
2-Hexanone	41.0	50.0	82.0%	44.6	50.0	89.2%	8.4%
Tetrachloroethene	8.65	10.0	86.5%	9.23	10.0	92.3%	6.5%
1,1,2,2-Tetrachloroethane	8.94	10.0	89.4%	9.42	10.0	94.2%	5.2%
Toluene	8.65	10.0	86.5%	9.33	10.0	93.3%	7.6%
Chlorobenzene	8.45	10.0	84.5%	9.03	10.0	90.3%	6.6%
Ethylbenzene	8.82	10.0	88.2%	9.51	10.0	95.1%	7.5%
Styrene	9.59	10.0	95.9%	10.3	10.0	103%	7.1%
Trichlorofluoromethane	10.9	10.0	109%	11.5	10.0	115%	5.4%
1,1,2-Trichloro-1,2,2-trifluoroethane	8.62	10.0	86.2%	9.38	10.0	93.8%	8.4%
m,p-Xylene	18.2	20.0	91.0%	19.6	20.0	98.0%	7.4%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2



Sample ID: LCS-060815A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060815A

LIMS ID: 15-10620

Matrix: Water

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	9.05	10.0	90.5%	9.92	10.0	99.2%	9.2%
1,2-Dichlorobenzene	9.68	10.0	96.8%	10.4	10.0	104%	7.2%
1,3-Dichlorobenzene	8.26	10.0	82.6%	8.70	10.0	87.0%	5.2%
1,4-Dichlorobenzene	7.91	10.0	79.1%	8.47	10.0	84.7%	6.8%
Acrolein	42.5	50.0	85.0%	47.2	50.0	94.4%	10.5%
Iodomethane	9.10	10.0	91.0%	10.1	10.0	101%	10.4%
Bromoethane	9.32	10.0	93.2%	9.90	10.0	99.0%	6.0%
Acrylonitrile	7.10 Q	10.0	71.0%	8.12 Q	10.0	81.2%	13.4%
1,1-Dichloropropene	8.68	10.0	86.8%	9.40	10.0	94.0%	8.0%
Dibromomethane	8.33	10.0	83.3%	9.01	10.0	90.1%	7.8%
1,1,1,2-Tetrachloroethane	8.74	10.0	87.4%	9.23	10.0	92.3%	5.5%
1,2-Dibromo-3-chloropropane	8.14	10.0	81.4%	9.10	10.0	91.0%	11.1%
1,2,3-Trichloropropane	8.29	10.0	82.9%	8.49	10.0	84.9%	2.4%
trans-1,4-Dichloro-2-butene	8.34	10.0	83.4%	8.87	10.0	88.7%	6.2%
1,3,5-Trimethylbenzene	8.69	10.0	86.9%	9.43	10.0	94.3%	8.2%
1,2,4-Trimethylbenzene	8.82	10.0	88.2%	9.65	10.0	96.5%	9.0%
Hexachlorobutadiene	8.65	10.0	86.5%	9.18	10.0	91.8%	5.9%
1,2-Dibromoethane	8.38	10.0	83.8%	9.04	10.0	90.4%	7.6%
Bromochloromethane	8.52	10.0	85.2%	9.19	10.0	91.9%	7.6%
2,2-Dichloropropane	8.82	10.0	88.2%	9.33	10.0	93.3%	5.6%
1,3-Dichloropropane	8.37	10.0	83.7%	9.08	10.0	90.8%	8.1%
Isopropylbenzene	9.01	10.0	90.1%	9.53	10.0	95.3%	5.6%
n-Propylbenzene	8.22	10.0	82.2%	8.68	10.0	86.8%	5.4%
Bromobenzene	8.02	10.0	80.2%	8.57	10.0	85.7%	6.6%
2-Chlorotoluene	8.56	10.0	85.6%	9.02	10.0	90.2%	5.2%
4-Chlorotoluene	8.58	10.0	85.8%	9.12	10.0	91.2%	6.1%
tert-Butylbenzene	8.85	10.0	88.5%	9.39	10.0	93.9%	5.9%
sec-Butylbenzene	9.08	10.0	90.8%	9.61	10.0	96.1%	5.7%
4-Isopropyltoluene	9.05	10.0	90.5%	9.73	10.0	97.3%	7.2%
n-Butylbenzene	9.11	10.0	91.1%	9.70	10.0	97.0%	6.3%
1,2,4-Trichlorobenzene	8.21	10.0	82.1%	8.91	10.0	89.1%	6.2%
Naphthalene	9.24	10.0	92.4%	9.69	10.0	96.9%	4.8%
1,2,3-Trichlorobenzene	7.79	10.0	77.9%	8.60	10.0	86.0%	9.9%
Methyl tert-Butyl Ether	8.38	10.0	83.8%	9.10	10.0	91.0%	8.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	99.3%	99.0%
d8-Toluene	99.9%	100%
Bromofluorobenzene	102%	104%
d4-1,2-Dichlorobenzene	99.1%	99.4%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-060915A

Page 1 of 2

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060915A

QC Report No: AHJ0-ERM-West

LIMS ID: 15-10624

Project: K2 Site Vason, WA

Matrix: Water

266125

Data Release Authorized: *mm*

Date Sampled: NA

Reported: 06/10/15

Date Received: NA

Instrument/Analyst LCS: NT7/PAB

Sample Amount LCS: 10.0 mL

LCSD: NT7/PAB

LCSD: 10.0 mL

Date Analyzed LCS: 06/09/15 12:54

Purge Volume LCS: 10.0 mL

LCSD: 06/09/15 14:02

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	8.18	10.0	81.8%	8.26	10.0	82.6%	1.0%
Bromomethane	9.86	10.0	98.6%	8.72	10.0	87.2%	12.3%
Vinyl Chloride	8.91	10.0	89.1%	8.55	10.0	85.5%	4.1%
Chloroethane	8.77	10.0	87.7%	8.82	10.0	88.2%	0.6%
Methylene Chloride	8.36	10.0	83.6%	8.39	10.0	83.9%	0.4%
Acetone	40.2	50.0	80.4%	41.8	50.0	83.6%	3.9%
Carbon Disulfide	9.16	10.0	91.6%	8.84	10.0	88.4%	3.6%
1,1-Dichloroethene	8.68	10.0	86.8%	8.87	10.0	88.7%	2.2%
1,1-Dichloroethane	8.46	10.0	84.6%	8.51	10.0	85.1%	0.6%
trans-1,2-Dichloroethene	8.12	10.0	81.2%	7.98	10.0	79.8%	1.7%
cis-1,2-Dichloroethene	8.38	10.0	83.8%	8.47	10.0	84.7%	1.1%
Chloroform	8.47	10.0	84.7%	8.52	10.0	85.2%	0.6%
1,2-Dichloroethane	8.72	10.0	87.2%	8.70	10.0	87.0%	0.2%
2-Butanone	39.4 Q	50.0	78.8%	40.6 Q	50.0	81.2%	3.0%
1,1,1-Trichloroethane	8.58	10.0	85.8%	8.65	10.0	86.5%	0.8%
Carbon Tetrachloride	9.12	10.0	91.2%	8.92	10.0	89.2%	2.2%
Vinyl Acetate	8.06	10.0	80.6%	8.26	10.0	82.6%	2.5%
Bromodichloromethane	8.78	10.0	87.8%	8.82	10.0	88.2%	0.5%
1,2-Dichloropropane	8.41	10.0	84.1%	8.26	10.0	82.6%	1.8%
cis-1,3-Dichloropropene	8.96	10.0	89.6%	8.89	10.0	88.9%	0.8%
Trichloroethene	8.55	10.0	85.5%	8.70	10.0	87.0%	1.7%
Dibromochloromethane	8.72	10.0	87.2%	8.65	10.0	86.5%	0.8%
1,1,2-Trichloroethane	8.13	10.0	81.3%	8.13	10.0	81.3%	0.0%
Benzene	8.80	10.0	88.0%	8.71	10.0	87.1%	1.0%
trans-1,3-Dichloropropene	8.88	10.0	88.8%	8.80	10.0	88.0%	0.9%
2-Chloroethylvinylether	8.80	10.0	88.0%	8.66	10.0	86.6%	1.6%
Bromoform	8.79	10.0	87.9%	8.71	10.0	87.1%	0.9%
4-Methyl-2-Pentanone (MIBK)	40.6	50.0	81.2%	40.4	50.0	80.8%	0.5%
2-Hexanone	41.3	50.0	82.6%	42.2	50.0	84.4%	2.2%
Tetrachloroethene	8.62	10.0	86.2%	8.68	10.0	86.8%	0.7%
1,1,2,2-Tetrachloroethane	8.86	10.0	88.6%	8.65	10.0	86.5%	2.4%
Toluene	8.78	10.0	87.8%	8.56	10.0	85.6%	2.5%
Chlorobenzene	8.47	10.0	84.7%	8.54	10.0	85.4%	0.8%
Ethylbenzene	8.61	10.0	86.1%	8.71	10.0	87.1%	1.2%
Styrene	9.16	10.0	91.6%	9.19	10.0	91.9%	0.3%
Trichlorofluoromethane	10.7	10.0	107%	11.0	10.0	110%	2.8%
1,1,2-Trichloro-1,2,2-trifluoroethane	8.68	10.0	86.8%	8.61	10.0	86.1%	0.8%
m,p-Xylene	18.0	20.0	90.0%	17.9	20.0	89.5%	0.6%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2



Sample ID: LCS-060915A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060915A

LIMS ID: 15-10624

Matrix: Water

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	8.93	10.0	89.3%	8.99	10.0	89.9%	0.7%
1,2-Dichlorobenzene	9.90	10.0	99.0%	9.82	10.0	98.2%	0.8%
1,3-Dichlorobenzene	8.39	10.0	83.9%	8.47	10.0	84.7%	0.9%
1,4-Dichlorobenzene	8.08	10.0	80.8%	8.07	10.0	80.7%	0.1%
Acrolein	46.7	50.0	93.4%	44.7	50.0	89.4%	4.4%
Iodomethane	10.1	10.0	101%	9.31	10.0	93.1%	8.1%
Bromoethane	9.20	10.0	92.0%	8.99	10.0	89.9%	2.3%
Acrylonitrile	7.77 Q	10.0	77.7%	7.58 Q	10.0	75.8%	2.5%
1,1-Dichloropropene	8.84	10.0	88.4%	8.56	10.0	85.6%	3.2%
Dibromomethane	8.30	10.0	83.0%	8.34	10.0	83.4%	0.5%
1,1,1,2-Tetrachloroethane	8.61	10.0	86.1%	8.54	10.0	85.4%	0.8%
1,2-Dibromo-3-chloropropane	8.64	10.0	86.4%	8.46	10.0	84.6%	2.1%
1,2,3-Trichloropropane	8.20	10.0	82.0%	8.11	10.0	81.1%	1.1%
trans-1,4-Dichloro-2-butene	8.73	10.0	87.3%	8.76	10.0	87.6%	0.3%
1,3,5-Trimethylbenzene	8.80	10.0	88.0%	8.78	10.0	87.8%	0.2%
1,2,4-Trimethylbenzene	8.99	10.0	89.9%	8.87	10.0	88.7%	1.3%
Hexachlorobutadiene	8.55	10.0	85.5%	8.71	10.0	87.1%	1.9%
1,2-Dibromoethane	8.47	10.0	84.7%	8.23	10.0	82.3%	2.9%
Bromochloromethane	8.56	10.0	85.6%	8.69	10.0	86.9%	1.5%
2,2-Dichloropropane	8.85	10.0	88.5%	8.84	10.0	88.4%	0.1%
1,3-Dichloropropane	8.23	10.0	82.3%	8.25	10.0	82.5%	0.2%
Isopropylbenzene	9.13	10.0	91.3%	9.08	10.0	90.8%	0.5%
n-Propylbenzene	8.38	10.0	83.8%	8.31	10.0	83.1%	0.8%
Bromobenzene	8.18	10.0	81.8%	8.13	10.0	81.3%	0.6%
2-Chlorotoluene	8.61	10.0	86.1%	8.68	10.0	86.8%	0.8%
4-Chlorotoluene	8.70	10.0	87.0%	8.67	10.0	86.7%	0.3%
tert-Butylbenzene	9.02	10.0	90.2%	9.02	10.0	90.2%	0.0%
sec-Butylbenzene	9.18	10.0	91.8%	9.08	10.0	90.8%	1.1%
4-Isopropyltoluene	9.25	10.0	92.5%	9.29	10.0	92.9%	0.4%
n-Butylbenzene	9.22	10.0	92.2%	9.34	10.0	93.4%	1.3%
1,2,4-Trichlorobenzene	8.34	10.0	83.4%	8.32	10.0	83.2%	0.2%
Naphthalene	9.48	10.0	94.8%	9.17	10.0	91.7%	3.3%
1,2,3-Trichlorobenzene	8.03 Q	10.0	80.3%	7.97 Q	10.0	79.7%	0.7%
Methyl tert-Butyl Ether	8.30	10.0	83.0%	8.19	10.0	81.9%	1.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	100%	101%
d8-Toluene	100%	97.8%
Bromofluorobenzene	102%	101%
d4-1,2-Dichlorobenzene	99.8%	100%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW1-1-060515

