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November 18, 2019

Washington Department of Ecology
Northwest Regional Office
Attn: VCP Coordinator
3190 160th Avenue SE
Bellevue, WA 98008-5452

Dear VCP Coordinator:

Please find the enclosed Subsurface Investigation Report, that documents the results at ARCO Facility No. 980 located at 10822 Roosevelt Way NE, Seattle, Washington.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Wade Melton', written over a light blue rectangular background.

Wade Melton
Operations Project Manager
Remediation Management Services Company
An affiliate of Atlantic Richfield Company

cc: File, Antea Group



Subsurface Investigation Report

ARCO Facility No. 980
10822 Roosevelt Way NE, Seattle, Washington

Antea®Group

Understanding today.
Improving tomorrow.

PREPARED FOR

Remediation Management Services
Company

An affiliate of Atlantic Richfield Company
4 Centerpointe Drive, Suite 200
Room LPR-4-222
La Palma, CA 90623

November 18, 2019

FSID No. 68996432

Antea Group Project No. 00980SA191

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1.0 Introduction

1.1 PURPOSE AND SCOPE OF WORK

On behalf of Remediation Management Services Company (RMSC, a BP affiliated company), Antea®Group (Antea Group) conducted a subsurface investigation at Atlantic Richfield Company (ARCO) Facility No. 980, located at 10822 Roosevelt Way NE, Seattle, King County, Washington (hereinafter referred to as the “Site”). The investigation, which consisted of the installation of four monitoring wells, was conducted in September 2019. The objective of this assessment was to further characterize the conditions of hydrocarbon contamination near injection well IW-1 and to delineate the extent of contamination to the east and west of injection well IW-1.

The investigation scope of work included the following:

- Update the Health and Safety Plan (HASP) for the Site;
- Request a public locate via the One-Call Notification Center;
- Conduct a meeting with subcontractors to develop Level 2 Task Risk Assessment (TRA);
- Contract Applied Professional Services (APS) of North Bend, WA to identify all private utilities at the Site;
- Conduct utility pre-clearance at each boring location to a minimum of 6.5 feet below ground surface (bgs) using a vacuum truck and air-knife;
- Advance four soil borings and subsequently complete them as 2-inch diameter monitoring wells to an approximate depth of 20 feet bgs using a sonic drill rig;
- Collect soil samples and submit select samples for quantitative chemical analyses;
- Develop the newly installed groundwater monitoring wells;
- Survey the locations and relative vertical elevations of the monitoring wells;
- Collect groundwater samples from monitoring wells and submit the samples for quantitative chemical analyses;
- Coordinate the proper disposal of investigation derived waste;
- Interpret the data obtained; and
- Prepare this report.

1.2 SITE DESCRIPTION

The Site is an active ARCO branded retail gasoline station with a convenience store located on the southeast corner of the intersection of Roosevelt Way NE and NE Northgate Way in Seattle, Washington. A Site Location Map and Site Aerial Map are presented as Figures 1 and 2, respectively. The Site vicinity is a mix of commercial and residential land uses. The closest surface water body is Thornton Creek located approximately 250 feet south of the Site. According to Google Earth, the Site is approximately 260 feet above mean sea level.

Site features include the station building with a canopy extending north from the building over two pump islands and a separate canopy west of the building over a third pump island. The underground storage tank (UST) complex containing four double-walled tanks is located to the northeast of the station building. The Site surface consists of asphalt pavement and concrete except in three designated planter areas. Petroleum hydrocarbon contamination extends south to the Caribbean House Apartments property. The parking lot of the apartment building is approximately 5 feet lower in elevation than the station’s grade. The two properties are separated by

a cinder block retaining wall. The Caribbean House Apartments are located along the western portion of the property with a paved parking lot along the eastern portion of the property. The apartments consist of a multi-level building with a central courtyard. A Site Map detailing the structures is presented on Figure 3.

1.3 PREVIOUS INVESTIGATIONS

A summary of previous assessments is described below:

1.3.1 December 1989 – Preliminary Soil Assessment

On September 12, 1989, ARC contracted Geraghty & Miller (G&M) to install four soil borings (B1 – B4) in the vicinity of the UST complex at the Site. The soil borings were installed as part of a preliminary soil assessment prior to UST removal activities. Hydrocarbon concentrations were detected above Model Toxics Control Act (MTCA) Method A cleanup levels at three of the four borings.

1.3.2 October 1990 – Station Upgrades

In October 1990, ARC contracted Joe Hall Construction Company to remove four gasoline USTs, and the associated product distribution piping from the Site. The USTs consisted of one 10,000-gallon steel UST, and three 6,000-gallon steel USTs. Petroleum hydrocarbon concentrations were detected above the MTCA Method A Cleanup Levels in soil samples collected from the UST cavity and from below the product lines. During excavation activities, an abandoned septic tank was discovered. Light non-aqueous phase liquid (LNAPL) was measured in the abandoned septic tank and the contents were removed; however, the septic tank was left in place due to the proximity to structures on the ARCO property. In addition to the gasoline USTs, a waste oil UST was also reportedly removed.

1.3.3 March 1992 – Monitoring Well and Bioventing Well Installation

Between March 1992 and September 1992, ARC contracted G&M to install 10 soil borings at the Site. Five soil borings were subsequently completed as groundwater monitoring wells (MW-1 through MW-5), and five borings were completed as bioventing wells (BV-1 through BV-5). Petroleum hydrocarbon concentrations were detected above the MTCA Method A Cleanup Levels in soil samples collected from the borings for MW-1, MW-4, MW-5, BV-3, and BV-5. LNAPL was subsequently measured in wells MW-4 and BV-3 in March 1993.

1.3.4 1993 – Monitoring Well Installation and Soil Vapor Extraction Pilot Test

In early 1993, ARC contracted G&M to install four additional soil borings to further delineate soil and groundwater contamination at the Site. Two soil borings were subsequently completed as groundwater monitoring wells (MW-6 and MW-7), and two borings were completed as bioventing wells (BV-6 and BV-7). In addition to the subsurface investigation, a soil vapor extraction (SVE) feasibility test was conducted on select bioventing wells. Soil samples collected from MW-6 and BV-7 contained concentrations of petroleum hydrocarbons in excess of cleanup levels.

1.3.5 September 1993 – Offsite Investigation

James P. Hurley and Company (JPHC) completed Phase I and Phase II Environmental Site Assessments (ESA) for the adjacent property located at 10800 Roosevelt Way NE, located just south of the ARCO station (Caribbean Apartments). The Phase II ESA included the installation of three soil borings on the Caribbean House Apartments property, two of which were completed as groundwater monitoring wells B1 (JPHC) and B3 (JPHC). The results of the assessment indicated the presence of elevated hydrocarbon concentrations in soil and groundwater.

1.3.6 1994 – Offsite Investigation and Well Install

In early 1994, G&M completed a subsurface investigation on the Caribbean House Apartments property. The investigation consisted of the installation of nine soil borings. Three soil borings were completed as groundwater monitoring wells (MW-8 through MW-10), two as nested pressure and vacuum monitoring wells (VP-1 and VP-2), one soil vacuum extraction well nested with one air sparge well (SVE-1/AS-1), one SVE well (SVE-2), and two air sparge wells (AS-2 and AS-3).

1.3.7 September 1994 – Soil Vapor Extraction System Installation

In September 1994, G&M installed a soil vapor extraction system with a combination thermal and catalytic oxidizer at the Site. The SVE system extracted from wells BV-3, BV-7, and MW-5. The SVE system was started in November 1994 by Delta Consultants (Delta).

1.3.8 March 1995 – Air Sparge Pilot Test

In March and April 1995, Delta oversaw the installation of two air sparge wells (AS-4 and AS-5), and one monitoring well (MW-11) at the Site. Soil samples AS-5-12 and MW-11-17 contained concentrations of total petroleum hydrocarbons as gasoline (TPH-G) at 1,200 parts per million (ppm) and 140 ppm, respectively. Concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in AS-5-12, ranging from 4.7 ppm (benzene) to 240 ppm (xylenes). Following installation of the air sparge wells, Delta completed an air sparge pilot test on the newly installed air sparge wells with favorable results.

1.3.9 April 1996 – Remediation System Upgrades

In April 1996, the remediation system was shut down for system upgrades. Remediation system upgrades included: the addition of air sparge components, the enlargement of existing SVE wells from 2 to 4-inch diameter wells and installing more SVE and air sparge wells. The remediation system was restarted on May 1, 1996.

1.3.10 July 1996 – Additional Assessment

In July 1996, Delta oversaw the installation of soil borings B-4 and B-5 and monitoring well MW-12 on the Caribbean House Apartments property for additional assessment and delineation of soil and groundwater impacts. Soil analytical results indicated concentrations of TPH-G and/or benzene from sample B-4 at 20 feet bgs and MW-12 at 10 feet bgs.

1.3.11 September 1997 – Enhanced Fluid Recovery Program

In September 1997, Delta began an enhanced fluid recovery (EFR) program for the recovery of LNAPL and petroleum hydrocarbon impacted groundwater from wells located on the Site and the Caribbean House Apartments property. EFR events were conducted through 2003. Details on volumes recovered are included in groundwater monitoring reports for the Site.

1.3.12 October 1999 – Air Sparge System Shutdown

In October 1999, the air sparge portion of the remediation system was shut down.

1.3.13 August 2002 – Temporary System Shutdown

In August 2002, the SVE system was shut down to evaluate LNAPL rebound.

1.3.14 October 2005 – Remediation System Expansion

In October 2005, Delta oversaw the installation of additional remediation wells at the subject property. In preparation for the installation of a dual phase extraction (DPE) remediation system, six extraction wells (EX-1 through EX-6) were installed along the southern portion of the ARCO property. Soil samples were collected

during extraction well installation. Soil analytical results indicated the presence of benzene and TPH-G in the soil samples collected from EX-4 at 16.5 and 21.0 feet bgs. The system was tested and optimized before being placed in full-time operation in the first quarter 2008. The DPE system operated at the Site until fourth quarter 2012, when it was shut down and subsequently removed in August 2014. A total of 6,583,867 gallons of water was treated and discharged to sanitary sewer during the operational lifetime of the DPE system.