SAMPLE

Lab Sample ID: AHJ0A

LIMS ID: 15-10620

Matrix: Water

Data Release Authorized: *gi*

Reported: 06/15/15

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: 06/05/15

Date Received: 06/05/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	06/09/15	6020A	06/12/15	7440-36-0	Antimony	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-38-2	Arsenic	0.2	0.2	
200.8	06/09/15	6020A	06/12/15	7440-41-7	Beryllium	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-43-9	Cadmium	0.1	0.1	U
200.8	06/09/15	6020A	06/12/15	7440-47-3	Chromium	0.5	4.0	
200.8	06/09/15	6020A	06/12/15	7440-50-8	Copper	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7439-92-1	Lead	0.1	0.1	U
7470A	06/09/15	7470A	06/10/15	7439-97-6	Mercury	0.1	0.1	U
200.8	06/09/15	6020A	06/12/15	7440-02-0	Nickel	0.5	4.4	
200.8	06/09/15	6020A	06/12/15	7782-49-2	Selenium	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7440-22-4	Silver	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-28-0	Thallium	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW1-1-060515

DUPLICATE

Lab Sample ID: AHJ0A

LIMS ID: 15-10620

Matrix: Water

Data Release Authorized:

Reported: 06/15/15

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: 06/05/15

Date Received: 06/05/15

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Antimony	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Arsenic	6020A	0.2	0.2	0.0%	+/- 0.2	L
Beryllium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Cadmium	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Chromium	6020A	4.0	4.0	0.0%	+/- 20%	
Copper	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Lead	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	6020A	4.4	4.5	2.2%	+/- 20%	
Selenium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Thallium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW1-1-060515

MATRIX SPIKE

Lab Sample ID: AHJ0A

LIMS ID: 15-10620

Matrix: Water

Data Release Authorized: 

Reported: 06/15/15

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: 06/05/15

Date Received: 06/05/15

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Antimony	6020A	0.2 U	23.0	25.0	92.0%	
Arsenic	6020A	0.2	25.8	25.0	102%	
Beryllium	6020A	0.2 U	24.4	25.0	97.6%	
Cadmium	6020A	0.1 U	23.9	25.0	95.6%	
Chromium	6020A	4.0	26.9	25.0	91.6%	
Copper	6020A	0.5 U	26.1	25.0	104%	
Lead	6020A	0.1 U	24.5	25.0	98.0%	
Mercury	7470A	0.1 U	1.1	1.00	110%	
Nickel	6020A	4.4	30.9	25.0	106%	
Selenium	6020A	0.5 U	69.9	80.0	87.4%	
Silver	6020A	0.2 U	24.0	25.0	96.0%	
Thallium	6020A	0.2 U	24.4	25.0	97.6%	
Zinc	6020A	4 U	77	80.0	96.2%	

Reported in µg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: MW1-2-060515

SAMPLE

Lab Sample ID: AHJOB

LIMS ID: 15-10621

Matrix: Water

Data Release Authorized: 

Reported: 06/15/15

QC Report No: AHJO-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: 06/05/15

Date Received: 06/05/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	06/09/15	6020A	06/12/15	7440-36-0	Antimony	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-38-2	Arsenic	0.2	18.0	
200.8	06/09/15	6020A	06/12/15	7440-41-7	Beryllium	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-43-9	Cadmium	0.1	0.1	U
200.8	06/09/15	6020A	06/12/15	7440-47-3	Chromium	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7440-50-8	Copper	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7439-92-1	Lead	0.1	0.1	U
7470A	06/09/15	7470A	06/10/15	7439-97-6	Mercury	0.1	0.1	U
200.8	06/09/15	6020A	06/12/15	7440-02-0	Nickel	0.5	1.7	
200.8	06/09/15	6020A	06/12/15	7782-49-2	Selenium	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7440-22-4	Silver	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-28-0	Thallium	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: AHJOMB

LIMS ID: 15-10621

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/15/15

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	µg/L	Q
200.8	06/09/15	6020A	06/12/15	7440-36-0	Antimony	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-38-2	Arsenic	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-41-7	Beryllium	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-43-9	Cadmium	0.1	0.1	U
200.8	06/09/15	6020A	06/12/15	7440-47-3	Chromium	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7440-50-8	Copper	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7439-92-1	Lead	0.1	0.1	U
7470A	06/09/15	7470A	06/10/15	7439-97-6	Mercury	0.1	0.1	U
200.8	06/09/15	6020A	06/12/15	7440-02-0	Nickel	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7782-49-2	Selenium	0.5	0.5	U
200.8	06/09/15	6020A	06/12/15	7440-22-4	Silver	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-28-0	Thallium	0.2	0.2	U
200.8	06/09/15	6020A	06/12/15	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

DISSOLVED METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: AHJ0LCS

LIMS ID: 15-10621

Matrix: Water

Data Release Authorized: 

Reported: 06/15/15

QC Report No: AHJ0-ERM-West

Project: K2 Site Vashon, WA

266125

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Antimony	6020A	24.7	25.0	98.8%	
Arsenic	6020A	25.7	25.0	103%	
Beryllium	6020A	24.2	25.0	96.8%	
Cadmium	6020A	24.2	25.0	96.8%	
Chromium	6020A	25.0	25.0	100%	
Copper	6020A	26.4	25.0	106%	
Lead	6020A	26.0	25.0	104%	
Mercury	7470A	2.2	2.0	110%	
Nickel	6020A	26.0	25.0	104%	
Selenium	6020A	71.3	80.0	89.1%	
Silver	6020A	25.3	25.0	101%	
Thallium	6020A	25.6	25.0	102%	
Zinc	6020A	75	80	93.8%	

Reported in µg/L

N-Control limit not met

Control Limits: 80-120%



ANALYTICAL REPORT

Lab Number:	L1512057
Client:	ERM, Inc. 1218 3rd Ave Suite 1412 Seattle, WA 98101
ATTN:	Mike Arnold
Phone:	(425) 462-8591
Project Name:	K2 FACILITY
Project Number:	266125
Report Date:	06/16/15

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: K2 FACILITY
Project Number: 266125

Lab Number: L1512057
Report Date: 06/16/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1512057-01	MW3-4-12	SOIL	VASHON, WA	05/27/15 11:10	06/02/15
L1512057-02	MW3-5-11.5	SOIL	VASHON, WA	05/27/15 14:40	06/02/15
L1512057-03	MW4-2-10	SOIL	VASHON, WA	05/28/15 09:00	06/02/15
L1512057-04	MW4-6-8	SOIL	VASHON, WA	05/28/15 11:35	06/02/15

Project Name: K2 FACILITY
Project Number: 266125

Lab Number: L1512057
Report Date: 06/16/15

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

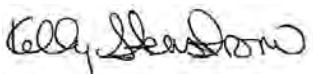
HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 06/16/15

INORGANICS & MISCELLANEOUS

Project Name: K2 FACILITY

Project Number: 266125

Lab Number: L1512057

Report Date: 06/16/15

SAMPLE RESULTS

Lab ID: L1512057-01

Client ID: MW3-4-12

Sample Location: VASHON, WA

Matrix: Soil

Date Collected: 05/27/15 11:10

Date Received: 06/02/15

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Natural Oxidant Demand Permanganate - Westborough Lab										
NOD Permanganate	0.21		g/kg	0.10	NA	1	06/03/15 12:45	06/05/15 12:45	41,-	JO
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	06/02/15 21:00	30,2540G	RT



Project Name: K2 FACILITY

Project Number: 266125

Lab Number: L1512057

Report Date: 06/16/15

SAMPLE RESULTS

Lab ID: L1512057-02

Client ID: MW3-5-11.5

Sample Location: VASHON, WA

Matrix: Soil

Date Collected: 05/27/15 14:40

Date Received: 06/02/15

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Natural Oxidant Demand Permanganate - Westborough Lab										
NOD Permanganate	0.18		g/kg	0.10	NA	1	06/03/15 12:45	06/05/15 12:45	41,-	JO
General Chemistry - Westborough Lab										
Solids, Total	89.8		%	0.100	NA	1	-	06/02/15 21:00	30,2540G	RT



Project Name: K2 FACILITY

Project Number: 266125

Lab Number: L1512057

Report Date: 06/16/15

SAMPLE RESULTS

Lab ID: L1512057-03

Client ID: MW4-2-10

Sample Location: VASHON, WA

Matrix: Soil

Date Collected: 05/28/15 09:00

Date Received: 06/02/15

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Natural Oxidant Demand Permanganate - Westborough Lab										
NOD Permanganate	ND		g/kg	0.10	NA	1	06/03/15 12:45	06/05/15 12:45	41,-	JO
General Chemistry - Westborough Lab										
Solids, Total	87.3		%	0.100	NA	1	-	06/02/15 21:00	30,2540G	RT



Project Name: K2 FACILITY

Project Number: 266125

Lab Number: L1512057

Report Date: 06/16/15

SAMPLE RESULTS

Lab ID: L1512057-04

Client ID: MW4-6-8

Sample Location: VASHON, WA

Matrix: Soil

Date Collected: 05/28/15 11:35

Date Received: 06/02/15

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Natural Oxidant Demand Permanganate - Westborough Lab										
NOD Permanganate	0.13		g/kg	0.10	NA	1	06/03/15 12:45	06/05/15 12:45	41,-	JO
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	06/02/15 21:00	30,2540G	RT



Lab Duplicate Analysis
Batch Quality Control

Project Name: K2 FACILITY

Project Number: 266125

Lab Number: L1512057

Report Date: 06/16/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG790144-1 QC Sample: L1512040-01 Client ID: DUP Sample						
Solids, Total	86.9	86.9	%	0		20

Project Name: K2 FACILITY

Lab Number: L1512057

Project Number: 266125

Report Date: 06/16/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal**Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1512057-01A	Glass 120ml/4oz unpreserved	A	N/A	4.6	Y	Absent	PERM-NOD(),TS(7)
L1512057-02A	Glass 120ml/4oz unpreserved	A	N/A	4.6	Y	Absent	PERM-NOD(),TS(7)
L1512057-03A	Glass 120ml/4oz unpreserved	A	N/A	4.6	Y	Absent	PERM-NOD(),TS(7)
L1512057-04A	Glass 120ml/4oz unpreserved	A	N/A	4.6	Y	Absent	PERM-NOD(),TS(7)

Container Comments

L1512057-02A

L1512057-03A

*Values in parentheses indicate holding time in days

Project Name: K2 FACILITY
Project Number: 266125

Lab Number: L1512057
Report Date: 06/16/15

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

Report Format: Data Usability Report



Project Name: K2 FACILITY
Project Number: 266125

Lab Number: L1512057
Report Date: 06/16/15

Data Qualifiers

- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: K2 FACILITY
Project Number: 266125

Lab Number: L1512057
Report Date: 06/16/15

REFERENCES

- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 41 Alpha Analytical Labs Internally-developed Performance-based Method.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised December 16, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn;

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 1

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: ERM-West Inc
Address: 1218 3rd Ave. Ste 1412
Seattle, WA 98101
Phone: 425-462-8591
Email: mike.arnold@erm.com

Additional Project Information:

Potassiumate 100, 2 day reaction time

Project Information

Project Name: K2 Facility
Project Location: Vashon, WA
Project #: 266125
Project Manager: Mike Arnold
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Date Rec'd in Lab: 6/2/15

ALPHA Job #: L1512057

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program Criteria

ANALYSIS		SAMPLE INFO	
VOC: ☐ 8260 ☐ 624 ☐ 524.2		Filtration	
SVOC: ☐ ABN ☐ PAH		☐ Field	
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15		☐ Lab to do	
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13		Preservation	
EPH: ☐ Ranges & Targets ☐ Ranges Only		☐ Lab to do	
VPH: ☐ Ranges & Targets ☐ Ranges Only			
☐ PCB ☐ PEST			
TPH: ☐ Quant Only ☐ Fingerprint			
Total Solids - 5M2340			

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
12057. -01	MW3-4-12	5/27/15	1110	S	MH
-02	MW3-5-11.5	5/27/15	1440	S	MH
-03	MW4-2-10	5/28/15	0900	S	MH
-04	MW4-6-8	5/28/15	1135	S	MH

Container Type

P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative

A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type

Preservative

Relinquished By:

Matt Acine

Date/Time

5/28/15 1330

Received By:

San Churra

Date/Time

6/2/15 1029

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)



Alpha Job # L1512057
 Date Received: June 2, 2015
 Date: June 16, 2015

NATURAL OXIDANT DEMAND (NOD) PERMANGANATE

Analyses were conducted in accordance with REMLAB-01 VER 1.5, and REMLAB-02 VER 1.1, using a 48 hour (2 day) reaction time.