1.3.15 December 2014 – Injection Well Installation

In December 2014, Innovex Environmental Management, Inc. (Innovex) personnel oversaw the installation of four injection wells IW-1 through IW-4 on the Caribbean House Apartments property to address remaining dissolved-phase and soil bound hydrocarbon impacts.

1.3.16 April 2016 – Hydrogen Peroxide Injection

In April 2016, Innovex contracted In-Situ Oxidative Technologies, Inc. (Isotec) to conduct injection of stabilized hydrogen peroxide in injection wells IW-1 through IW-4. On April 19, 2016, injection well IW-2 received 50 gallons of ferrous iron catalyst followed by 50 gallons of stabilized hydrogen peroxide. While preparing for injection in IW-1 Innovex measured and confirmed the presence of approximately 0.25 inches of LNAPL in IW-1. Injections were stopped due to health and safety concerns associated with hydrogen peroxide application into free LNAPL.

1.3.17 November 2017 – Confirmation Soil Sampling

In August 2017, Antea Group was informed of product line and dispenser upgrade activities being conducted at the Site. On August 17, 2017 Antea Group personnel arrived on site and observed that all dispensers and associated product piping had been removed. The depth of the product piping trench ranged from 2.5 to 4 feet bgs. Varying amounts of pea gravel was observed in isolated locations at the bottom of the trenches and in the locations of the former dispenser islands as well as a stockpile consisting of nearly all pea gravel. The pea gravel was likely put in place during the 1990 upgrade activities. Soil samples were collected at four locations from the bottom of the excavated product piping trench at depths of 2.5 and 4 feet bgs to confirm soil concentrations previously identified as impacted during the 1990 upgrades. Historical tank pit sampling locations were not accessible during the August 2017 upgrade activities. Laboratory analytical results of the four soil samples indicated that concentrations of BTEX and TPH-G were not detected in excess of Washington Department of Ecology's (Ecology) MTCA Method A Cleanup Levels or laboratory method reporting limits.

1.3.18 December 2018 – Orphan Tank Decommissioning

On December 12, 2018, Antea Group was notified of the presence of an unknown oily substance in an open trench cut at ARCO facility 980. Upon arrival at the site, Antea Group personnel observed the accumulated fluid and collected a sample for profiling. Laboratory analysis identified the fluid as a light, oil-range petroleum product with a chromatogram characteristic of transmission or hydraulic fluid. Between December 12 and 18, 2018, a previously unidentified 140-gallon oil tank was discovered and removed from the Site. Approximately 175 gallons of a mixture of oil, stormwater, sludge, soil, and rinse water was removed from the tank prior to removal from the ground on December 18, 2018. An area approximately 8 feet wide, 8 feet long, and 6 feet deep was excavated from around the tank to remove petroleum impacted soil. Soil samples contained petroleum hydrocarbon impacts in excess of the MTCA Method A Cleanup Levels. On January 2 and 3, 2019, additional soil was removed to extend each sidewall 3 to 4 feet beyond the prior limit and an additional 1 foot of soil was removed from the bottom of the excavation. Following removal of additional soil from the sidewalls, soil samples collected from the north, south and east sidewalls still contained petroleum hydrocarbon impacts in excess of the respective MTCA Method A Cleanup Levels. Due to the limits imposed by buried utilities and fuel dispensers in the area, no additional soil was removed.

1.4 CURRENT SITE STATUS

The Site is listed on Ecology’s Leaking Underground Storage Tanks (LUST) list with facility site ID 68996432. The Site was enrolled in Ecology’s Voluntary Cleanup Program (VCP) with VCP ID NW2729 but was subsequently terminated from the program in February 2017. All remedial activities are currently being conducted as an independent cleanup action outside of the VCP. The current status on the Ecology Integrated Site Information System (ISIS) is “Cleanup Started”. There are currently eight monitoring wells on the ARCO property and ten monitoring wells on the Caribbean Apartments property. Currently, monitoring wells MW-2, MW-4, MW-8 through MW-12, and B1(JPHC) are sampled on a semi-annual basis. The new monitoring wells MW-13, MW-14, MW-15, and MW-16 will be added to the semi-annual groundwater monitoring schedule. Summaries of groundwater elevation and analytical data are included as Tables 1 and 2, respectively.

2.0 Project Activities

2.1 DRILLING AND SOIL SAMPLING

The subsurface investigation included advancing a total of four soil borings to a maximum depth of 25 feet bgs. All four borings were completed as groundwater monitoring wells MW-13, MW-14, MW-15, and MW-16. The soil borings and monitoring well locations are presented on Figure 3.

Cascade Drilling, Inc. (Cascade), of Tacoma, Washington completed the borings and well installation activities in September 2019. Cascade began borehole clearance on September 9, 2019, using a vacuum truck and air-knife to clear each boring to a minimum depth of 6.5 feet bgs. Air-knife and vacuum truck operations were ceased at 3.5 feet bgs and soil samples were collected from 5 feet bgs utilizing a hand auger that was advanced into the undisturbed soil 18 inches ahead of the pre-cleared boring. The hand auger was washed with soap and water followed by a clean water rinse before each use.

On September 10, 2019, drilling activities began at monitoring well MW-16 using a track mounted limited access sonic drill rig. Soil samples were collected from MW-14 and MW-16 using a 6-inch diameter core barrel and from MW-13 and MW-15 using a 10-inch diameter core barrel advanced ahead of the drill casing to collect a continuous core soil samples. The 10-inch diameter core barrel was used to increase the diameter of the sand filter pack to allow for greater hydraulic connectivity and ultimately increase the ability to use the wells as extraction wells. Soil samples were transferred from the core barrel to clean, single-use plastic bags for observation and collection of laboratory samples. Drill casing and sample barrels were decontaminated using detergent and a water pressure washer between boring locations.

Monitoring wells MW-13, MW-14, MW-15, and MW-16 were drilled to the total depths of 19 feet bgs, 14 feet bgs, 25 feet bgs, and 20 feet bgs, respectively. The total depth of monitoring well MW-14 was set at 14 feet bgs due to the borehole repeatedly collapsing when drill rods were removed. Groundwater was observed at relatively shallow depth therefore the shallow total depth of the well will not adversely affect groundwater data collected from the well. Due to relatively deep depth to groundwater in boring location MW-15 the total depth of the boring was extended to 25 feet bgs. Attempts to set the well at 25 feet bgs failed due to heaving sand. The total depth of MW-15 was set at 23 feet bgs.

Soil samples were collected to characterize subsurface lithology and to provide samples for chemical analyses. Antea Group personnel observed and logged the borings using the Unified Soil Classification System. After

collection, each soil sample was field screened for the presence of volatile organic compounds with a photoionization detector (PID) to aid in the selection of representative soil samples for chemical analysis. Discrete soil samples were collected for analytical testing based on depth, indications of petroleum contamination, and moisture content. A total of 15 soil samples were submitted to TestAmerica Laboratory (TestAmerica) in Tacoma, Washington for quantitative chemical analysis following standard chain-of-custody procedures.

The field procedures used during the investigation are provided in Appendix A. Boring logs describing soil horizons, sample recovery, PID screening values, and well completion details are presented in Appendix B.

2.2 MONITORING WELL COMPLETION

Monitoring wells MW-13 and MW-15 were constructed of 2-inch diameter schedule 40 PVC with 0.020-inch slotted screen. Monitoring wells MW-14 and MW-16 were constructed of 2-inch diameter schedule 40 PVC with 0.010-inch slotted screen. The screened interval of monitoring wells MW-13, MW-14, MW-15, and MW-16 were 7 to 19 feet bgs, 4 to 14 feet bgs, 6 to 23 feet bgs, and 8 to 20 feet bgs, respectively. The annular space of the borings was filled with sand to approximately 2 feet above the screen, followed by a hydrated bentonite chip seal to approximately 2 feet bgs. Each well was completed to ground surface with concrete from the top of the bentonite seal and a flush-mounted well monument.

2.3 WELL DEVELOPMENT AND SURVEYING

On September 18, 2019, monitoring wells MW-13, MW-14, MW-15, and MW-16 were developed to remove fine grained sediments from the sand filter pack. Development was conducted using a submersible pump to remove a minimum of ten casing volumes or until the well no longer recharged. On October 10, 2019, the top of casing (TOC) for each well was surveyed relative to an existing Site monitoring well. Elevations were surveyed to the nearest 0.01 foot.

2.4 ON-SITE CONTAINMENT OF DRILL CUTTINGS AND DECONTAMINATION WATER

Soil cuttings and decontamination water generated from the subsurface investigation were temporarily stored in 55-gallon drums onsite. The drums were properly labeled and sealed pending offsite disposal at an approved facility. The waste will be transported to a disposal facility in November of 2019.

2.5 GROUNDWATER SAMPLING

On September 26, 2019, Antea Group collected groundwater samples from the newly installed monitoring wells MW-13, MW-14, MW-15, and MW-16. Prior to sampling, groundwater levels were measured using an oil/water interface probe. Groundwater samples were collected using low-flow sampling methods. The samples were collected using a peristaltic pump and dedicated LDPE and silicone tubing for purging while collecting water quality readings and samples from each well. Water quality readings were collected for each well by pumping water through a flow-through cell of a water quality meter at a rate of less than 1 liter per minute. Measurements are recorded for temperature, electrical conductivity, pH, oxidation reduction potential (ORP), dissolved oxygen (DO), turbidity, and/or total dissolved solids (TDS) at 3 to 5-minute intervals until each parameter stabilized. The flow-through cell was disconnected from the pump tubing and samples for laboratory analysis were collected directly from the tubing. The groundwater samples were submitted to Test America for quantitative chemical analysis in accordance with standard chain-of-custody procedures.

3.0 Project Results

3.1 SITE GEOLOGY AND HYDROGEOLOGY

The area is in the Puget Sound Lowland geomorphic province, which consists mainly of glacially-deposited sediments. The Puget Sound Lowland is a basin lying between the Cascade Mountains to the east and the Olympic Mountains (coastal range) to the west. At least five major advances of continental glacial ice have been identified as having occurred in the Puget Sound Lowlands. Geologic units resulting from these glacial events include complex sequences of lacustrine deposits, advance outwash, glaciomarine drift, till, and recessional outwash. More recent erosional processes have deposited alluvial sand and gravel, primarily along river valleys.