<u>Lab ID</u>	<u>Sample ID</u>	<u>Jar #</u>	<u>Dose KMnO₄ mg/L</u>	<u>NOD g/KmnO₄/Kg</u>	<u>pH</u>
L1512057-01	MW3-4-12	2	211	0.21	6.51
L1512057-02	MW3-5-11.5	2	211	0.18	6.14
L1512057-03	MW4-2-10	2	211	0.06	6.97
L1512057-04	MW4-6-8	2	211	0.13	6.73

AUTHORIZED BY:

Mitchell Ostrowski
 Technical Director
 Alpha Analytical Labs
 8 Walkup Drive
 Westborough, MA 01581
 800-624-9220

Calculations for Natural Oxidant Demand (NOD) Permanganate

Lab ID:	L1512057-01	Start Date	6/3/2015	12:45
Jar:	2	End Date	6/5/2015	12:45

Step 1

Mass KMnO₄ used = (Initial KMnO₄ conc - Final KMnO₄ conc) X Vol DI (L)
 conc in mg/L

Initial KMnO ₄ conc	211
Final KMnO ₄ conc	86.98
Vol DI (L)	0.0745
Mass KMnO ₄ used (mg)	124.02

Step 2

NOD (mg KMnO₄ /g soil) = Mass KMnO₄ used (mg) / Mass of soil in jar (g)

Mass KMnO ₄ used (mg)	124.02
Mass of soil in jar (g)	44.7
NOD (mg KMnO ₄ /g soil)	0.21

Calculations for Natural Oxidant Demand (NOD) Permanganate

Lab ID:	L1512057-02	Start Date	6/3/2015	12:45
Jar:	2	End Date	6/5/2015	12:45

Step 1

Mass KMnO₄ used = (Initial KMnO₄ conc - Final KMnO₄ conc) X Vol DI (L)
 conc in mg/L

Initial KMnO ₄ conc	211
Final KMnO ₄ conc	100.2
Vol DI (L)	0.0745
Mass KMnO ₄ used (mg)	110.8

Step 2

NOD (mg KMnO₄ /g soil) = Mass KMnO₄ used (mg) / Mass of soil in jar (g)

Mass KMnO ₄ used (mg)	110.8
Mass of soil in jar (g)	45.07
NOD (mg KMnO ₄ /g soil)	0.18

Calculations for Natural Oxidant Demand (NOD) Permanganate

Lab ID:	L1512057-03	Start Date	6/3/2015	12:45
Jar:	2	End Date	6/5/2015	12:45

Step 1

Mass KMnO₄ used = (Initial KMnO₄ conc - Final KMnO₄ conc) X Vol DI (L)
 conc in mg/L

Initial KMnO ₄ conc	211
Final KMnO ₄ conc	173.54
Vol DI (L)	0.0745
Mass KMnO ₄ used (mg)	37.46

Step 2

NOD (mg KMnO₄ /g soil) = Mass KMnO₄ used (mg) / Mass of soil in jar (g)

Mass KMnO ₄ used (mg)	37.46
Mass of soil in jar (g)	45.67
NOD (mg KMnO ₄ /g soil)	0.06

Calculations for Natural Oxidant Demand (NOD) Permanganate

Lab ID:	L1512057-04	Start Date	6/3/2015	12:45
Jar:	2	End Date	6/5/2015	12:45

Step 1

Mass KMnO₄ used = (Initial KMnO₄ conc - Final KMnO₄ conc) X Vol DI (L)
 conc in mg/L

Initial KMnO ₄ conc	211
Final KMnO ₄ conc	134.9
Vol DI (L)	0.0745
Mass KMnO ₄ used (mg)	76.1

Step 2

NOD (mg KMnO₄ /g soil) = Mass KMnO₄ used (mg) / Mass of soil in jar (g)

Mass KMnO ₄ used (mg)	76.1
Mass of soil in jar (g)	45.06
NOD (mg KMnO ₄ /g soil)	0.13

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Jun 05 2015, 03:51 pm

Work Group: WG791145 for Department: 7 Wet Chemistry

Created: 05-JUN-15 Due: Operator: jo

Sample	Account #	Client ID	C Product	Matrix	Stat	UA	HOLD	DUE	PR	CollectDate	Location
L1512057-01	ERM-MA	MW3-4-12	S PERM-NOD	SOIL	WIP	U		0616 \$0 0527 11:10		Glass-A.5	
L1512057-02	ERM-MA	MW3-5-11.5	S PERM-NOD	SOIL	WIP	U		0616 \$0 0527 14:40		Glass-A.5	
L1512057-03	ERM-MA	MW4-2-10	S PERM-NOD	SOIL	WIP	U		0616 \$0 0528 09:00		Glass-A.5	
L1512057-04	ERM-MA	MW4-6-8	S PERM-NOD	SOIL	WIP	U		0616 \$0 0528 11:35		Glass-A.5	

Comments:

L1512057-01 NOD- Permanganate with 48 hours contact time.
 L1512057-02 NOD- Permanganate with 48 hours contact time.
 L1512057-03 NOD- Permanganate with 48 hours contact time.
 L1512057-04 NOD- Permanganate with 48 hours contact time.

Batch : 791145

start 6/3/15 12:45
end 6/5/15 12:45

Client : _____

Analysis : NATURAL OXIDANT DEMAND Date :

Method :

Written up by : 130

Checked by : _____

$$y = .0050$$
$$s = .0096$$
MDL : 0.1 g/Kg

Comments

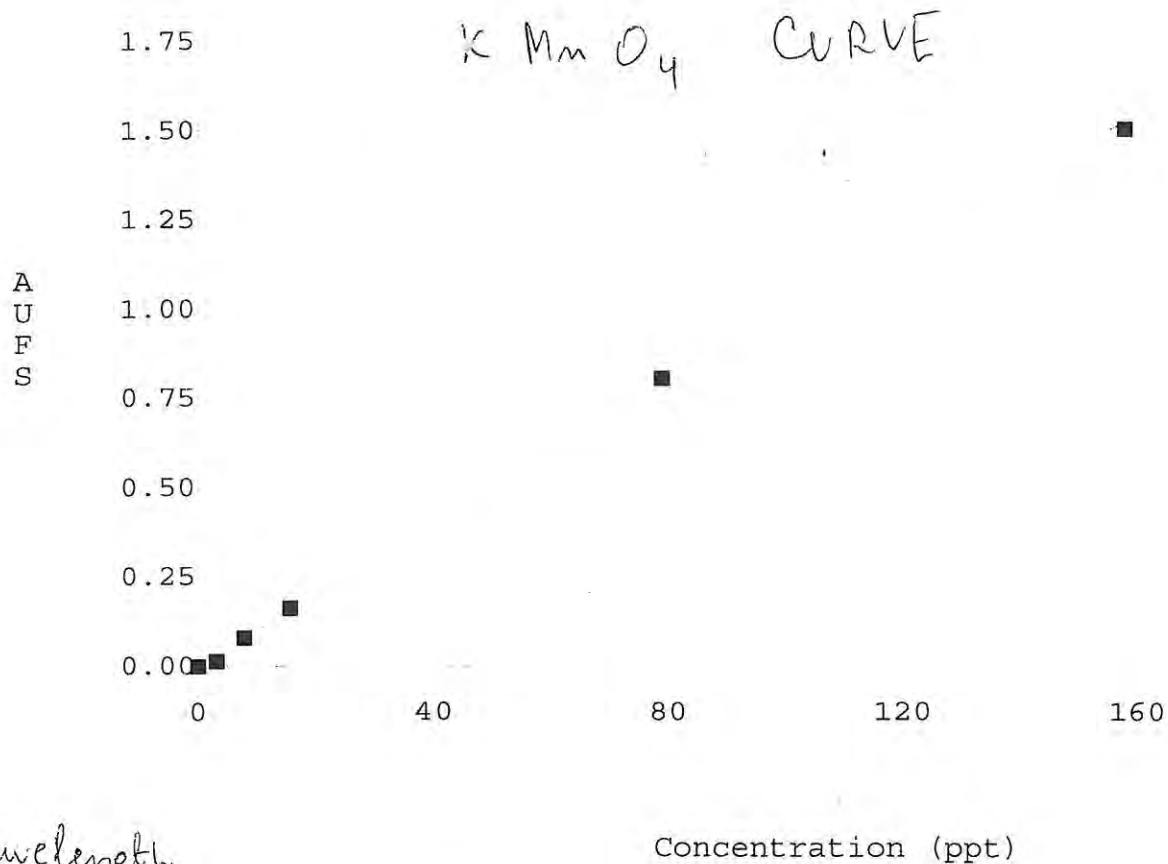
Created 09/05/95 JRR file TOX-11.FRP

Standard Curves - (Untitled)

Concentration
(ppt)

Intensity
(AUFS)

1.	0.000	0.000
2.	3.160	0.015
3.	7.900	0.080
4.	15.800	0.162
5.	79.000	0.804
6.	158.000	1.500



Statistics

Relationship: Linear

Slope: 0.0096

Intercept: 0.0050

Correlation Coefficient (r): 0.9993

r²: 0.9986

Number of Entries: 6

Start time		End time		1cm cell		526nm		max ABS=15	
						S=0.0090		y=0.0050	
Per	Sample	AmL(g)	Vol IN K ₂ MnO ₄ (ul)	Vol Di(ul)	Color	pH	ABS	DI	
1	12657-1	44.84	0	75.0	Clear				
2	1	44.70	0.5	74.5	purple	6.57	0.840	1	
3	1	44.91	2.0	73.0					
4	1	44.76	8.0	67.0					
5	1	44.80	32.0	43.0					
6	1	NA							
1	12057-2	35.67	0	75.0	Clear				
2	2	45.07	0.5	74.5	purple	6.44	0.967	1	
3	2	45.41	2.0	73.0					
4	2	45.18	8.0	67.0					
5	2	45.73	32.0	43.0					
6	2	NA							
1	12057-3	45.63	0	75.0	Clear				
2	3	45.67	0.5	74.5	purple	6.97	0.838	2	
3	3	45.88	2.0	73.0					
4	3	45.64	8.0	67.0					
5	3	49.06	32.0	43.0					
6	3	NA							
1	12057-4	45.62	0	75.0	Clear				
2	4	45.06	0.5	74.5	purple	6.76	1.070		
3	4	45.02	2.0	73.0			1.300	1	
4	4	45.36	8.0	67.0					
5	4	45.05	32.0	43.0					
6	4	NA							

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

Project _____

Continued from Page _____

~~KMnO₄~~

$$KMnO_4 \text{ left} = \frac{ABS - 4}{5} (D.I.)$$

$$\text{Mass } KMnO_4 \text{ used} = \text{Initial} - \text{Final}$$

$$NOD = \left(\frac{\text{Used}}{\text{Ant(g)}} \right) (Vol Dil(L))$$

				KMnO ₄		Used	pH
		Par	ABS	Dilution	Initial	Final	
12057-	1	2	0.840	1	2.11	86.98	6.51
	2	2	0.967	1	2.11	~~100.29~~ 86.98	6.44
	3	2	0.838	2	2.11	173.54	6.97
	4	2	1.300	1	2.11	134.90	6.76

Results (log₁₀ or mEq)