The Site vicinity is underlain by Alderwood Soils, which is a Quaternary stratified sequence consisting of sandy loam with varying amounts of gravel. In addition, Alderwood soils are considered hydrologically as Class C, which indicates slow infiltration rates with layers impeding downward movement of water, or soils with moderately fine or fine textures. Soils observed at the Site during previous investigations include dense to very dense silty sand, sand, gravelly sand, and sandy gravel.

3.2 SUBSURFACE LITHOLOGIC CONDITIONS

Soils encountered during this investigation consisted of sandy silt, silty sand, and very fine to very coarse sand with some mixtures containing cobbles and gravels. Moist to wet soils were encountered beginning at depths between 10 and 20 feet bgs. Detailed soil descriptions are presented in the boring logs in Appendix B.

3.3 QUANTITATIVE CHEMICAL ANALYSIS

3.3.1 Soil Analytical

Soil samples were analyzed for the presence of the following constituents:

- BTEX, MTBE, dibromoethane (EDB), dichloroethane (EDC) by EPA Method 8260C;
- TPH-G by Northwest Method NWTPH-Gx;
- Total Petroleum hydrocarbons as diesel (TPH-D) and as oil (TPH-O) by Northwest Method NWTPH-Dx;
- Total lead by EPA Method 6020B; and
- One composite sample collected from soil cuttings was analyzed for the Resource Conservation and Recovery Act (RCRA) 8 Metals by EPA Method 6020A and EPA Method 7471A for waste characterization purposes.

Select soil samples from borings MW-13 and MW-15 were additionally analyzed for the presence of the following constituents due to the proximity of the former waste oil tank at the Site:

- Polycyclic aromatic hydrocarbons (PAHs) and naphthalene by EPA Method 8270 SIM; and
- Polychlorinated biphenyls (PCBs) by EPA Method 8082A.

Quantitative laboratory analysis from the September 2019 drilling event indicated that TPH-G concentrations in excess of MTCA Method A Cleanup Levels were present in soil samples collected from well MW-13. The maximum concentration of TPH-G was detected at 8 feet bgs at a concentration of 930 milligrams per kilogram (mg/kg). Laboratory analysis indicated that carcinogenic PAHs were present in the soil sample collected from well MW-15 at 5 feet bgs at a total concentration of combined carcinogenic PAHs of 0.17385 mg/kg. Under WAC 173-340-708(8), Toxicity Equivalency Factors (TEF) are defined to establish Cleanup Levels for carcinogenic PAHs. When PAH concentrations are corrected for toxicity the total concentration of combined carcinogenic PAHs is 0.03567, which is below the MTCA Method A Cleanup Level for combined carcinogenic PAHs. All other

constituents in MW-13 and MW-15 as well as all constituents analyzed from samples collected from MW-14 and MW-16 were below the respective MTCA Method A Cleanup Levels and/or laboratory MRLs.

Soil analytical results are summarized in Tables 1 through 3. TEF calculations are presented on Table 4. The Soil Analytical Data Map is presented as Figure 4. A copy of the Soil Laboratory Analytical Report is included in Appendix C.

3.3.2 Groundwater Analytical

Groundwater samples were analyzed for the presence of the following constituents:

- BTEX and MTBE by EPA Method 8260C;
- TPH-G by Northwest Method NWTPH-Gx;
- TPH-D and TPH-O by Northwest Method NWTPH-Dx; and
- Total and dissolved lead by EPA Method 6020B.

Quantitative laboratory analysis from the September 26, 2019 sampling event indicated benzene, TPH-G, TPH-D, and/or TPH-O concentrations in excess of MTCA Method A Cleanup Levels were present in groundwater samples collected from newly installed wells MW-13, MW-15, and MW-16. The highest concentrations of all analyzed constituents were reported from monitoring well MW-13. Monitoring well MW-16 contained TPH-D above the MTCA Method A Cleanup Level. Groundwater sampled from monitoring well MW-14 did not contain concentrations of analyzed constituents above the laboratory MRLs.

The groundwater elevation data is summarized in Table 4, groundwater analytical data is summarized in Table 5, and the Groundwater Analytical and Elevation Contour Map is presented as Figure 5. A copy of the Groundwater Laboratory Analytical Report is included in Appendix D.

3.5 QA/QC DISCUSSION

Groundwater analysis of the sample from MW-13 was flagged for matrix spike (MS) and/or matrix spike duplicate (MSD) recovery being outside acceptable limits for toluene, ethylbenzene, and MTBE. Additionally, the MS/MSD relative percent difference (RPD) exceeded the control limits for MTBE. These results have been identified in the tables and figures with qualifier of F1 and F2.

Soil analysis of sample MW-13-8 was flagged for the RPD between the primary and confirmation column exceeded 40 percent for PCB-1254. Soil sample MW-15-5 was flagged for MS/MSD exceeding acceptable limits for chrysene. The MS/MSD precision for preparation batch 580-311521 and analytical batch 580-311673 was outside control limits for Chrysene. Sample matrix interference and/or non-homogeneity are suspected because the MS/MSD recoveries and the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

It is not believed that the above referenced quality assurance and quality control (QA/QC) issues have a substantial effect on the data collected during this investigation. The laboratory analytical report for soil analysis is included in Appendix C. Laboratory analytical reports for groundwater are included as Appendix D.

4.0 Summary

In September 2019, four soil borings were advanced at the Caribbean Apartments property. The four borings were completed as groundwater monitoring wells (MW-13, MW-14, MW-15, and MW-16). Each monitoring well was constructed with a 2-inch diameter schedule 40 PVC well casing. A total of 15 soil samples were submitted to Test America for quantitative chemical analysis. Laboratory analytical results indicated that there were concentrations of TPH-G in soil samples collected from well MW-13 in excess of MTCA Method A Cleanup Levels. Groundwater was sampled from the new monitoring wells MW-13, MW-14, MW-15, and MW-16 on September 26, 2019. All samples were submitted to Test America for quantitative chemical analysis. Laboratory analytical results from September 2019 indicated concentrations of benzene, TPH-G, TPH-D, and/or TPH-O in excess of MTCA Method A Cleanup Levels in groundwater samples collected wells MW-13, MW-15, and MW-16.

5.0 Remarks

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Should you have any questions, or require additional information concerning this report, please contact the undersigned at (503) 863-2114.

Sincerely,

Prepared by:



Marissa Bernard
Staff Professional

Date: November 18, 2019


Reviewed by:



Brad Jackson
Project Manager

Date: November 18, 2019

Reviewed by:



Megan Richard
Senior Project Manager



MEGAN RICHARD

Date: November 18, 2019

Subsurface Investigation Report
ARCO Facility No. 980
10822 Roosevelt Way NE, Seattle, WA
Antea Group Project No. 00980SA191.20100
November 18, 2019



cc: VCP Coordinator, Washington Department of Ecology, Northwest Regional Office
(Hardcopy, Electronic Copy)
Mr. Michael Dahlstrom, Owner - Caribbean Apartments (Electronic Copy)
Mr. Joshua Pope, Montgomery Purdue Blankinship & Austin, PPLC (Electronic Copy)
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Tables

Table 1	Soil Analytical Data – TPH, VOCs, Lead
Table 2	Soil Analytical Data – Carcinogenic PAHs
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Table 1
 Soil Analytical Data - TPH, VOCs, Lead
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

			Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Lead
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MTCA Method A Soil			0.03	7	6	9	0.1	0.005	NGV	30	2000	2000	250
Well ID	Date	Depth	--	--	--	--	--	--	--	--	--	--	--
MW-13	9/9/2019	5	< 0.00097	0.00035 J	< 0.00097	0.00043 J	< 0.00097	< 0.00097	< 0.00097	< 6.3	< 60	< 60	3.9
MW-13	9/12/2019	8	< 0.00081	0.00146	0.00550	0.0125	< 0.00081	< 0.00081	< 0.00081	930	860	760	2.1
MW-13	9/12/2019	10	< 0.00076	0.00030 J	0.0193	0.0847	< 0.00076	< 0.00076	< 0.00076	340	< 54	69	1.1
MW-13	9/12/2019	12.5	0.00029 J	< 0.00081	0.00030 J	0.00131 J	< 0.00081	< 0.00081	< 0.00081	4.1	< 50	< 50	0.90
MW-13	9/12/2019	14	0.00121	0.00025 J	0.00111	0.00621	< 0.00077	< 0.00077	< 0.00077	120	< 50	< 50	1.1
MW-14	9/9/2019	5	< 0.00082	0.00032 J	< 0.00082	< 0.00245	< 0.00082	< 0.00082	< 0.00082	< 4.5	< 50	< 50	1.6
MW-14	9/12/2019	7.5	< 0.00076	0.00035 J	< 0.00076	< 0.00228	< 0.00076	< 0.00076	< 0.00076	< 4.4	< 52	< 52	1.2
MW-14	9/12/2019	10	< 0.00072	< 0.00072	< 0.00072	< 0.00216	< 0.00072	< 0.00072	< 0.00072	< 4.2	< 52	< 52	1.0
MW-15	9/9/2019	5	< 0.00083	0.00024 J	< 0.00083	0.00248	< 0.00083	< 0.00083	< 0.00083	9.1	< 54	320	81
MW-15	9/11/2019	10	< 0.00079	< 0.00079	< 0.00079	< 0.00236	< 0.00079	< 0.00079	< 0.00079	< 4.4	< 50	< 50	1.1
MW-15	9/11/2019	12	< 0.00080	0.00026 J	< 0.00080	< 0.00239	< 0.00080	< 0.00080	< 0.00080	< 4.4	< 51	65	1.4
MW-15	9/11/2019	14	< 0.00078	< 0.00078	< 0.00078	< 0.00235	< 0.00078	< 0.00078	< 0.00078	17	< 56	< 56	1.1
MW-16	9/9/2019	5	< 0.00092	0.00050 J	< 0.00092	< 0.00276	< 0.00092	< 0.00092	< 0.00092	< 5.4	< 56	120	33
MW-16	9/10/2019	9	< 0.00079	< 0.00079	< 0.00079	< 0.00237	< 0.00079	< 0.00079	< 0.00079	< 4.3	< 51	< 51	2.4
MW-16	9/10/2019	12	< 0.00075	< 0.00075	< 0.00075	< 0.00225	< 0.00075	< 0.00075	< 0.00075	< 4.4	< 54	< 54	1.4

NOTES:

VOCs analyzed by EPA Method 8260C

TPH-G = Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx

TPH-D = Total petroleum hydrocarbons as diesel by Northwest Method NWTPH-Dx

TPH-O = Total petroleum hydrocarbons as oil by Northwest Method NWTPH-Dx

MTBE = Methyl-tertiary-butyl ether by EPA Method 8260C

EDB = 1,2-Dibromoethane by EPA Method 8260C

EDC = 1,2-Dichloroethane by EPA Method 8260C

Results in **bold** exceed applicable action limits

NGV = No given value

mg/kg = milligrams/kilogram

-- = No information available

< = Not detected at or above indicated laboratory reporting limit

J = Estimated concentration value detected below the reporting limit

Depth recorded as feet below ground surface

Table 2
Soil Analytical Data - Carcinogenic PAHs
ARCO Facility 980
10822 Roosevelt Way NE
Seattle, WA 98125

		Sample ID	MW-13		MW-13		MW-13		MW-13		MW-13	
		Depth	5		8		10		12.5		14	
		Date	9/9/2019		9/12/2019		9/12/2019		9/12/2019		9/12/2019	
Constituent	MTCA Method A (mg/kg)	Toxicity Equivalency Factor (unitless)	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1
Carcinogenic PAHs												
Benzo(a)anthracene	--	0.10	<0.0061	0.00061	<0.0053	0.00053	<0.0054	0.00054	<0.0046	0.00045	<0.0050	0.0005
Benzo(a)pyrene	0.1	1.00	<0.0061	0.0061	<0.0053	0.0053	<0.0054	0.0054	<0.0046	0.0046	<0.0050	0.005
Benzo(b)fluoranthene	--	0.10	<0.0061	0.00061	<0.0053	0.00053	<0.0054	0.00054	<0.0046	0.00046	<0.0050	0.0005
Benzo(k)fluoranthene	--	0.10	<0.0061	0.00061	<0.0053	0.00053	<0.0054	0.00054	<0.0046	0.00046	<0.0050	0.0005
Chrysene	--	0.01	<0.0061	0.000061	<0.0053	0.000053	<0.0054	0.000054	<0.0046	0.000046	<0.0050	0.00005
Dibenzo(a,h)anthracene	--	0.10	<0.0061	0.00061	<0.0053	0.00053	<0.0054	0.00054	<0.0046	0.00046	<0.0050	0.0005
Indeno (1,2,3-cd) pyrene	--	0.10	<0.0061	0.00061	<0.0053	0.00053	<0.0054	0.00054	<0.0046	0.00046	<0.0050	0.0005
Total PAHs	0.1		<0.0427	0.009211	<0.0371	0.008003	<0.0378	0.008154	<0.0322	0.006936	<0.035	0.00755

		Sample ID	MW-15		MW-15		MW-15		MW-15	
		Depth	5		10		12		14	
		Date	9/9/2019		9/11/2019		9/11/2019		9/11/2019	
Constituent	MTCA Method A (mg/kg)	Toxicity Equivalency Factor (unitless)	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1	Measured Soil Concentration (mg/kg)	Toxic Equivalent Concentration (mg/kg) 1
Carcinogenic PAHs										
Benzo(a)anthracene	--	0.10	0.031	0.0031	<0.0050	0.0005	<0.0040	0.0004	<0.0041	0.00041
Benzo(a)pyrene	0.1	1.00	0.02	0.02	<0.0050	0.005	<0.0040	0.004	<0.0041	0.0041
Benzo(b)fluoranthene	--	0.10	0.039	0.0039	<0.0050	0.0005	<0.0040	0.0004	<0.0041	0.00041
Benzo(k)fluoranthene	--	0.10	0.012	0.0012	<0.0050	0.0005	<0.0040	0.0004	<0.0041	0.00041
Chrysene	--	0.01	0.041 F2	0.0041	<0.0050	0.00005	<0.0040	0.00004	<0.0041	0.000041
Dibenzo(a,h)anthracene	--	0.10	<0.0057	0.00057	<0.0050	0.0005	<0.0040	0.0004	<0.0041	0.00041
Indeno (1,2,3-cd) pyrene	--	0.10	0.028	0.0028	<0.0050	0.0005	<0.0040	0.0004	<0.0041	0.00041
Total PAHs	0.1	--	0.17385	0.03567	<0.035	0.00755	<0.028	0.00604	<0.0287	0.006191

Notes:

PAH = Polycyclic aromatic hydrocarbons by EPA Method 8270D SIM

mg/kg = milligrams/kilogram

-- = No information available

< = Not detected at or above indicated laboratory reporting limit

F2 = MS/MSD RPD exceeds control limits

Additional non-carcinogenic PAHs analyzed can be found in the laboratory analytical report

MTCA Method A cleanup level for PAHs is 0.1 mg/kg for the total of all carcinogenic PAHs

1 = Toxic equivalent concentration calculated by multiplying the measured soil concentration by the toxicity equivalency factor

Values not detected at or above laboratory reporting limits, the reporting limit value was used in the toxic equivalency calculation

Table 3
 Soil Analytical Data - PCBs and Naphthalenes
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

	Sample ID	MW-13	MW-13	MW-13	MW-13	MW-13	MW-15	MW-15	MW-15	MW-13
	Depth	5	8	10	12.5	14	5	10	12	14
	Date	9/9/2019	9/12/2019	9/12/2019	9/12/2019	9/12/2019	9/9/2019	9/11/2019	9/11/2019	9/12/2019
PCBs (mg/kg)	MTCA Method A									
PCB-1016	--	<0.025	<0.021	<0.021	<0.021	<0.021	<0.023	<0.021	<0.022	<0.022
PCB-1221	--	<0.025	<0.021	<0.021	<0.021	<0.021	<0.023	<0.021	<0.022	<0.022
PCB-1232	--	<0.025	<0.021	<0.021	<0.021	<0.021	<0.023	<0.021	<0.022	<0.022
PCB-1242	--	<0.025	<0.021	<0.021	<0.021	<0.021	<0.023	<0.021	<0.022	<0.022
PCB-1248	--	<0.025	<0.021	<0.021	<0.021	<0.021	<0.023	<0.021	<0.022	<0.022
PCB-1254	--	<0.025	0.12 p	<0.021	<0.021	0.089	<0.023	<0.021	<0.022	<0.022
PCB-1260	--	<0.025	<.021	<0.021	<0.021	<0.021	<0.023	<0.021	<0.022	<0.022
Total PCBs	1	<0.175	<0.246	<0.147	<0.147	<0.215	<0.161	<0.147	<0.154	<0.154
Naphthalenes (mg/kg)										
1-Methylnaphthalene	--	<0.0061	0.0095	0.0068	<0.0046	<0.005	0.038	<0.005	<0.0040	<0.0041
2-Methylnaphthalene	--	<0.0061	0.017	0.012	0.0049	0.0082	0.09	<0.005	<0.004	<0.0041
Naphthalene	5	<0.0061	0.0058	0.0098	<0.0046	0.0082	0.042	<0.005	<0.004	<0.0041

NOTES:

PCB = Polychlorinated Biphenyls by EPA Method 8082A

mg/kg = milligrams/kilogram, all results are in mg/kg

-- = No information available, not applicable, or not analyzed

< = Not detected at or above indicated laboratory reporting limit

p = The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported

MTCA Method A Cleanup Level = Based on applicable federal law. This is a total value for all PCBs