1	0.207
2	0.332
3	0.061
4	0.126

Continued on Page _____

Read and Understood By _____

Signed _____

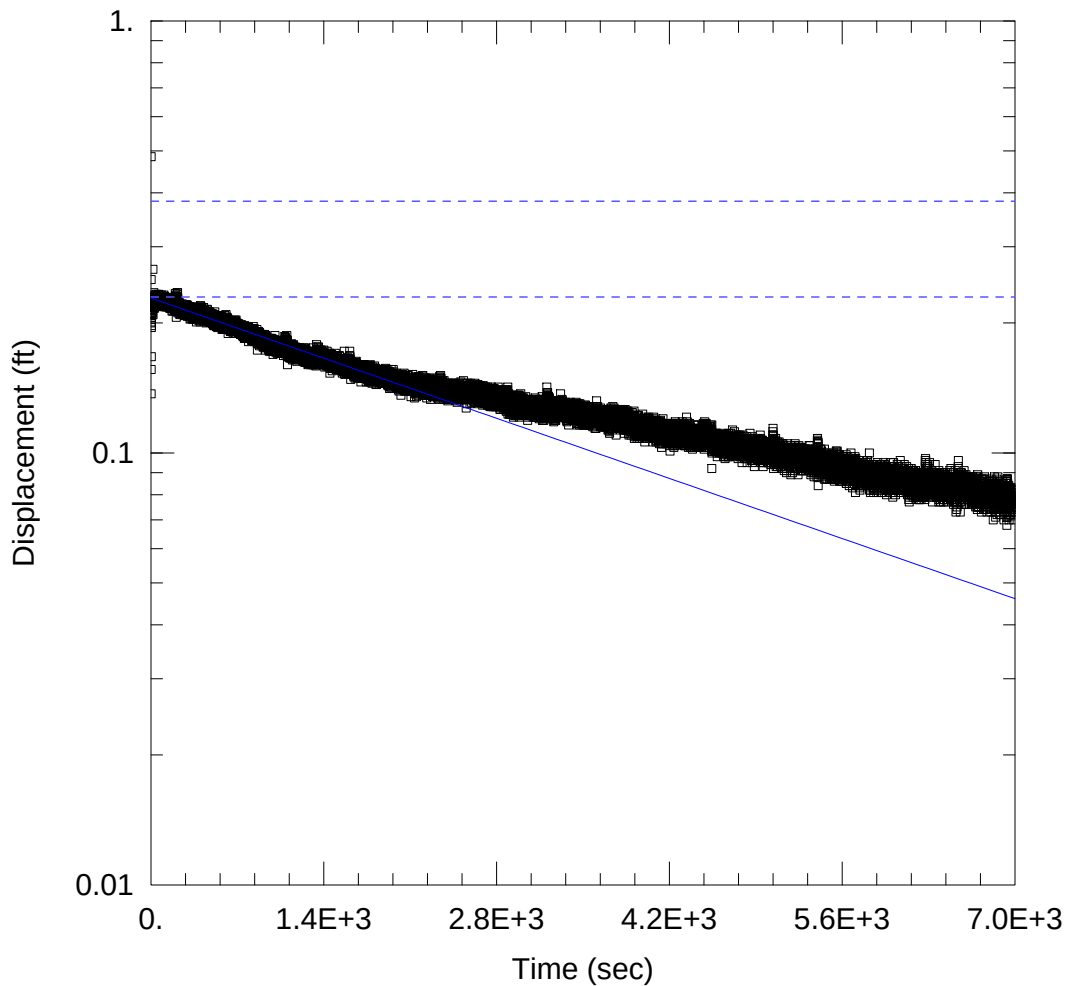
Date _____

Signed _____

Date _____

Appendix E
Aquifer Testing Data

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FH1

Data Set: C:\Users\Isaac.Pelz\Desktop\K2 slug tests\Final Tests\K2 MW3-2 FH1 Hvorslev Uncon.aqt
 Date: 06/29/15 Time: 13:57:48

PROJECT INFORMATION

Company: ERM
 Client: K2
 Location: K2 Facility SC
 Test Well: MW3-2
 Test Date: 6/18/15

AQUIFER DATA

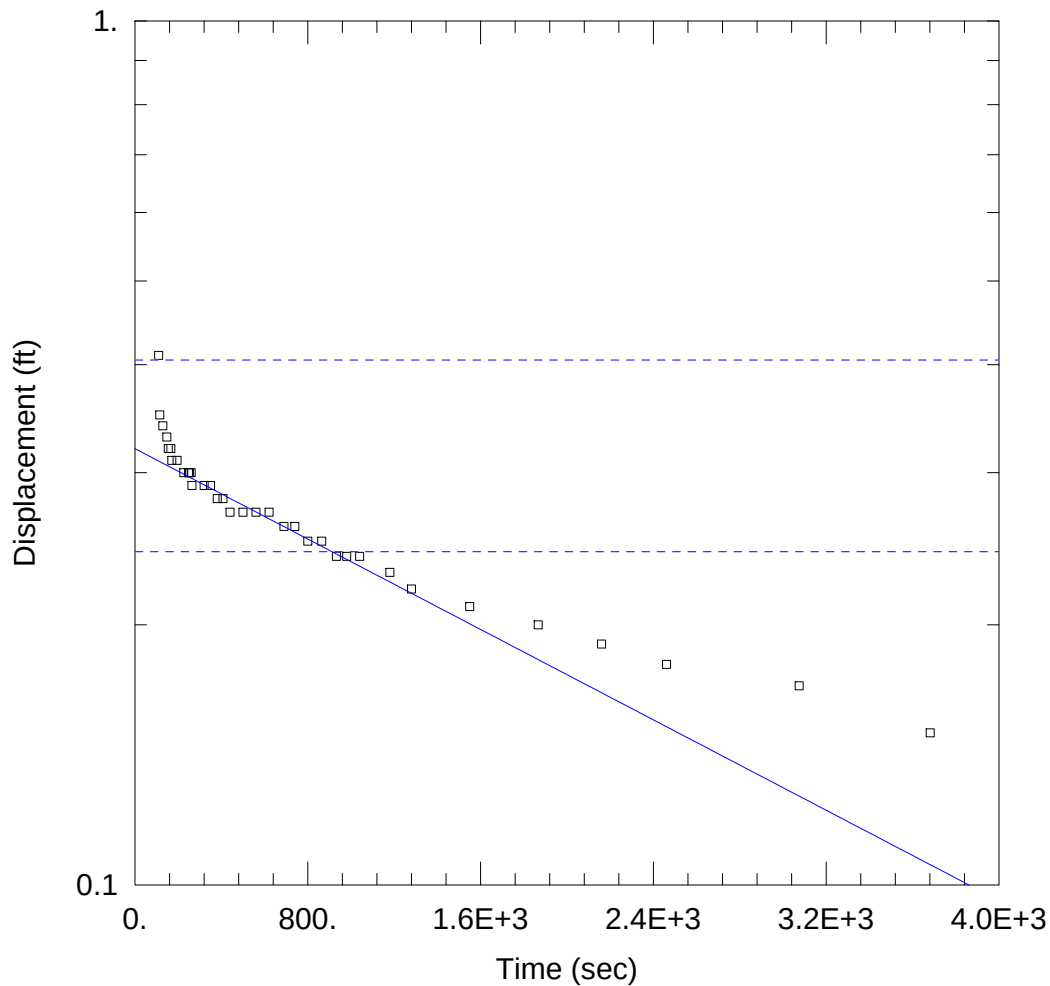
Saturated Thickness: 7.38 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW3-2)

Initial Displacement: 1.53 ft Static Water Column Height: 7.38 ft
 Total Well Penetration Depth: 7.38 ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 9.841E-8$ m/sec $y_0 = 0.2283$ ft



WELL TEST ANALYSIS

Data Set: C:\Users\Isaac.Pelz\Desktop\K2 slug tests\Final Tests\MW4-1 Hvorslev Uncon.aqt
 Date: 06/29/15 Time: 12:11:12

PROJECT INFORMATION

Company: ERM
 Client: K2
 Location: K2 Facility SC
 Test Well: MW4-1

AQUIFER DATA

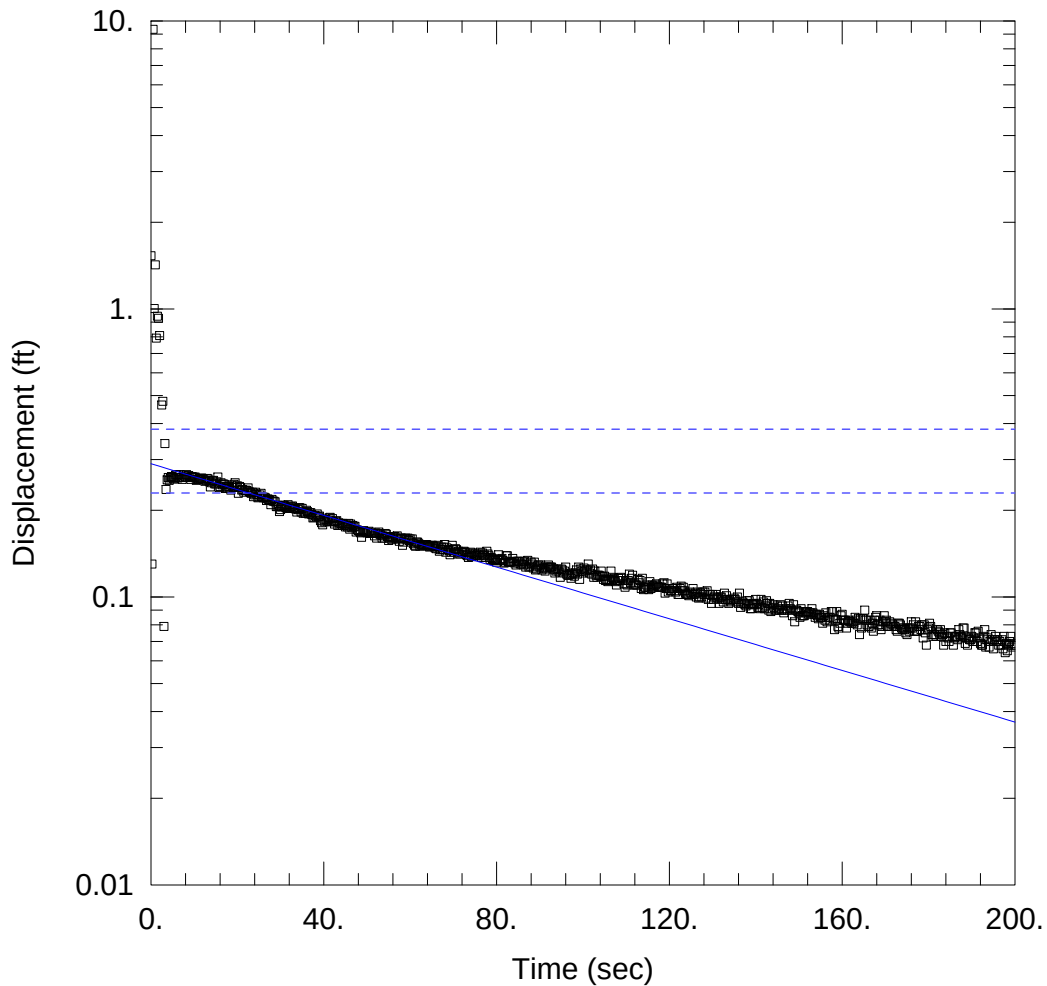
Saturated Thickness: 5.34 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW4-1)

Initial Displacement: 1.62 ft Static Water Column Height: 5.34 ft
 Total Well Penetration Depth: 5.34 ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 1.295E-7$ m/sec $y_0 = 0.3198$ ft



FH1

Data Set: C:\Users\Isaac.Pelz\Desktop\K2 slug tests\Final Tests\K2 MW5-1 FH1.aqt

Date: 06/29/15

Time: 12:13:53

PROJECT INFORMATION

Company: ERM

Client: K2

Location: K2 Facility SC

Test Well: MW5-1

Test Date: 6/18/15

AQUIFER DATA

Saturated Thickness: 12.95 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW5-1)

Initial Displacement: 1.53 ft

Static Water Column Height: 12.95 ft

Total Well Penetration Depth: 12.95 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.333 ft