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-1	10/5/1994	--	2.31	NP	--	--	--
MW-1	2/15/1995	--	1.39	NP	--	--	--
MW-1	4/10/1995	--	1.11	NP	--	--	--
MW-1	7/20/1995	--	1.78	NP	--	--	--
MW-1	10/25/1995	--	1.53	NP	--	--	--
MW-1	1/23/1996	--	0.79	NP	--	--	--
MW-1	4/17/1996	--	1.13	NP	--	--	--
MW-1	7/8/1996	--	1.30	NP	--	--	--
MW-1	10/10/1996	--	1.67	NP	--	--	--
MW-1	3/11/1997	--	0.82	NP	--	--	--
MW-1	5/29/1997	--	0.99	NP	--	--	--
MW-1	8/5/1997	--	0.31	NP	--	--	--
MW-1	10/23/1997	--	0.32	NP	--	--	--
MW-1	3/11/1998	--	0.81	NP	--	--	--
MW-1	6/30/1998	--	1.26	NP	--	--	--
MW-1	9/25/1998	--	1.73	NP	--	--	--
MW-1	12/29/1998	--	0.84	NP	--	--	--
MW-1	3/9/1999	--	0.60	NP	--	--	--
MW-1	6/2/1999	--	1.04	NP	--	--	--
MW-1	9/27/1999	--	1.71	NP	--	--	--
MW-1	12/20/1999	--	1.60	NP	--	--	--
MW-1	3/16/2000	--	1.40	NP	--	--	--
MW-1	6/30/2000	--	1.50	NP	--	--	--
MW-1	9/27/2000	--	1.50	NP	--	--	--
MW-1	11/10/2000	--	1.43	NP	--	--	--
MW-1	3/19/2001	--	1.45	NP	--	--	--
MW-1	6/27/2001	--	1.75	NP	--	--	--
MW-1	9/26/2001	--	2.15	NP	--	--	WI
MW-1	12/3/2001	--	1.35	NP	--	--	--
MW-1	6/6/2002	--	1.54	NP	--	--	--
MW-1	6/26/2003	--	1.62	NP	--	--	--
MW-1	12/9/2003	--	1.37	NP	--	--	--
MW-1	4/7/2004	--	1.25	NP	--	--	--
MW-1	11/16/2004	--	1.82	NP	--	--	--
MW-1	3/29/2005	--	1.00	NP	--	--	--
MW-1	6/22/2005	--	1.40	NP	--	--	--
MW-1	9/12/2005	--	1.95	NP	--	--	--
MW-1	12/6/2005	--	1.64	NP	--	--	--
MW-1	6/5/2006	--	1.77	NP	--	--	--
MW-1	9/24/2007	--	2.98	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-1	12/31/2007	--	--	--	--	--	WI
MW-1	1/30/2008	--	2.83	NP	--	--	--
MW-1	4/3/2008	--	3.13	NP	--	--	--
MW-1	7/2/2008	--	3.88	NP	--	--	--
MW-1	10/3/2008	--	3.53	NP	--	--	--
MW-1	1/5/2009	--	2.87	NP	--	--	--
MW-1	4/7/2009	--	3.08	NP	--	--	--
MW-1	7/8/2009	--	2.89	NP	--	--	--
MW-1	10/6/2009	--	3.03	NP	--	--	--
MW-1	1/5/2010	--	2.06	NP	--	--	--
MW-1	5/25/2010	--	2.20	NP	--	--	--
MW-1	8/19/2010	--	2.59	NP	--	--	--
MW-1	12/7/2010	--	2.18	NP	--	--	--
MW-1	1/26/2011	--	1.69	NP	--	--	--
MW-1	6/16/2011	--	1.97	NP	--	--	--
MW-1	9/22/2011	--	3.04	NP	--	--	--
MW-1	12/6/2011	--	3.40	NP	--	--	--
MW-1	3/8/2012	--	2.05	NP	--	--	--
MW-1	6/19/2012	--	2.04	NP	--	--	--
MW-1	9/21/2012	--	2.50	NP	--	--	--
MW-1	12/11/2012	--	1.57	NP	--	--	--
MW-1	6/25/2013	--	1.88	NP	--	--	--
MW-1	9/25/2013	--	2.14	NP	--	--	--
MW-1	11/14/2013	--	2.09	NP	--	--	--
MW-1	2/12/2014	--	1.62	NP	--	--	--
MW-1	4/1/2014	--	1.22	NP	--	--	--
MW-1	7/9/2014	--	1.90	NP	--	--	--
MW-1	10/20/2014	--	2.13	NP	--	--	--
MW-1	1/19/2015	--	1.45	NP	--	--	--
MW-1	12/14/2015	--	1.34	NP	--	--	--
MW-1	3/10/2016	--	0.74	NP	--	--	--
MW-2	10/5/1994	261.52	10.09	NP	--	251.43	--
MW-2	2/15/1995	261.52	9.05	NP	--	252.47	--
MW-2	4/11/1995	261.52	9.05	NP	--	252.47	--
MW-2	7/20/1995	261.52	9.70	NP	--	251.82	--
MW-2	10/25/1995	261.52	9.33	NP	--	252.19	--
MW-2	1/23/1996	261.52	8.22	NP	--	253.30	--
MW-2	4/17/1996	261.52	9.20	NP	--	252.32	--
MW-2	7/8/1996	261.52	9.45	NP	--	252.07	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-2	10/10/1996	261.52	9.53	NP	--	251.99	--
MW-2	3/11/1997	261.52	8.31	NP	--	253.21	--
MW-2	5/29/1997	261.52	5.54	NP	--	255.98	--
MW-2	8/5/1997	261.52	9.40	NP	--	252.12	--
MW-2	10/23/1997	261.52	9.06	NP	--	252.46	--
MW-2	3/11/1998	261.52	12.71	NP	--	248.81	--
MW-2	6/30/1998	261.52	10.17	NP	--	251.35	--
MW-2	9/25/1998	261.52	10.14	NP	--	251.38	--
MW-2	3/9/1999	261.52	11.12	NP	--	250.40	--
MW-2	6/2/1999	261.52	9.66	NP	--	251.86	--
MW-2	9/27/1999	261.52	9.85	NP	--	251.67	--
MW-2	12/20/1999	261.52	8.85	NP	--	252.67	--
MW-2	3/16/2000	261.52	9.53	NP	--	251.99	--
MW-2	6/30/2000	261.52	9.74	NP	--	251.78	--
MW-2	9/27/2000	261.52	9.74	NP	--	251.78	--
MW-2	11/10/2000	261.52	8.80	NP	--	252.72	--
MW-2	3/19/2001	261.52	8.69	NP	--	252.83	--
MW-2	6/27/2001	261.52	9.32	NP	--	252.20	--
MW-2	9/26/2001	261.52	10.20	NP	--	251.32	--
MW-2	12/3/2001	261.52	9.00	NP	--	252.52	--
MW-2	6/6/2002	261.52	9.65	NP	--	251.87	--
MW-2	6/26/2003	261.52	9.68	NP	--	251.84	--
MW-2	12/9/2003	261.52	8.93	NP	--	252.59	--
MW-2	4/7/2004	261.52	8.21	NP	--	253.31	--
MW-2	11/16/2004	261.52	8.36	NP	--	253.16	--
MW-2	3/29/2005	261.52	7.35	NP	--	254.17	--
MW-2	6/22/2005	261.52	8.10	NP	--	253.42	--
MW-2	9/12/2005	261.52	9.01	NP	--	252.51	--
MW-2	12/6/2005	261.52	7.56	NP	--	253.96	--
MW-2	6/5/2006	261.52	7.66	NP	--	253.86	--
MW-2	9/29/2006	261.52	16.28	NP	--	245.24	--
MW-2	12/19/2006	261.52	8.05	NP	--	253.47	--
MW-2	9/24/2007	261.52	10.04	NP	--	251.48	--
MW-2	12/31/2007	261.52	9.01	NP	--	252.51	--
MW-2	1/30/2008	261.52	8.97	NP	--	252.55	--
MW-2	4/3/2008	261.52	15.90	NP	--	245.62	--
MW-2	7/2/2008	261.52	14.90	NP	--	246.62	--
MW-2	10/3/2008	261.52	15.56	NP	--	245.96	--
MW-2	1/5/2009	261.52	13.52	NP	--	248.00	--
MW-2	4/8/2009	261.52	15.38	NP	--	246.14	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-2	7/8/2009	261.52	10.52	NP	--	251.00	--
MW-2	10/6/2009	261.52	10.60	NP	--	250.92	--
MW-2	1/5/2010	261.52	9.65	NP	--	251.87	--
MW-2	5/25/2010	261.52	9.89	NP	--	251.63	--
MW-2	8/19/2010	261.52	10.16	NP	--	251.36	--
MW-2	12/7/2010	261.52	9.68	NP	--	251.84	--
MW-2	1/26/2011	261.52	9.26	NP	--	252.26	--
MW-2	6/16/2011	261.52	9.59	NP	--	251.93	--
MW-2	9/22/2011	261.52	14.06	NP	--	247.46	--
MW-2	12/6/2011	261.52	17.30	NP	--	244.22	--
MW-2	3/8/2012	261.52	10.50	NP	--	251.02	--
MW-2	6/19/2012	261.52	9.72	NP	--	251.80	--
MW-2	9/21/2012	261.52	10.09	NP	--	251.43	--
MW-2	12/11/2012	261.52	8.86	NP	--	252.66	--
MW-2	6/25/2013	261.52	9.50	NP	--	252.02	--
MW-2	9/25/2013	261.52	9.69	NP	--	251.83	--
MW-2	11/14/2013	261.52	9.34	NP	--	252.18	--
MW-2	2/12/2014	261.52	8.92	NP	--	252.60	--
MW-2	4/2/2014	261.52	8.51	NP	--	253.01	--
MW-2	7/10/2014	261.52	9.42	NP	--	252.10	--
MW-2	10/21/2014	261.52	9.46	NP	--	252.06	--
MW-2	1/20/2015	261.52	8.75	NP	--	252.77	--
MW-2	12/14/2015	261.52	8.34	NP	--	253.18	--
MW-2	3/10/2016	261.52	7.81	NP	--	253.71	--
MW-2	8/29/2016	261.52	9.45	NP	--	252.07	--
MW-2	11/21/2016	261.52	8.30	NP	--	253.22	--
MW-2	2/15/2017	261.52	7.58	NP	--	253.94	--
MW-2	5/26/2017	261.52	--	--	--	--	WI
MW-2	10/17/2017	261.52	9.19	NP	--	252.33	--
MW-2	2/8/2018	261.52	7.73	NP	--	253.79	--
MW-2	9/11/2018	261.52	9.11	NP	--	252.41	--
MW-2	11/15/2018	261.52	8.93	NP	--	252.59	--
MW-2	1/29/2019	261.52	8.60	NP	--	252.92	--
MW-2	9/26/2019	261.52	9.23	NP	--	252.29	--
MW-3	10/5/1994	--	10.10	NP	--	--	--
MW-3	2/15/1995	--	8.83	NP	--	--	--
MW-3	4/10/1995	--	8.90	NP	--	--	--
MW-3	7/20/1995	--	9.65	NP	--	--	--
MW-3	10/25/1995	--	9.27	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-3	1/23/1996	--	8.12	NP	--	--	--
MW-3	4/17/1996	--	9.17	NP	--	--	--
MW-3	7/8/1996	--	9.21	NP	--	--	--
MW-3	10/10/1996	--	9.60	NP	--	--	--
MW-3	3/11/1997	--	8.21	NP	--	--	--
MW-3	5/29/1997	--	8.13	NP	--	--	--
MW-3	8/5/1997	--	8.13	NP	--	--	--
MW-3	10/23/1997	--	11.31	NP	--	--	--
MW-3	3/11/1998	--	9.57	NP	--	--	--
MW-3	6/30/1998	--	9.82	NP	--	--	--
MW-3	9/25/1998	--	10.14	NP	--	--	--
MW-3	12/29/1998	--	9.15	NP	--	--	--
MW-3	3/9/1999	--	9.50	NP	--	--	--
MW-3	6/2/1999	--	9.41	NP	--	--	--
MW-3	9/27/1999	--	9.43	NP	--	--	--
MW-3	12/20/1999	--	8.20	NP	--	--	--
MW-3	3/16/2000	--	9.30	NP	--	--	--
MW-3	6/30/2000	--	9.66	NP	--	--	--
MW-3	9/27/2000	--	9.78	NP	--	--	--
MW-3	11/10/2000	--	8.88	NP	--	--	--
MW-3	3/19/2001	--	8.90	NP	--	--	--
MW-3	6/27/2001	--	9.62	NP	--	--	--
MW-3	9/26/2001	--	10.28	NP	--	--	WI
MW-3	12/3/2001	--	8.10	NP	--	--	--
MW-3	6/6/2002	--	9.70	NP	--	--	--
MW-3	6/26/2003	--	9.65	NP	--	--	--
MW-3	12/9/2003	--	8.87	NP	--	--	--
MW-3	4/7/2004	--	8.27	NP	--	--	--
MW-3	11/16/2004	--	8.40	NP	--	--	--
MW-3	3/29/2005	--	7.64	NP	--	--	--
MW-3	6/22/2005	--	8.67	NP	--	--	--
MW-3	9/12/2005	--	9.85	NP	--	--	--
MW-3	12/6/2005	--	7.83	NP	--	--	--
MW-3	6/5/2006	--	7.76	NP	--	--	--
MW-3	9/24/2007	--	10.20	NP	--	--	--
MW-3	12/31/2007	--	--	--	--	--	WI
MW-3	1/30/2008	--	8.73	NP	--	--	--
MW-3	4/3/2008	--	15.05	NP	--	--	--
MW-3	7/2/2008	--	14.86	NP	--	--	--
MW-3	10/3/2008	--	15.07	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-3	1/5/2009	--	12.74	NP	--	--	--
MW-3	4/7/2009	--	15.33	NP	--	--	--
MW-3	7/8/2009	--	10.41	NP	--	--	--
MW-3	10/6/2009	--	10.56	NP	--	--	--
MW-3	1/5/2010	--	9.48	NP	--	--	--
MW-3	5/25/2010	--	9.70	NP	--	--	--
MW-3	8/19/2010	--	10.15	NP	--	--	--
MW-3	12/7/2010	--	9.51	NP	--	--	--
MW-3	1/26/2011	--	8.80	NP	--	--	--
MW-3	6/16/2011	--	9.50	NP	--	--	--
MW-3	9/22/2011	--	14.25	NP	--	--	--
MW-3	3/8/2012	--	10.48	NP	--	--	--
MW-3	6/19/2012	--	9.54	NP	--	--	--
MW-3	9/21/2012	--	10.22	NP	--	--	--
MW-3	12/11/2012	--	8.35	NP	--	--	--
MW-3	6/25/2013	--	9.45	NP	--	--	--
MW-3	9/25/2013	--	9.78	NP	--	--	--
MW-3	11/14/2013	--	9.33	NP	--	--	--
MW-3	2/12/2014	--	8.83	NP	--	--	--
MW-3	4/2/2014	--	8.39	NP	--	--	--
MW-3	7/9/2014	--	9.53	NP	--	--	--
MW-3	10/20/2014	--	9.65	NP	--	--	--
MW-3	1/19/2015	--	8.64	NP	--	--	--
MW-4	10/5/1994	--	19.69	19.50	0.19	--	--
MW-4	2/15/1995	--	18.60	14.89	3.71	--	--
MW-4	4/10/1995	--	16.90	16.53	0.37	--	--
MW-4	10/25/1995	--	18.24	NP	--	--	--
MW-4	1/23/1996	--	15.37	NP	--	--	--
MW-4	4/17/1996	--	16.80	NP	--	--	--
MW-4	7/8/1996	--	15.29	NP	--	--	--
MW-4	10/10/1996	--	18.55	18.53	0.02	--	--
MW-4	3/11/1997	--	15.59	NP	--	--	--
MW-4	5/29/1997	--	15.65	14.93	0.72	--	--
MW-4	8/5/1997	--	16.39	15.91	0.48	--	--
MW-4	10/23/1997	--	19.72	19.70	0.02	--	--
MW-4	3/11/1998	--	14.74	NP	--	--	--
MW-4	6/30/1998	--	17.57	NP	--	--	--
MW-4	9/25/1998	--	17.80	NP	--	--	--
MW-4	12/29/1998	--	15.73	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
MW-4	3/9/1999	--	14.70	NP	--	--	--
MW-4	6/2/1999	--	16.21	NP	--	--	--
MW-4	9/27/1999	--	18.58	NP	--	--	--
MW-4	12/20/1999	--	15.40	NP	--	--	--
MW-4	3/16/2000	--	15.85	NP	--	--	--
MW-4	6/30/2000	--	17.65	NP	--	--	--
MW-4	9/27/2000	--	18.25	NP	--	--	--
MW-4	11/10/2000	--	17.36	17.35	0.01	--	--
MW-4	3/19/2001	--	17.39	NP	--	--	--
MW-4	6/27/2001	--	17.83	NP	--	--	--
MW-4	9/26/2001	--	18.27	NP	--	--	--
MW-4	12/3/2001	--	16.05	NP	--	--	--
MW-4	6/6/2002	--	17.41	NP	--	--	--
MW-4	6/26/2003	--	17.56	NP	--	--	--
MW-4	12/9/2003	--	16.40	NP	--	--	--
MW-4	4/7/2004	--	16.53	NP	--	--	--
MW-4	11/16/2004	--	17.20	17.10	0.10	--	--
MW-4	3/29/2005	261.16	15.06	NP	--	246.10	--
MW-4	6/22/2005	261.16	16.97	NP	--	244.19	--
MW-4	9/12/2005	261.16	18.09	NP	--	243.07	--
MW-4	12/6/2005	261.16	16.75	NP	--	244.41	--
MW-4	6/5/2006	261.16	16.57	NP	--	244.59	--
MW-4	9/29/2006	261.16	25.28	NP	--	235.88	--
MW-4	12/19/2006	261.16	15.49	NP	--	245.67	--
MW-4	9/24/2007	261.16	18.45	NP	--	242.71	--
MW-4	12/31/2007	261.16	16.41	NP	--	244.75	--
MW-4	1/30/2008	261.16	16.49	NP	--	244.67	--
MW-4	4/3/2008	261.16	22.96	NP	--	238.20	--
MW-4	7/2/2008	261.16	20.43	NP	--	240.73	--
MW-4	10/3/2008	261.16	24.98	NP	--	236.18	--
MW-4	1/5/2009	261.16	21.07	NP	--	240.09	--
MW-4	4/8/2009	261.16	24.52	NP	--	236.64	--
MW-4	7/8/2009	261.16	18.37	NP	--	242.79	--
MW-4	10/6/2009	261.16	18.85	NP	--	242.31	--
MW-4	1/5/2010	261.16	16.52	NP	--	244.64	--
MW-4	5/25/2010	261.16	17.11	NP	--	244.05	--
MW-4	8/19/2010	261.16	18.00	NP	--	243.16	--
MW-4	12/7/2010	261.16	16.60	NP	--	244.56	--
MW-4	1/26/2011	261.16	15.32	NP	--	245.84	--
MW-4	6/16/2011	261.16	16.72	NP	--	244.44	--