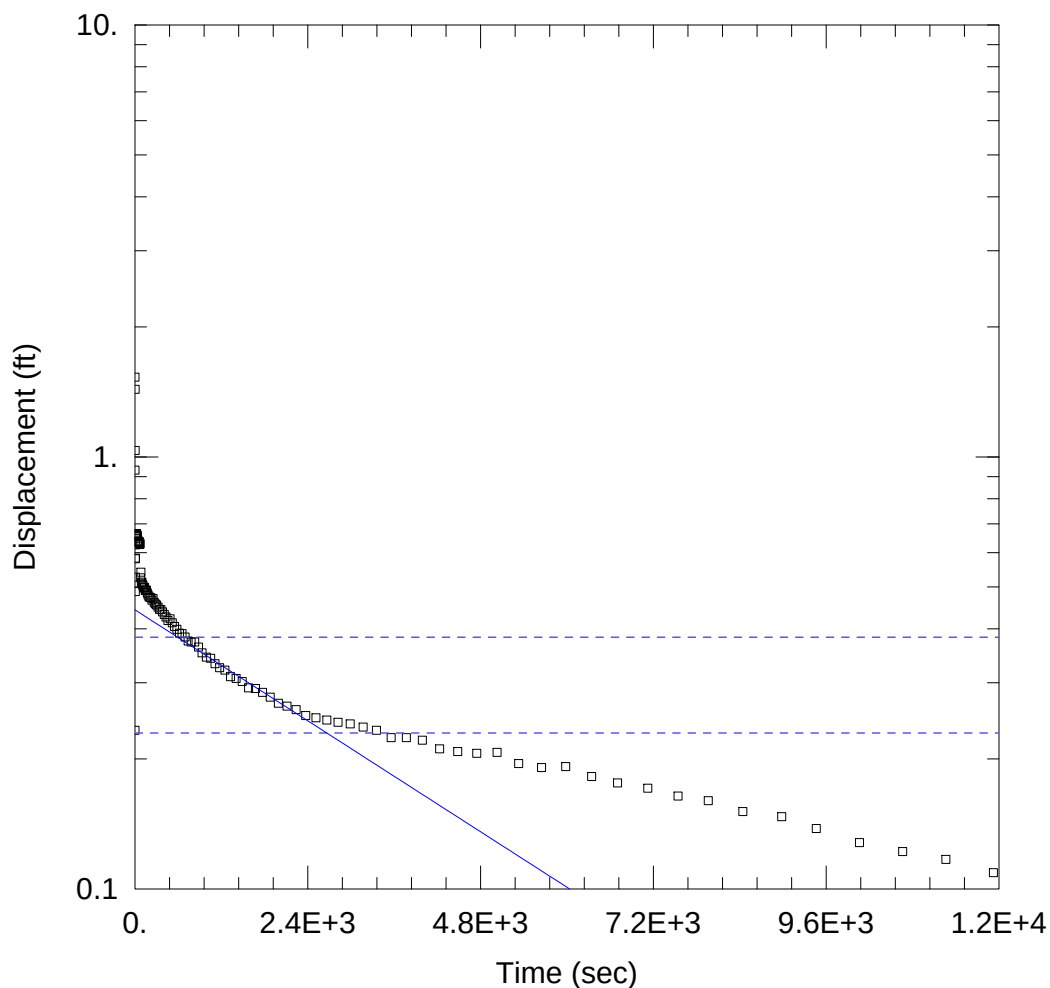
SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 4.44E-6$ m/sec

$y_0 = 0.2899$ ft



FH1

Data Set: C:\Users\Isaac.Pelz\Desktop\K2 slug tests\Final Tests\K2 MW6-1 FH1 Hvorslev.aqt

Date: 06/29/15

Time: 12:15:35

PROJECT INFORMATION

Company: ERM

Client: K2

Location: K2 Facility SC

Test Well: MW6-1

Test Date: 6/18/15

AQUIFER DATA

Saturated Thickness: 9.86 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW6-1)

Initial Displacement: 1.53 ft

Static Water Column Height: 9.89 ft

Total Well Penetration Depth: 9.86 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 1.06E-7$ m/sec

$y_0 = 0.4426$ ft

Appendix F
Groundwater Sample Logs

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ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Name: K2 Facility Site Characterization
Project Number: 266125

Field Staff: M. Horne

Weather: Sunny warm
Field Staff: M. Haynie

Well # NW-1

Sample ID: MW1-1-060515 @ 0842

Location: Vashon, WA
Construction: 2" PVC

Construction Depth: 13 ft bgs
Screened Interval: 3-13 ft bgs
Pump Intake Depth: 9.86 ft bgs or 9.36 ft bgs

Purge Start Time: 0826
Discharge Rate: 190 ml/min
Purge End Time: 0855

Depth to Water: 6.21 ft b to c + 0.5 ft = 6.71 ft bgs
Height of Water Column: 6.29 ft 8 m 4
Volume of one casing: 1.03 gal

[illegible]

Sampler Signature(s) :

PP metals field filtered using 0.45 μ m filter. Pumped filter for 300 ml prior to sampling.

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 3/19/13
Set up time: 1325
Weather: Cloudy; warm
Field Staff: M. Flemer

Well # MW-2

Sample ID: MW1-2-031915 @1358

Location: Vashon
Construction: 13.0 ft b/c msh
Groundwater Zone:

Construction Depth: 13.05 ft b40c
Screened Interval: 3 - 13 ft b40s
Pump Intake Depth: 8 ft b40s

Purge Start Time: 1339
Discharge Rate: 180 mL/min
Purge End Time: 1430

Depth to Water: 2.0 ft benc + 0.35 ft = 2.35 ft benc
Height of Water Column: 10.65 ft
Volume of one casing: 1.74 cu ft

[illegible]

Sampler Signature(s) : 

ERM - Purge Log

Project Name: K2 Facility Site Characterization

Project Number: 266125

Project Number: 266125

Field Staff: M. Aguirre G. Turner

Sample ID: MWI-2-060515 @ 0930

Construction: 2" PVC

Screened Interval: 3.13 to 6.59

Pump Intake Depth: 9.20 ft

Pump Intake Depth: 9.2 ft bgs on 8.90 ft bgs

Discharge Rate: ~~17~~ 180 ml/min

Purge End Time: 0950

Depth to Water: $5.10 \text{ ft} \text{ b f o r } \pm 0.30 \text{ ft} = 5.40 \text{ ft b f o r}$

Height of Water Column: 5.6 ft

Volume of one casing: 1.24 cu yd

[illegible]

Sampler Signature(s) :

PP water field filtered using 0.45 μ m. Filtered pigged 500 ml before sampling.

<i>ERM - Purge Log</i>	
<i>Project Name:</i>	<i>K2 Facility Site Characterization</i>
<i>Project Number:</i>	266125

Well # MWI-3

Sample ID: MW1-3-060515(a)1335

Pump Intake Depth: 9.86 ft bgs in 9.21 ft bloc

Volume of one casing: 0.265

[illegible]

Sampler Signature(s): Math Laine

- Slowed to 150 ml/min @ 1322
- Drawdown of water level. Slowed to ~100 ml/min @ 1228.

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 3/23/2015
Set up time: 1045
Weather: Rain, cool
Field Staff: M. Horne

Well # MW-1

Sample ID: MW2-1-032315 Q1115

Location: *Vashon*
Construction: *Y*
Groundwater Zone:

Construction Depth: 8.0 ft bgs
Screened Interval: 8.3 ft to 9.2 ft
Pump Intake Depth: 6.70 ft bgs

Purge Start Time: 1056
Discharge Rate: 140 ml/min
Purge End Time: 1150

Depth to Water: $5.09 \text{ ft} + 0.3 \text{ ft} = 5.39 \text{ ft}$
 Height of Water Column: 2.61 ft
 Volume of one casing: 0.92 gal

[illegible]

Sampler Signature(s) :

Math Science

- Covered Tuley @ 1130 due to water level lowering. Depth sampled at 7.3 ft bgs.

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Number: 266125

Field Staff: M. Haine

Sample ID: MW2-1-09060415 @ 1158

Construction: 2" PVC

Screened Interval: 5-8 hr

Pump Intake Depth: 6.31 ft

Pump Intake Depth: 6.31 ft bgs or 6.11 ft bloc

Discharge Rate: 100 ml/min

Purge End Time: 1209

Depth to Water: $4.4 \text{ ft b.t.c.} + 0.3 \text{ ft} = 4.7 \text{ ft b.c.s.}$

Height of Water Column: 3.39 ft

Volume of one casing: 0.53 cu

[illegible]

Sampler Signature(s) :

Math Daring

Water level drawdown. Sampled after 3 readings

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 3/20/2015
Set up time: 1330
Weather: Rain
Field Staff: M. Hume

Well # MW3-1

Sample ID: MWR-1-052015-Q 1400

Location: Vashon
Construction: Y
Groundwater Zone:

Construction Depth: 13.05 ft bgr
Screened Interval: 3-13 ft bgs
Pump Intake Depth: 8 ft bgs

Purge Start Time: 1343
Discharge Rate: 150 ml/min
Purge End Time: 1430

Depth to Water: 7.40 ft of cc + 0.5 ft = 1.9 ft bgs
Height of Water Column: 11.5 ft
Volume of one casing: 1.8 cc

[illegible]

Sampler Signature(s) :

Wally Dine

ERM - Purge Log

Project Name: K2 Facility Site Characterization

Project Number: 266125

Field Staff: M. P. Prime

mw3-2

Sample ID: M413-2-032315 @ 0835

Pump Intake Depth: 10.1 ft bgs

Volume of one casing: 1.60 m³

[illegible]

Sampler Signature(s) :

Math Line

<i>ERM - Purge Log</i>	
<i>Project Name:</i>	<i>K2 Facility Site Characterization</i>
<i>Project Number:</i>	266125

Date: 6/4/15
Set up time: 1040
Weather: sun, 63°F
Field Staff: MC

Well # MW3-2

Sample Time 1118

Sample ID: MW3-2-060415

Location: Vashon, WA

Construction: 2" PVC

Construction Depth: 15' bgs

Screened Interval: 5-15' 1285

Pump Intake Depth: 10.8' WLOC

Purge Start Time: 10:19

Discharge Rate: 210 ml/min, 180 ml/min

Purge End Time: 11:35

Depth to Water: 5601' brec

Height of Water Column: 8.39'

Volume of one casing: 1.37 gallons

[illegible]

* Slow pump
to 180 rpm

MC 6/4/15

Sampler Signature(s) :

Total depth = 15.15' bblc

27.4, 33.2

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 6/4/15
Set up time: 1155
Weather: Sun ~68°F
Field Staff: PIC

Well # NW-3-3 Sample time 1242

Sample ID: MW3-3-060415

Location: Vashon, WA
Construction: 1" PVC

Construction Depth: 15'
Screened Interval: 5'-15' - bgs
Pump Intake Depth: 11.4' - bto c

Purge Start Time:	1206
Discharge Rate:	75 ml/min
Purge End Time:	

Depth to Water: 7.72' bgs
Height of Water Column: 7.28'
Volume of one casing: 0.29 gal/in (0.041)

[illegible]

Sampler Signature(s) :

$T_D = 14.40^\circ \text{C}$

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Date: 6/4/15
Set up time: 1300
Weather: Sun, 65°F
Field Staff: MC

1356

Location: Vashon, WA
Construction: 1" PVC

Construction Depth: 16' 6.5
Screened Interval: 2' 16' 6.5
Pump Intake Depth: 12.5' 6.5

Purge Start Time: 1318
Discharge Rate: 90
Purge End Time:

Depth to Water: 9.00
Height of Water Column: 7
Volume of one casing: 0.287 gallons

[illegible]

Sampler Signature(s) :

me 6/4/15

6/4/15
Total depth = 16.32' btoe

① = Water level indicator does not fit down well along w/ tubing

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Name: K2 Facility Site Characterization

Project Number: 266125

Date: 6/4/15

Set up time: 1400

Weather: Sun 65°F

Field Staff: *hrc*

Well # MW3-5

Sample ID: MW3-5

Location: Vashon, WA

Construction:

Construction Depth: 16' - 190'

Screened Interval: 6-16' - 093

Pump Intake Depth: 11' btoe

Purge Start Time: 1407

Discharge Rate: 110 mg/min

Purge End Time:

Depth to Water: 5.20

Height of Water Column: 10.2

Volume of one casing: 0.91 gal/cu

[illegible]

Sampler Signature(s) :

* possible DO malfunction

Total depth = 16.30' b.toc

ERM - Purge Log

Project Name: K2 Facility Site Characterization

Project Number: 266125

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 6/4/15
Set up time: 1235
Weather: Clear, warm
Field Staff: M. Horino

Well # MW4-1

Sample ID: MW4-1-060415 Q1300

Location: Vashon, WA
Construction: 2" PVC

Construction Depth: 13 ft bgs
Screened Interval: 3-13 ft bgs
Pump Intake Depth: 9.86 ft bgs or 9.46 ft bwc