TABLE 4
Groundwater Gauging Data
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-4	9/22/2011	261.16	20.26	NP	--	240.90	--
MW-4	12/6/2011	261.16	21.94	NP	--	239.22	--
MW-4	3/8/2012	261.16	17.42	NP	--	243.74	--
MW-4	6/19/2012	261.16	17.22	NP	--	243.94	--
MW-4	9/21/2012	261.16	18.25	NP	--	242.91	--
MW-4	12/11/2012	261.16	15.80	NP	--	245.36	--
MW-4	6/25/2013	261.16	17.15	NP	--	244.01	--
MW-4	9/25/2013	261.16	17.88	NP	--	243.28	--
MW-4	11/14/2013	261.16	17.32	NP	--	243.84	--
MW-4	2/12/2014	261.16	16.80	NP	--	244.36	--
MW-4	4/2/2014	261.16	14.55	NP	--	246.61	--
MW-4	7/10/2014	261.16	17.24	NP	--	243.92	--
MW-4	10/22/2014	261.16	17.44	NP	--	243.72	--
MW-4	1/20/2015	261.16	15.72	NP	--	245.44	--
MW-4	12/16/2015	261.16	15.04	NP	--	246.12	--
MW-4	3/11/2016	261.16	14.24	NP	--	246.92	--
MW-4	8/29/2016	261.16	18.04	NP	--	243.12	--
MW-4	11/21/2016	261.16	15.31	NP	--	245.85	--
MW-4	2/15/2017	261.16	14.20	NP	--	246.96	--
MW-4	5/26/2017	261.16	15.21	NP	--	245.95	--
MW-4	10/17/2017	261.16	17.98	NP	--	243.18	--
MW-4	2/8/2018	261.16	14.25	NP	--	246.91	--
MW-4	9/11/2018	261.16	17.85	NP	--	243.31	--
MW-4	11/15/2018	261.16	17.40	NP	--	243.76	--
MW-4	1/29/2019	261.16	15.93	NP	--	245.23	--
MW-4	8/27/2019	261.16	17.87	NP	--	243.29	--
MW-4	9/26/2019	261.16	18.74	NP	--	242.42	--
MW-5	10/5/1994	--	19.20	NP	--	--	--
MW-5	2/15/1995	--	16.20	NP	--	--	--
MW-5	4/10/1995	--	16.59	NP	--	--	--
MW-5	7/20/1995	--	16.96	NP	--	--	--
MW-5	10/26/1995	--	16.55	NP	--	--	--
MW-5	1/23/1996	--	15.30	NP	--	--	--
MW-5	4/17/1996	--	12.72	NP	--	--	--
MW-5	7/8/1996	--	16.25	NP	--	--	--
MW-5	3/11/1997	261.04	14.80	NP	--	246.24	--
MW-5	5/29/1997	261.04	12.38	NP	--	248.66	--
MW-5	8/5/1997	261.04	15.54	NP	--	245.50	--
MW-5	10/23/1997	261.04	15.29	NP	--	245.75	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-5	3/11/1998	261.04	14.03	NP	--	247.01	--
MW-5	6/30/1998	261.04	13.17	NP	--	247.87	--
MW-5	9/25/1998	261.04	16.79	NP	--	244.25	--
MW-5	12/29/1998	261.04	13.12	NP	--	247.92	--
MW-5	3/9/1999	261.04	10.04	NP	--	251.00	--
MW-5	6/2/1999	261.04	16.11	NP	--	244.93	--
MW-5	9/27/1999	261.04	15.50	NP	--	245.54	--
MW-5	12/20/1999	261.04	15.00	NP	--	246.04	--
MW-5	3/16/2000	261.04	11.39	NP	--	249.65	--
MW-5	6/30/2000	261.04	16.93	NP	--	244.11	--
MW-5	9/27/2000	261.04	17.67	NP	--	243.37	--
MW-5	11/10/2000	261.04	17.10	NP	--	243.94	--
MW-5	3/19/2001	261.04	16.57	NP	--	244.47	--
MW-5	6/27/2001	261.04	16.52	NP	--	244.52	--
MW-5	9/26/2001	261.04	14.22	NP	--	246.82	--
MW-5	12/3/2001	261.04	15.32	NP	--	245.72	--
MW-5	6/26/2003	261.04	16.83	NP	--	244.21	--
MW-5	12/9/2003	261.04	15.59	NP	--	245.45	--
MW-5	4/7/2004	261.04	16.10	NP	--	244.94	--
MW-5	11/16/2004	261.04	16.58	NP	--	244.46	--
MW-5	3/29/2005	261.04	16.03	NP	--	245.01	--
MW-5	6/22/2005	261.04	16.57	NP	--	244.47	--
MW-5	9/12/2005	261.04	17.44	NP	--	243.60	--
MW-5	12/6/2005	261.04	15.86	NP	--	245.18	--
MW-5	6/5/2006	261.04	15.78	NP	--	245.26	--
MW-5	9/29/2006	261.04	23.75	NP	--	237.29	--
MW-5	12/19/2006	261.04	14.58	NP	--	246.46	--
MW-5	9/24/2007	261.04	17.61	NP	--	243.43	--
MW-5	12/31/2007	261.04	15.40	NP	--	245.64	--
MW-5	1/30/2008	261.04	15.50	NP	--	245.54	--
MW-5	4/3/2008	261.04	20.44	NP	--	240.60	--
MW-5	7/2/2008	261.04	19.21	NP	--	241.83	--
MW-5	10/3/2008	261.04	22.82	NP	--	238.22	--
MW-5	1/5/2009	261.04	20.60	NP	--	240.44	--
MW-5	4/8/2009	261.04	21.52	NP	--	239.52	--
MW-5	7/8/2009	261.04	17.51	NP	--	243.53	--
MW-5	10/6/2009	261.04	18.30	NP	--	242.74	--
MW-5	1/5/2010	261.04	15.62	NP	--	245.42	--
MW-5	5/25/2010	261.04	16.25	NP	--	244.79	--
MW-5	8/19/2010	261.04	17.40	NP	--	243.64	--