Purge Start Time: 1245
Discharge Rate: 200 ml/min
Purge End Time: 1305

Depth to Water: 6.31 ft b4 oc + 0.9 ft = 6.71 ft bgs
Height of Water Column: 6.29 ft
Volume of one casing: 1.03 gal

[illegible]

Sampler Signature(s) :

Matt Quinn

<i>ERM - Purge Log</i>	
<i>Project Name:</i>	<i>K2 Facility Site Characterization</i>
<i>Project Number:</i>	<i>266125</i>

Project Number: 266125

Set up time: 1335

Weather: Inside

Field Staff: M. Haine

Sample ID: MW4-2-060415 Q 1403

Construction: 1" PVC

Construction Depth: 13 ft bss

Screened Interval: 3-13 HRS

Pump Intake Depth: 9.93 ft & s on 9.42 ft b/c

Purge Start Time: 1348

Discharge Rate: 50 ml/min

Purge End Time: 1909

Depth to Water: $6.33 \text{ ft} + 0.5 \text{ ft} = 6.83 \text{ ft}$

Height of Water Column: 4.13 ft

Volume of one casing: 0.25 m³

[illegible]

Sampler Signature(s) :

Matt Lamm

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Number: 266125

Set up time: 1005

Field Staff: M. Acaine G Turner

Field Staff: M. Aylmer G Turner

Well # MW4-3

Sample ID: MW4-3-060515 @ 1040

Construction: 10 PVC

Screened Interval: 3-13-14

Screened Interval: 3-13-14

Pump Intake Depth: 1102 ft bgs on 10.72 ft bto c

Discharge Rate: 130 ml/min

Discharge Rate: 130 ml/min

Purge End Time: 1044

Depth to Water: $8.73 \text{ ft} + 0.3 \text{ ft} = 9.03 \text{ ft}$

Height of Water Column: 53.93 ft

Volume of one casing: 0.16 m^3

[illegible]

Sampler Signature(s) :

Matt Damon

ERM - Purge Log

Project Name: K2 Facility Site Characterization

Project Number: 266125

Date: 6/5/15
Set up time: 1055
Weather: Inside
Field Staff: M. Nyrine G. Turner

Well # MW4-4

Sample ID: MW4-4-0605/5 @ 1235

Location: Vashon, WA
Construction: 3/4" PVC

Construction Depth: 15 ft bgs
Screened Interval: 5-15 ft bgs
Pump Intake Depth: 12.5 ft bgs on 12.29 ft bgs

Purge Start Time: 1112
Discharge Rate: 2100 mL/min
Purge End Time: 1242

Depth to Water: $10.07 \text{ ft} \text{ blos} + 0.5 \text{ ft} = 10.57 \text{ ft blos}$
 Height of Water Column: 4.43 ft
 Volume of one casing: ?

[illegible]

Sampler Signature(s) :

Matt Weiner

- * Unable to take water level as tubing and probe won't fit in the well together
- Left well to recharge at 1120. Returned at 1230 and immediately sampled
- Lowered tubing at 1237 to get readings from YSI.

ERM - Purge Log

Project Name: K2 Facility Site Characterization

Project Number: 266125

Project Number: 266125

Set up time: 145

Field Staff: M. Harris

Field Staff: M. Laine

Sample ID: MW4-5-060515 @ 1213

Construction: 11 PVC

Screened Interval: 5-15 min

Pump Intake Depth: 12.92 ft

Pump Intake Depth: 12.92 ft bgs on 12.17 ft b4dc

Pump Intake Depth: 12.92 ft

Discharge Rate: 160 ml/min

Purge End Time: 12:45

Depth to Water: $10.09 \text{ ft b.t.o.c.} + 0.75 \text{ ft} = 10.84 \text{ ft b.s.c.}$

Height of Water Column: 2.6 ft

Volume of one casing: Oil 7 gal

[illegible]

Sampler Signature(s) :

Slowed down to 130 ml/min @ 1203

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 6/4/15
Set up time: 1420
Weather: Inside
Field Staff: M. Hyatt

Well # MW 4-6

Sample ID: MW4-6-060415 @ 1442

Location: Vashon, WA
Construction: 1" PVC

Construction Depth: 13 ft bgs
Screened Interval: 3-13 ft bgs
Pump Intake Depth: 10.75 ft bgs or 10.15 ft bloc

Purge Start Time: 1428
Discharge Rate: 160 mL/min
Purge End Time: 1448

Depth to Water: 7.90 ft + 0.6 ft = 8.5 ft bgs
Height of Water Column: 4.5 ft
Volume of one casing: 0.18 gal

[illegible]

Sampler Signature(s) :

Mathew Davis

<i>ERM - Purge Log</i>	
<i>Project Name:</i>	<i>K2 Facility Site Characterization</i>
<i>Project Number:</i>	266125

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 3/23/2015
Set up time: 0920
Weather: Rain, cool
Field Staff: M. Houn-

Weather: Rain cool

Field Staff: M. Houn

Well # MW5-1

Sample ID: MW5-1-032315 @ 0945

Location: <u>Vashon</u>	Construction Depth: <u>15.0 ft bgs</u>
Construction: <u>Y</u>	Screened Interval: <u>5-15 ft bgs</u>
Groundwater Zone: <u> </u>	Pump Intake Depth: <u>10.5 ft bgs</u>

Groundwater

Groundwater Zone:

Construction Depth: 13.0 ft bgs
Screened Interval: 5-15 ft bgs
Pump Intake Depth: 10.0 ft bgs

Pump Intake Depth: 

Pump Intake Depth: 10.5 ft

Purge Start Time: 0930
Discharge Rate: 180 ml/min
Purge End Time: 1015

Purge End Time: 10:55

Purge End Time: 10:05

Depth to Water: $4.55 \text{ ft bta} + 0.5 \text{ ft} = 5.05 \text{ ft bgs}$
 Height of Water Column: 4.95 ft
 Volume of one casing: 1.62

Volume of one casing: 160

Volume of one casing: 1.62

[illegible]

Sampler Signature(s) : *Matt Loring*

DUP-032315-01 @ 1000

<i>ERM - Purge Log</i>	
<i>Project Name:</i>	<i>K2 Facility Site Characterization</i>
<i>Project Number:</i>	266125

Date: 6/4/15
Set up time: 1000
Weather: Sunny, warm
Field Staff: M. Beringe

Field Staff: M. Horne

Sample ID: MW5-1-060415 (G) 1040

Construction Depth: 15 ft bgs
Screened Interval: 5-15 ft bgs
Pump Intake Depth: 11.36 ft bgs or 10.96 ft bgs

Depth to Water: 6.61 ft + 0.10 c + 0.46 ft = 7.17 ft bgs
Height of Water Column: 7.29 ft
Volume of one casing: 1.19 gal

[illegible]

Sampler Signature(s) :

Matt Lawin

ERM - Purge Log

Project Name:	K2 Facility Site Characterization
Project Number:	266125

Field Staff: *[Signature]*

Sample ID: 2011-03235-1305

Pump Intake Depth: 8 ft 6 in

Volume of one casing: 1.87

[illegible]

Sampler Signature(s) :

- FB-032315-01

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 6/4/15
Set up time: 0830
Weather: P. Cloudy, Cool
Field Staff: M. Hartman

Sample ID: MW6-1-0604/5 @ 09/8

Location: Vashon, WA
Construction: 3" PVC

Construction Depth: 13 ft bgs
Screened Interval: 3-13 ft bgs
Pump Intake Depth: 8.9 ft bgs or 7.7 ft blos

Purge Start Time: 0850
Discharge Rate: 120 ml/min
Purge End Time: 0933

Depth to Water: $2.77 \text{ ft} + 0.4 \text{ ft} = 3.17 \text{ ft} + \text{hgs}$
 Height of Water Column: 9.8 ft
 Volume of one casing: 1.61 ft^3

[illegible]

Sampler Signature(s) :

Walt Linn

Slowed to 150 mL/min @ 0905

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 3/23/15
Set up time: 1510
Weather: Rain, cool
Field Staff: Mr. Hovine

Sample ID: MW 7-1-03 2015 @ 1550

Location: Vashon
Construction: Y
Groundwater Zone: -

Construction Depth: 16.0 ft bgs
Screened Interval: 16.6 ft bgs
Pump Intake Depth: 11.9 ft bgs

Purge Start Time: 1533
Discharge Rate: 150 ml/min
Purge End Time: 1620

Depth to Water: 6.07 ft + 0.7 ft = 6.77 ft log =
Height of Water Column: 9.23 ft
Volume of one casing: 1.3 cu ft

[illegible]

Sampler Signature(s) :

MS/MSD taken

ERM - Purge Log	
Project Name:	K2 Facility Site Characterization
Project Number:	266125

Project Name: K2 Facility Site Characterization
Project Number: 266125

Date: 6/4/15
Set up time: 0820
Weather: Sun, 57°F
Field Staff: MC

Well # MW7-1

Sample time
0908

Sample ID: MW7-1-060415

Location: Vashon, WA

Construction: 2" PVC

Construction Depth:

Screened Interval: 6-16'-695

Pump Intake Depth: ~~16' bta (nc)~~ 11.8' bta

Purge Start Time: 0943

Discharge Rate: 185 ml/min

Purge End Time: 0923

Depth to Water: 7.67 + 1.66 = 9.33

Height of Water Column: 238

Volume of one casing: 0.37 cals/cm

[illegible]

Sampler Signature(s) :

15.84' Blot = Total Depth.

Appendix G
Vapor Intrusion Evaluation

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VAPOR INTRUSION EVALUATION SUMMARY

The Washington State Department of Ecology (Ecology) vapor intrusion methodology is a step-wise process organized as three tiers of evaluation, each tier requiring increasing evaluation and site-specificity if the site does not pass a tier “level” (Ecology 2009). For Tier 1, the methodology requires evaluating which media are the source of potential concentrations and whether such media concentrations are high enough to potentially pose a vapor hazard. At this site, only groundwater is impacted with trichloroethene (TCE), and TCE concentrations in groundwater are greater than the Model Toxics Control Act (MTCA) groundwater screening level protective of the vapor pathway of 0.3 micrograms per liter ($\mu\text{g}/\text{L}$)¹. Therefore, the site fails the Tier 1 evaluation.

Tier 2 involves assessing whether groundwater concentrations in the subsurface would result in indoor air concentrations greater than MTCA cleanup levels given the specific site conditions (versus the generic screening levels of Tier 1). Typically, if a building is present, Tier 2 requires indoor air samples to be collected in the building to fully assess risk. For this site, rather than evaluate the risk by measuring indoor air, a model was created to estimate a site-specific groundwater concentration that would be protective of indoor air quality. Ecology (2009) indicates that the Johnson-Etttinger Model (JEM) is an acceptable model to use to estimate groundwater cleanup levels that would be protective of indoor air quality.

The JEM was used to estimate a groundwater concentration that would result in indoor air concentrations at or less than the Method B air concentration of 0.37 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (Ecology 2012) in the existing building. The estimated maximum groundwater concentration that would not result in an indoor air exceedance is 750 $\mu\text{g}/\text{L}$. Only one well, MW4-5 currently exceeds this concentration. Note that one of the basic assumptions of the JEM is that chemicals are evenly distributed beneath the building (U.S. Environmental Protection Agency [EPA] 2004); consequently, use of an average groundwater contaminant concentration over the affected area is preferable

¹ Groundwater screening level protective of indoor air calculated according to Ecology 2009 as follows:

$$\text{Groundwater Screening Level} = \frac{\text{Target Air Concentration}}{\text{Henry's Law Constant} * \text{Attenuation Factor} * \text{Conversion Factor}}$$

Where:

Target Air Concentration for TCE = MTCA Method B of 0.37 $\mu\text{g}/\text{m}^3$ (Ecology 2012)

Henry's Law Constant for TCE = 1.35E-01 (CLARC Database)

Attenuation Factor = 0.001

Conversion Factor = 1000

than use of individual well concentrations to estimate the mass of volatile contaminant vapors that could enter a building. The average concentration of TCE in groundwater beneath the building footprint is 400 µg/L based on six wells and one round of data.

Model Details

The JEM output predicts the contaminant concentration inside a building when the chemical concentration in the affected media and site-specific information about the vadose zone conditions and building are entered into the model. The information that was used to develop the JEM for the site is presented in Table 1. Each parameter is noted as to whether it is site-specific or an EPA default value.

Summary of Model Assumptions

The JEM simulates the transport of soil vapors in the subsurface by both diffusion and advection into indoor air. The model uses conservative assumptions that are likely to overestimate the amount of groundwater vapors that reach the indoor air of an enclosed building. The JE Model uses the following conservative assumptions:

- Contaminant vapors enter buildings through the cracks and openings in the walls and foundation;
- Vapor-phase diffusion is the dominant mechanism for transporting vapors between the source and the building zone of influence (convection is the dominant mechanism directly beneath the building, the building “zone”);
- All contaminant vapors originating from directly below the floor will enter the building, unless the floors and walls serve as perfect barriers; and
- The chemicals are distributed evenly under the entire building.

Table 1 ***Input Parameter for Johnson and Ettinger (2004) Model for Predicting Vapor Intrusion from Groundwater***

Input Parameter/Units	Parameter Value	Source
Initial Groundwater Concentration (µg/L)	Chemical-specific	
Average Soil Temperature (°C)	11	EPA default value for Washington State (EPA 2004)
Depth below grade to water table (cm)	259	Site-specific value, average depth of 8.5 ft, depths range from 6.5 to 10.5 feet for wells MW4-2, MW4-3, MW4-4, MW4-5, MW4-6
Depth below grade to bottom of enclosed space floor (cm)	15	EPA default value for slab-on-grade (EPA 2004a)
Thickness of soil stratum A (cm)	823	Site-specific value based on soil borings for MW4-2 through MW4-6
Soil type	Silty Loam	Site-specific value based on soil borings for MW4-2 through MW4-6.
Dry bulk density (g/cm ³)	1.49	Recommended average value for specific soil type from EPA (2004a)
Total soil porosity (unit less)	0.439	Recommended average value for specific soil type from EPA (2004)
Soil water-filled porosity (cm ³ /cm ³)	0.18	Recommended average value for specific soil type from EPA (2004)
Thickness of soil stratum A (cm)	259	Site-specific value based on soil boring for MW4-2 through MW4-6
Floor-wall seam gap (cm)	0.1	Default value (EPA 2004)
Building air exchange rate per hour	2	Default value for commercial buildings (MDEQ 1998, 2001)
Soil-building pressure differential (g/cm-s ²)	40	EPA default value (EPA 2004)
Average vapor flow rate into building (cm ³ /sec)	5	Calculated by JE Model
Enclosed space floor thickness (cm)	10	Default value for slab-on-grade (EPA 2004)
Enclosed space floor length (cm)	9144	Building dimensions are irregular, length and width are average estimates
Enclosed space floor width (cm)	12192	
Enclosed space height (cm)	457	Site-specific - average 15 foot ceilings

Notes:

°C - degrees Celsius

cm - centimeter

EPA - US Environmental Protection Agency

g/cm-s² - gram per centimeter per second squared

µg/L - micrograms per liter

L/min - liters per minute

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- Washington State Department of Ecology. 2009. *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*. Review Draft. October 2009.

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation			6/26/2015 1:03:00 PM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	TCE											
12												
13	General Statistics											
14	Total Number of Observations				5		Number of Distinct Observations				5	
15							Number of Missing Observations				0	
16	Minimum				13		Mean				399.8	
17	Maximum				1600		Median				65	
18	SD				680.1		Std. Error of Mean				304.2	
19	Coefficient of Variation				1.701		Skewness				2.095	
20												
21	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
22	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
23	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
24	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.0											
25												
26	Normal GOF Test											
27	Shapiro Wilk Test Statistic				0.675		Shapiro Wilk GOF Test					
28	5% Shapiro Wilk Critical Value				0.762		Data Not Normal at 5% Significance Level					
29	Lilliefors Test Statistic				0.364		Lilliefors GOF Test					
30	5% Lilliefors Critical Value				0.396		Data appear Normal at 5% Significance Level					
31	Data appear Approximate Normal at 5% Significance Level											
32												
33	Assuming Normal Distribution											
34	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
35	95% Student's-t UCL			1048		95% Adjusted-CLT UCL (Chen-1995)					1205	
36						95% Modified-t UCL (Johnson-1978)					1096	
37												
38	Gamma GOF Test											
39	A-D Test Statistic			0.389		Anderson-Darling Gamma GOF Test						
40	5% A-D Critical Value			0.714		Detected data appear Gamma Distributed at 5% Significance Level						
41	K-S Test Statistic			0.274		Kolmogrov-Smirnoff Gamma GOF Test						
42	5% K-S Critical Value			0.373		Detected data appear Gamma Distributed at 5% Significance Level						
43	Detected data appear Gamma Distributed at 5% Significance Level											
44												
45	Gamma Statistics											
46	k hat (MLE)			0.475		k star (bias corrected MLE)					0.323	
47	Theta hat (MLE)			841		Theta star (bias corrected MLE)					1236	
48	nu hat (MLE)			4.754		nu star (bias corrected)					3.235	
49	MLE Mean (bias corrected)			399.8		MLE Sd (bias corrected)					702.9	
50						Approximate Chi Square Value (0.05)					0.445	
51	Adjusted Level of Significance			0.0086		Adjusted Chi Square Value					0.168	
52												

	A	B	C	D	E	F	G	H	I	J	K	L
53	Assuming Gamma Distribution											
54	95% Approximate Gamma UCL (use when n>=50))					2905	95% Adjusted Gamma UCL (use when n<50)					7685
55												
56	Lognormal GOF Test											
57	Shapiro Wilk Test Statistic					0.962	Shapiro Wilk Lognormal GOF Test					
58	5% Shapiro Wilk Critical Value					0.762	Data appear Lognormal at 5% Significance Level					
59	Lilliefors Test Statistic					0.197	Lilliefors Lognormal GOF Test					
60	5% Lilliefors Critical Value					0.396	Data appear Lognormal at 5% Significance Level					
61	Data appear Lognormal at 5% Significance Level											
62												
63	Lognormal Statistics											
64	Minimum of Logged Data					2.565	Mean of logged Data					4.644
65	Maximum of Logged Data					7.378	SD of logged Data					1.906
66												
67	Assuming Lognormal Distribution											
68	95% H-UCL					3266979	90% Chebyshev (MVUE) UCL					1098
69	95% Chebyshev (MVUE) UCL					1438	97.5% Chebyshev (MVUE) UCL					1909
70	99% Chebyshev (MVUE) UCL					2834						
71												
72	Nonparametric Distribution Free UCL Statistics											
73	Data appear to follow a Discernible Distribution at 5% Significance Level											
74												
75	Nonparametric Distribution Free UCLs											
76	95% CLT UCL					900.1	95% Jackknife UCL					1048
77	95% Standard Bootstrap UCL					844.7	95% Bootstrap-t UCL					10960
78	95% Hall's Bootstrap UCL					3785	95% Percentile Bootstrap UCL					968.8
79	95% BCA Bootstrap UCL					1031						
80	90% Chebyshev(Mean, Sd) UCL					1312	95% Chebyshev(Mean, Sd) UCL					1726
81	97.5% Chebyshev(Mean, Sd) UCL					2299	99% Chebyshev(Mean, Sd) UCL					3426
82												
83	Suggested UCL to Use											
84	95% Student's-t UCL					1048						
85												
86	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
87	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
88	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
89	For additional insight the user may want to consult a statistician.											
90												

DATA ENTRY SHEET

GW-ADV
Version 3.1; 02/04

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES

Reset to
Defaults

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES

ENTER
Chemical
CAS No.
(numbers only,
no dashes)

ENTER
Initial
groundwater
conc.,
 C_w
($\mu\text{g/L}$)

Chemical

79016 7.50E+02

Trichloroethylene

Indoor air concentration
3.46E-01

MORE
↓

ENTER Average soil/ groundwater temperature, T_s (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
11	15	259	259			A	SIL	SIL		

MORE
↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
SIL	1.49	0.439	0.18	SIL	1.49	0.439	0.18	C	1.43	0.459	0.215

MORE
↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($\text{g/cm} \cdot \text{s}^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	9144	12192	457	0.1	2	5

MORE
↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-06	1

END

Used to calculate risk-based
groundwater concentration.

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm ² /s)	Diffusivity in water, D_w (cm ² /s)	Henry's law constant at reference temperature, H (atm-m ³ /mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Organic carbon partition coefficient, K_{oc} (cm ³ /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF (µg/m ³) ⁻¹	Reference conc., RfC (mg/m ³)
7.90E-02	9.10E-06	1.03E-02	25	7,505	360.36	544.20	1.66E+02	1.47E+03	1.1E-04	4.0E-02

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm ³ /cm ³)	Stratum B soil air-filled porosity, θ_a^B (cm ³ /cm ³)	Stratum C soil air-filled porosity, θ_a^C (cm ³ /cm ³)	Stratum A effective total fluid saturation, S_{fe} (cm ³ /cm ³)	Stratum A soil intrinsic permeability, k_i (cm ²)	Stratum A soil relative air permeability, k_{rg} (cm ²)	Stratum A soil effective vapor permeability, k_v (cm ²)	Thickness of capillary zone, L_{cz} (cm)	Total porosity in capillary zone, n_{cz} (cm ³ /cm ³)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm ³ /cm ³)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm ³ /cm ³)	Floor-wall seam perimeter, X_{crack} (cm)
9.46E+08	244	0.259	0.259	0.244	0.307	2.82E-09	0.798	2.25E-09	68.18	0.439	0.090	0.349	42,672

Bldg. ventilation rate, $Q_{building}$ (cm ³ /s)	Area of enclosed space below grade, A_B (cm ²)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} (atm-m ³ /mol)	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D_A^{eff} (cm ² /s)	Stratum B effective diffusion coefficient, D_B^{eff} (cm ² /s)	Stratum C effective diffusion coefficient, D_C^{eff} (cm ² /s)	Capillary zone effective diffusion coefficient, D_{cz}^{eff} (cm ² /s)	Total overall effective diffusion coefficient, D_T^{eff} (cm ² /s)	Diffusion path length, L_d (cm)
2.83E+07	1.12E+08	3.81E-05	15	8,544	5.05E-03	2.17E-01	1.76E-04	4.56E-03	0.00E+00	0.00E+00	1.43E-04	4.74E-04	244

Convection path length, L_p (cm)	Source vapor conc., C_{source} (μg/m ³)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm ³ /s)	Crack effective diffusion coefficient, D^{crack} (cm ² /s)	Area of crack, A_{crack} (cm ²)	Exponent of equivalent foundation Peclet number, exp(Pe ^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ (μg/m ³)	Unit risk factor, URF (μg/m ³) ⁻¹	Reference conc., RfC (mg/m ³)
15	1.62E+05	0.10	8.33E+01	4.56E-03	4.27E+03	3.94E+18	2.13E-06	3.46E-01	1.1E-04	4.0E-02

END

RESULTS SHEET

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA	NA	NA	1.47E+06	NA

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
1.6E-05	8.3E-03

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

MESSAGE: Risk/HQ or risk-based groundwater concentration is based on a route-to-route extrapolation.