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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-5	12/7/2010	261.04	15.81	NP	--	245.23	--
MW-5	1/26/2011	261.04	14.56	NP	--	246.48	--
MW-5	6/16/2011	261.04	15.95	NP	--	245.09	--
MW-5	9/22/2011	261.04	19.22	NP	--	241.82	--
MW-5	12/6/2011	261.04	20.45	NP	--	240.59	--
MW-5	3/8/2012	261.04	16.40	NP	--	244.64	--
MW-5	6/19/2012	261.04	16.27	NP	--	244.77	--
MW-5	9/21/2012	261.04	17.65	NP	--	243.39	--
MW-5	12/11/2012	261.04	14.24	NP	--	246.80	--
MW-5	6/25/2013	261.04	16.34	NP	--	244.70	--
MW-5	9/25/2013	261.04	17.37	NP	--	243.67	--
MW-5	11/14/2013	261.04	16.69	NP	--	244.35	--
MW-5	2/12/2014	261.04	15.95	NP	--	245.09	--
MW-5	4/1/2014	261.04	14.15	NP	--	246.89	--
MW-5	7/10/2014	261.04	16.72	NP	--	244.32	--
MW-5	10/21/2014	261.04	17.05	NP	--	243.99	--
MW-5	1/20/2015	261.04	14.53	NP	--	246.51	--
MW-5	12/14/2015	261.04	15.09	NP	--	245.95	--
MW-5	3/10/2016	261.04	13.82	NP	--	247.22	--
MW-5	8/29/2016	261.04	17.70	NP	--	243.34	--
MW-5	11/21/2016	261.04	14.77	NP	--	246.27	--
MW-5	2/15/2017	261.04	13.42	NP	--	247.62	--
MW-5	5/26/2017	261.04	14.82	NP	--	246.22	--
MW-5	10/17/2017	261.04	17.61	NP	--	243.43	--
MW-5	2/8/2018	261.04	13.66	NP	--	247.38	--
MW-5	9/11/2018	261.04	--	--	--	--	--
MW-6	10/5/1994	--	10.35	NP	--	--	--
MW-6	2/15/1995	--	9.24	NP	--	--	--
MW-6	4/10/1995	--	9.29	NP	--	--	--
MW-6	7/20/1995	--	10.08	NP	--	--	--
MW-6	10/25/1995	--	9.77	NP	--	--	--
MW-6	1/23/1996	--	8.56	NP	--	--	--
MW-6	4/17/1996	--	9.50	NP	--	--	--
MW-6	7/8/1996	--	9.65	NP	--	--	--
MW-6	10/10/1996	--	9.95	NP	--	--	--
MW-6	3/11/1997	--	8.69	NP	--	--	--
MW-6	5/29/1997	--	8.73	NP	--	--	--
MW-6	8/5/1997	--	8.90	NP	--	--	--
MW-6	10/23/1997	--	8.08	NP	--	--	--