SCROLL
DOWN
TO "END"

END

VLOOKUP TABLES

Soil Properties Lookup Table										
SCS Soil Type	K _s (cm/h)	α ₁ (1/cm)	N (unitless)	M (unitless)	n (cm ³ /cm ³)	θ _i (cm ³ /cm ³)	Mean Grain Diameter (cm)	Bulk Density (g/cm ³)	θ _w (cm ³ /cm ³)	SCS Soil Name
C	0.61	0.01496	1.253	0.2019	0.459	0.098	0.0092	1.43	0.215	Clay
CL	0.34	0.01581	1.416	0.2938	0.442	0.079	0.016	1.48	0.168	Clay Loam
L	0.50	0.01112	1.472	0.3207	0.399	0.061	0.020	1.59	0.148	Loam
LS	4.38	0.03475	1.746	0.4273	0.390	0.049	0.040	1.62	0.076	Loamy Sand
S	26.78	0.03524	3.177	0.6852	0.375	0.053	0.044	1.66	0.054	Sand
SC	0.47	0.03342	1.208	0.1722	0.385	0.117	0.025	1.63	0.197	Sandy Clay
SCL	0.55	0.02109	1.330	0.2481	0.384	0.063	0.029	1.63	0.146	Sandy Clay Loam
SI	1.82	0.00658	1.679	0.4044	0.489	0.050	0.0046	1.35	0.167	Silt
SIC	0.40	0.01622	1.321	0.2430	0.481	0.111	0.0039	1.38	0.216	Silty Clay
SICL	0.46	0.00839	1.521	0.3425	0.482	0.090	0.0056	1.37	0.198	Silty Clay Loam
SIL	0.76	0.00506	1.663	0.3987	0.439	0.065	0.011	1.49	0.180	Silt Loam
SL	1.60	0.02667	1.449	0.3099	0.387	0.039	0.030	1.62	0.103	Sandy Loam

Chemical Properties Lookup Table																
CAS No.	Chemical	Organic carbon partition coefficient, K _{oc} (cm ³ /g)	Diffusivity in air, D _a (cm ² /s)	Diffusivity in water, D _w (cm ² /s)	Pure component water solubility, S (mg/L)	Henry's law constant H' (unitless)	Henry's law constant at reference temperature, H (atm·m ³ /mol)	Henry's law constant reference temperature, T _R (°C)	Normal boiling point, T _B (°K)	Critical temperature, T _C (°K)	Enthalpy of vaporization at the normal boiling point, ΔH _{v,b} (cal/mol)	Unit risk factor, URF (μg/m ³) ⁻¹	Reference conc., RfC (mg/m ³)	URF extrapolated (X)	RfC extrapolated (X)	
630206	1,1,1,2-Tetrachloroethane	1.16E+02	7.10E-02	7.90E-06	1.10E+03	9.90E-02	2.41E-03	25	403.5	624	9768.282525	7.4E-06	1.1E-01		X	
71556	1,1,1-Trichloroethane	1.10E+02	7.80E-02	8.80E-06	1.33E+03	7.03E-01	1.72E-02	25	347.24	545.00	7,136	0.0E+00	2.2E+00			
79345	1,1,2,2-Tetrachloroethane	9.33E+01	7.10E-02	7.90E-06	2.96E+03	1.41E-02	3.44E-04	25	419.60	661.15	8,996	5.8E-05	2.1E-01		X	
76131	1,1,2-Trichloro-1,2,2-trifluoroetha	1.11E+04	7.80E-02	8.20E-06	1.70E+02	1.97E+01	4.80E-01	25	320.70	487.30	6,463	0.0E+00	3.0E+01			
79005	1,1,2-Trichloroethane	5.01E+01	7.80E-02	8.80E-06	4.42E+03	3.73E-02	9.11E-04	25	386.15	602.00	8,322	1.6E-05	1.4E-02		X	
75343	1,1-Dichloroethane	3.16E+01	7.42E-02	1.05E-05	5.06E+03	2.30E-01	5.61E-03	25	330.55	523.00	6,895	0.0E+00	5.0E-01			
75354	1,1-Dichloroethylene	5.89E+01	9.00E-02	1.04E-05	2.25E+03	1.07E+00	2.60E-02	25	304.75	576.05	6,247	0.0E+00	2.0E-01			
96184	1,2,3-Trichloropropane	2.20E+01	7.10E-02	7.90E-06	1.75E+03	1.67E-02	4.08E-04	25	430.00	652.00	9,171	5.7E-04	4.9E-03	X		
120821	1,2,4-Trichlorobenzene	1.78E+03	3.00E-02	8.23E-06	4.88E+01	5.81E-02	1.42E-03	25	486.15	725.00	10,471	0.0E+00	4.0E-03			
95636	1,2,4-Trimethylbenzene	1.35E+03	6.06E-02	7.92E-06	5.70E+01	2.52E-01	6.14E-03	25	442.30	649.17	9,369	0.0E+00	6.0E-03			
106934	1,2-Dibromoethane (ethylene dib	2.50E+01	2.17E-02	1.19E-05	4.18E+03	3.04E-02	7.41E-04	25	404.60	583.00	8,310	2.2E-04	2.0E-04			
95501	1,2-Dichlorobenzene	6.17E+02	6.90E-02	7.90E-06	1.56E+02	7.77E-02	1.90E-03	25	453.57	705.00	9,700	0.0E+00	2.0E-01			
107062	1,2-Dichloroethane	1.74E+01	1.04E-01	9.90E-06	8.52E+03	4.00E-02	9.77E-04	25	356.65	561.00	7,643	2.6E-05	0.0E+00			
78875	1,2-Dichloropropane	4.37E+01	7.82E-02	8.73E-06	2.80E+03	1.15E-01	2.79E-03	25	369.52	572.00	7,590	1.9E-05	4.0E-03	X		
108678	1,3,5-Trimethylbenzene	1.35E+03	6.02E-02	8.67E-06	2.00E+00	2.41E-01	5.87E-03	25	437.89	637.25	9,321	0.0E+00	6.0E-03			
106990	1,3-Butadiene	1.91E+01	2.49E-01	1.08E-05	7.35E+02	3.01E+00	7.34E-02	25	268.60	425.00	5,370	3.0E-02	2.0E-03			
541731	1,3-Dichlorobenzene	1.98E+03	6.92E-02	7.86E-06	1.34E+02	1.27E-01	3.09E-03	25	446	684	9230.18	0.0E+00	1.1E-01		X	
542756	1,3-Dichloropropene	4.57E+01	6.26E-02	1.00E-05	2.80E+03	7.24E-01	1.77E-02	25	381.15	587.38	7900	4.0E-06	2.0E-02			
106467	1,4-Dichlorobenzene	6.17E+02	6.90E-02	7.90E-06	7.90E+01	9.82E-02	2.39E-03	25	447.21	684.75	9,271	0.0E+00	8.0E-01			
109693	1-Chlorobutane	1.72E+01	8.26E-02	1.00E-05	1.10E+03	6.93E-01	1.69E-02	25	351.60	542.00	7,263	0.0E+00	1.4E+00		X	
126998	2-Chloro-1,3-butadiene (chloropr	6.73E+01	8.58E-02	1.03E-05	2.12E+03	4.91E-01	1.20E-02	25	332.40	525.00	8,075	0.0E+00	7.0E-03			
95578	2-Chlorophenol	3.88E+02	5.01E-02	9.46E-06	2.20E+04	1.60E-02	3.90E-04	25	447.53	675.00	9,572	0.0E+00	1.8E-02		X	
75296	2-Chloropropane	9.14E+00	8.88E-02	1.01E-05	3.73E+03	5.93E-01	1.45E-02	25	308.70	485.00	6,286	0.0E+00	1.0E-01			
91576	2-Methylnaphthalene	2.81E+03	5.22E-02	7.75E-06	2.46E+01	2.12E-02	5.17E-04	25	514.26	761.00	12,600	0.0E+00	7.0E-02		X	
79469	2-Nitropropane	1.17E+01	9.23E-02	1.01E-05	1.70E+04	5.03E-03	1.23E-04	25	393.20	594.00	8,383	2.7E-03	2.0E-02			
83329	Acenaphthene	7.08E+03	4.21E-02	7.69E-06	3.57E+00	6.34E-03	1.55E-04	25	550.54	803.15	12,155	0.0E+00	2.1E-01		X	
75070	Acetaldehyde	1.06E+00	1.24E-01	1.41E-05	1.00E+06	3.23E-03	7.87E-05	25	293.10	466.00	6,157	2.2E-06	9.0E-03			
67641	Acetone	5.75E-01	1.24E-01	1.14E-05	1.00E+06	1.59E-03	3.87E-05	25	329.20	508.10	6,955	0.0E+00	3.5E-01		X	
75058	Acetonitrile	4.20E+00	1.28E-01	1.66E-05	1.00E+06	1.42E-03	3.45E-05	25	354.60	545.50	7,110	0.0E+00	6.0E-02			
98862	Acetophenone	5.77E+01	6.00E-02	8.73E-06	6.13E+03	4.38E-04	1.07E-05	25	475.00	709.50	11,732	0.0E+00	3.5E-01		X	
107028	Acrolein	2.76E+00	1.05E-01	1.22E-05	2.13E+05	4.99E-03	1.22E-04	25	325.60	506.00	6,731	0.0E+00	2.0E-05			
107131	Acrylonitrile	5.90E+00	1.22E-01	1.34E-05	7.40E+04	4.21E-03	1.03E-04	25	350.30	519.00	7,786	6.8E-05	2.0E-03			
309002	Aldrin	2.45E+06	1.32E-02	4.86E-06	1.70E-02	6.95E-03	1.70E-04	25	603.01	839.37	15000	4.9E-03	1.1E-04		X	
319846	alpha-HCH (alpha-BHC)	1.23E+03	1.42E-02	7.34E-06	2.00E+00	4.34E-04	1.06E-05	25	596.55	839.36	15000	1.8E-03	0.0E+00			
100527	Benzaldehyde	4.59E+01	7.21E-02	9.07E-06	3.30E+03	9.73E-04	2.37E-05	25	452.00	695.00	11,658	0.0E+00	3.5E-01		X	
71432	Benzene	5.89E+01	8.80E-02	9.80E-06	1.79E+03	2.27E-01	5.54E-03	25	353.24	562.16	7,342	7.8E-06	3.0E-02			
205992	Benzo(b)fluoranthene	1.23E+06	2.26E-02	5.56E-06	1.50E-03	4.54E-03	1.11E-04	25	715.9	969.27	17000	2.1E-04	0.0E+00	X		
100447	Benzylchloride	6.14E+01	7.50E-02	7.80E-06	5.25E+02	1.70E-02	4.14E-04	25	452.00	685.00	8,773	4.9E-05	0.0E+00	X		
92524	Biphenyl	4.38E+03	4.04E-02	8.15E-06	7.45E+00	1.23E-02	2.99E-04	25	529.10	789.00	10,890	0.0E+00	1.8E-01		X	
111444	Bis(2-chloroethyl)ether	1.55E+01	6.92E-02	7.53E-06	1.72E+04	7.36E-04	1.80E-05	25	451.15	659.79	10,803	3.3E-04	0.0E+00			
75274	Bromodichloromethane	5.50E+01	2.98E-02	1.06E-05	6.74E+03	6.54E-02	1.60E-03	25	363.15	585.85	7,800	1.8E-05	7.0E-02	X		
75252	Bromofom	8.71E+01	1.49E-02	1.03E-05	3.10E+03	2.41E-02	5.88E-04	25	422.35	696.00	9,479	1.1E-06	7.0E-02		X	
75150	Carbon disulfide	4.57E+01	1.04E-01	1.00E-05	1.19E+03	1.24E+00	3.02E-02	25	319.00	552.00	6,391	0.0E+00	7.0E-01			
56235	Carbon tetrachloride	1.74E+02	7.80E-02	8.80E-06	7.93E+02	1.24E+00	3.03E-02	25	349.90	556.60	7,127	1.5E-05	0.0E+00			
57749	Chlordane	1.20E+05	1.18E-02	4.37E-06	5.60E-02	1.99E-03	4.85E-05	25	624.24	885.73	14,000	1.0E-04	7.0E-04			
108907	Chlorobenzene	2.19E+02	7.30E-02	8.70E-06	4.72E+02	1.51E-01	3.69E-03	25	404.87	632.40	8,410	0.0E+00	6.0E-02			
124481	Chlorodibromomethane	6.31E+01	1.96E-02	1.05E-05	2.60E+03	3.20E-02	7.81E-04	25	416.14	678.20	5,900	2.4E-05	7.0E-02	X		
75456	Chlorodifluoromethane	4.79E+01	1.01E-01	1.28E-05	2.00E+00	1.10E+00	2.70E-02	25	232.40	369.30	4,836	0.0E+00	5.0E+01			
75003	Chloroethane (ethyl chloride)	4.40E+00	2.71E-01	1.15E-05	5.68E+03	3.61E-01	8.80E-03	25	285.30	460.40	5,879	8.3E-07	1.0E+01	X		
67663	Chloroform	3.98E+01	1.04E-01	1.00E-05	7.92E+03	1.50E-01	3.66E-03	25	334.32	536.40	6,988	2.3E-05	0.0E+00			
218019	Chrysene	3.98E+05	2.48E-02	6.21E-06	6.30E-03	3.87E-03	9.44E-05	25	714.15	979	16455	2.1E-06	0.0E+00	X		
156592	cis-1,2-Dichloroethylene	3.55E+01	7.36E-02	1.13E-05	3.50E+03	1.67E-01	4.07E-03	25	333.65	544	7192	0.0E+00	3.5E-02		X	
123739	Crotonaldehyde (2-butenal)	4.82E+00	9.56E-02	1.07E-05	3.69E+04	7.99E-04	1.95E-05	25	375.20	568.00	9	5.4E-04	0.0E+00	X		
98828	Cumene	4.89E+02	6.50E-02	7.10E-06	6.13E+01	4.74E+01										

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