TABLE 4
Groundwater Gauging Data
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-6	3/11/1998	--	11.51	NP	--	--	--
MW-6	6/30/1998	--	10.44	NP	--	--	--
MW-6	9/25/1998	--	10.56	NP	--	--	--
MW-6	12/29/1998	--	9.68	NP	--	--	--
MW-6	3/9/1999	--	11.23	NP	--	--	--
MW-6	6/2/1999	--	9.89	NP	--	--	--
MW-6	9/27/1999	--	8.22	NP	--	--	--
MW-6	12/20/1999	--	9.30	NP	--	--	--
MW-6	3/16/2000	--	9.64	NP	--	--	--
MW-6	6/30/2000	--	10.10	NP	--	--	--
MW-6	9/27/2000	--	10.51	NP	--	--	--
MW-6	11/10/2000	--	9.25	NP	--	--	--
MW-6	3/19/2001	--	9.15	NP	--	--	--
MW-6	6/27/2001	--	9.96	NP	--	--	--
MW-6	9/26/2001	--	10.53	NP	--	--	WI
MW-6	12/3/2001	--	9.05	NP	--	--	--
MW-6	6/26/2003	--	10.02	NP	--	--	--
MW-6	12/9/2003	--	9.25	NP	--	--	--
MW-6	4/7/2004	--	8.65	NP	--	--	--
MW-6	11/16/2004	--	8.82	NP	--	--	--
MW-6	3/29/2005	--	8.10	NP	--	--	--
MW-6	6/22/2005	--	8.77	NP	--	--	--
MW-6	9/12/2005	--	9.65	NP	--	--	--
MW-6	12/6/2005	--	8.24	NP	--	--	--
MW-6	6/5/2006	--	8.08	NP	--	--	--
MW-6	9/29/2006	--	15.73	NP	--	--	--
MW-6	12/19/2006	--	8.21	NP	--	--	--
MW-6	9/24/2007	--	10.55	NP	--	--	--
MW-6	12/31/2007	--	--	--	--	--	WI
MW-6	1/30/2008	--	9.09	NP	--	--	--
MW-6	4/3/2008	--	15.89	NP	--	--	--
MW-6	7/2/2008	--	15.43	NP	--	--	--
MW-6	10/3/2008	--	15.48	NP	--	--	--
MW-6	1/5/2009	--	13.06	NP	--	--	--
MW-6	4/8/2009	--	17.48	NP	--	--	--
MW-6	7/8/2009	--	11.00	NP	--	--	--
MW-6	10/6/2009	--	11.17	NP	--	--	--
MW-6	1/5/2010	--	10.06	NP	--	--	--
MW-6	5/25/2010	--	10.26	NP	--	--	--
MW-6	8/19/2010	--	10.66	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-6	12/7/2010	--	10.04	NP	--	--	--
MW-6	1/26/2011	--	9.48	NP	--	--	--
MW-6	6/16/2011	--	9.98	NP	--	--	--
MW-6	9/22/2011	--	14.79	NP	--	--	--
MW-6	12/6/2011	--	17.88	NP	--	--	--
MW-6	3/8/2012	--	11.03	NP	--	--	--
MW-6	6/19/2012	--	15.09	NP	--	--	--
MW-6	9/21/2012	--	10.71	NP	--	--	--
MW-6	12/11/2012	--	9.46	NP	--	--	--
MW-6	6/25/2013	--	10.03	NP	--	--	--
MW-6	9/25/2013	--	10.32	NP	--	--	--
MW-6	11/14/2013	--	9.86	NP	--	--	--
MW-6	2/12/2014	--	9.44	NP	--	--	--
MW-6	4/1/2014	--	8.87	NP	--	--	--
MW-6	7/9/2014	--	9.97	NP	--	--	--
MW-6	10/20/2014	--	10.09	NP	--	--	--
MW-6	1/19/2015	--	9.05	NP	--	--	--
MW-6	12/14/2015	--	8.81	NP	--	--	--
MW-6	3/10/2016	--	8.46	NP	--	--	--
MW-7	10/5/1994	--	17.62	NP	--	--	--
MW-7	2/15/1995	--	15.00	NP	--	--	--
MW-7	4/10/1995	--	15.10	NP	--	--	--
MW-7	7/20/1995	--	16.70	NP	--	--	--
MW-7	10/26/1995	--	16.38	NP	--	--	--
MW-7	1/23/1996	--	14.26	NP	--	--	--
MW-7	4/17/1996	--	15.39	NP	--	--	--
MW-7	7/8/1996	--	15.65	NP	--	--	--
MW-7	10/10/1996	--	16.35	NP	--	--	--
MW-7	3/11/1997	--	14.21	NP	--	--	--
MW-7	5/29/1997	--	11.56	NP	--	--	--
MW-7	8/5/1997	--	14.92	NP	--	--	--
MW-7	10/23/1997	--	13.96	NP	--	--	--
MW-7	3/11/1998	--	14.30	NP	--	--	--
MW-7	6/30/1998	--	15.88	NP	--	--	--
MW-7	12/29/1998	--	13.98	NP	--	--	--
MW-7	3/9/1999	--	13.59	NP	--	--	--
MW-7	6/2/1999	--	14.84	NP	--	--	--
MW-7	9/27/1999	--	15.10	NP	--	--	--
MW-7	12/20/1999	--	14.00	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-7	3/16/2000	--	14.55	NP	--	--	--
MW-7	6/30/2000	--	16.08	NP	--	--	--
MW-7	9/27/2000	--	16.53	NP	--	--	--
MW-7	11/10/2000	--	15.85	NP	--	--	--
MW-7	3/19/2001	--	15.48	NP	--	--	--
MW-7	6/27/2001	--	16.11	NP	--	--	--
MW-7	9/26/2001	--	16.67	NP	--	--	--
MW-7	12/3/2001	--	14.29	NP	--	--	--
MW-7	12/9/2003	--	14.50	NP	--	--	--
MW-7	4/7/2004	--	14.97	NP	--	--	--
MW-7	11/16/2004	--	15.24	NP	--	--	--
MW-7	3/29/2005	--	14.41	NP	--	--	--
MW-7	6/22/2005	--	15.39	NP	--	--	--
MW-7	9/12/2005	--	16.18	NP	--	--	--
MW-7	12/6/2005	--	14.47	NP	--	--	--
MW-7	6/5/2006	--	14.43	NP	--	--	--
MW-7	9/29/2006	--	21.71	NP	--	--	--
MW-7	12/19/2006	--	13.63	NP	--	--	--
MW-7	9/24/2007	--	--	--	--	--	Dry
MW-7	12/31/2007	--	14.54	NP	--	--	--
MW-7	1/30/2008	--	14.66	NP	--	--	--
MW-7	4/3/2008	--	19.26	NP	--	--	--
MW-7	7/2/2008	--	18.34	NP	--	--	--
MW-7	10/3/2008	--	20.13	NP	--	--	--
MW-7	1/5/2009	--	18.50	NP	--	--	--
MW-7	4/8/2009	--	20.85	NP	--	--	--
MW-7	7/8/2009	--	16.45	NP	--	--	--
MW-7	10/6/2009	--	16.98	NP	--	--	--
MW-7	1/5/2010	--	14.77	NP	--	--	--
MW-7	5/25/2010	--	15.45	NP	--	--	--
MW-7	8/19/2010	--	16.30	NP	--	--	--
MW-7	12/7/2010	--	14.88	NP	--	--	--
MW-7	1/26/2011	--	13.84	NP	--	--	--
MW-7	6/16/2011	--	15.05	NP	--	--	--
MW-7	9/22/2011	--	18.12	NP	--	--	--
MW-7	12/6/2011	--	19.71	NP	--	--	--
MW-7	3/8/2012	--	15.50	NP	--	--	--
MW-7	6/19/2012	--	15.09	NP	--	--	--
MW-7	9/21/2012	--	16.37	NP	--	--	--
MW-7	12/11/2012	--	13.45	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-7	6/25/2013	--	15.19	NP	--	--	--
MW-7	9/25/2013	--	15.85	NP	--	--	--
MW-7	11/14/2013	--	15.32	NP	--	--	--
MW-7	2/12/2014	--	15.77	NP	--	--	--
MW-7	4/1/2014	--	13.15	NP	--	--	--
MW-7	7/9/2014	--	15.56	NP	--	--	--
MW-7	10/20/2014	--	15.63	NP	--	--	--
MW-7	1/19/2015	--	14.06	NP	--	--	--
MW-8	10/5/1994	--	18.11	NP	--	--	--
MW-8	2/15/1995	--	15.07	NP	--	--	--
MW-8	4/10/1995	--	15.07	NP	--	--	--
MW-8	7/20/1995	--	16.96	NP	--	--	--
MW-8	10/25/1995	--	16.85	NP	--	--	--
MW-8	1/23/1996	259.58	13.95	NP	--	245.63	--
MW-8	4/17/1996	259.58	15.46	NP	--	244.12	--
MW-8	7/8/1996	259.58	15.89	NP	--	243.69	--
MW-8	10/10/1996	259.58	16.70	NP	--	242.88	--
MW-8	3/11/1997	259.58	14.19	NP	--	245.39	--
MW-8	5/29/1997	259.58	14.41	NP	--	245.17	--
MW-8	8/5/1997	259.58	14.10	NP	--	245.48	--
MW-8	10/23/1997	259.58	14.17	NP	--	245.41	--
MW-8	3/11/1998	259.58	14.00	NP	--	245.58	--
MW-8	6/30/1998	259.58	17.58	NP	--	242.00	--
MW-8	9/25/1998	259.58	17.08	NP	--	242.50	--
MW-8	12/29/1998	259.58	14.49	NP	--	245.09	--
MW-8	3/9/1999	259.58	13.48	NP	--	246.10	--
MW-8	6/2/1999	259.58	15.36	NP	--	244.22	--
MW-8	9/27/1999	259.58	16.79	NP	--	242.79	--
MW-8	12/20/1999	259.58	14.38	NP	--	245.20	--
MW-8	3/16/2000	259.58	14.80	NP	--	244.78	--
MW-8	6/30/2000	259.58	16.35	NP	--	243.23	--
MW-8	9/27/2000	259.58	17.24	NP	--	242.34	--
MW-8	11/10/2000	259.58	16.80	NP	--	242.78	--
MW-8	3/19/2001	259.58	16.05	NP	--	243.53	--
MW-8	6/27/2001	259.58	16.62	NP	--	242.96	--
MW-8	9/26/2001	259.58	17.64	NP	--	241.94	--
MW-8	12/3/2001	259.58	15.17	NP	--	244.41	--
MW-8	6/6/2002	259.58	16.00	NP	--	243.58	--
MW-8	6/26/2003	259.58	16.52	NP	--	243.06	--

TABLE 4
Groundwater Gauging Data
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-8	12/9/2003	259.58	15.45	NP	--	244.13	--
MW-8	4/7/2004	259.58	15.51	NP	--	244.07	--
MW-8	11/16/2004	259.58	16.45	NP	--	243.13	--
MW-8	3/29/2005	259.58	16.08	NP	--	243.50	--
MW-8	6/22/2005	259.58	16.12	NP	--	243.46	--
MW-8	9/12/2005	259.58	17.15	NP	--	242.43	--
MW-8	12/6/2005	259.58	15.80	NP	--	243.78	--
MW-8	6/5/2006	259.58	15.08	NP	--	244.50	--
MW-8	9/24/2007	259.58	17.16	NP	--	242.42	--
MW-8	12/31/2007	259.58	15.00	NP	--	244.58	--
MW-8	1/30/2008	259.58	14.87	NP	--	244.71	--
MW-8	4/2/2008	259.58	18.07	NP	--	241.51	--
MW-8	7/1/2008	259.58	18.34	NP	--	241.24	--
MW-8	10/3/2008	259.58	19.32	NP	--	240.26	--
MW-8	1/6/2009	259.58	18.14	NP	--	241.44	--
MW-8	4/8/2009	259.58	17.70	NP	--	241.88	--
MW-8	7/8/2009	259.58	16.95	NP	--	242.63	--
MW-8	10/6/2009	259.58	17.80	NP	--	241.78	--
MW-8	1/5/2010	259.58	15.11	NP	--	244.47	--
MW-8	5/25/2010	259.58	15.52	NP	--	244.06	--
MW-8	8/19/2010	259.58	16.80	NP	--	242.78	--
MW-8	12/7/2010	259.58	15.54	NP	--	244.04	--
MW-8	1/26/2011	259.58	13.80	NP	--	245.78	--
MW-8	6/16/2011	259.58	15.15	NP	--	244.43	--
MW-8	9/22/2011	259.58	18.25	NP	--	241.33	--
MW-8	12/6/2011	259.58	18.16	NP	--	241.42	--
MW-8	3/8/2012	259.58	15.89	NP	--	243.69	--
MW-8	6/19/2012	259.58	12.67	NP	--	246.91	--
MW-8	9/21/2012	259.58	17.20	NP	--	242.38	--
MW-8	12/11/2012	259.58	14.28	NP	--	245.30	--
MW-8	6/26/2013	259.58	15.85	NP	--	243.73	--
MW-8	9/25/2013	259.58	16.98	NP	--	242.60	--
MW-8	11/15/2013	259.58	16.45	NP	--	243.13	--
MW-8	2/13/2014	259.58	15.84	NP	--	243.74	--
MW-8	4/2/2014	259.58	13.65	NP	--	245.93	--
MW-8	7/10/2014	259.58	16.03	NP	--	243.55	--
MW-8	10/21/2014	259.58	16.79	NP	--	242.79	--
MW-8	1/19/2015	259.58	14.35	NP	--	245.23	--
MW-8	6/1/2016	259.58	15.25	NP	--	244.33	--
MW-8	8/29/2016	259.58	17.04	NP	--	242.54	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-8	11/21/2016	259.58	14.69	NP	--	244.89	--
MW-8	2/15/2017	259.58	10.47	NP	--	249.11	--
MW-8	5/26/2017	259.58	12.43	NP	--	247.15	--
MW-8	10/17/2017	259.58	16.62	NP	--	242.96	--
MW-8	2/8/2018	259.58	11.71	NP	--	247.87	--
MW-8	9/11/2018	259.58	16.78	NP	--	242.80	--
MW-8	11/15/2018	259.58	16.66	NP	--	242.92	--
MW-8	1/29/2019	259.58	14.89	NP	--	244.69	--
MW-8	9/26/2019	259.58	17.06	NP	--	242.52	--
MW-9	10/5/1994	--	19.51	NP	--	--	--
MW-9	2/15/1995	--	16.71	NP	--	--	--
MW-9	4/10/1995	--	16.83	NP	--	--	--
MW-9	7/20/1995	--	18.66	NP	--	--	--
MW-9	10/25/1995	--	18.29	NP	--	--	--
MW-9	1/23/1996	258.96	15.47	NP	--	243.49	--
MW-9	4/17/1996	258.96	17.18	NP	--	241.78	--
MW-9	7/8/1996	258.96	17.73	NP	--	241.23	--
MW-9	10/10/1996	258.96	18.47	NP	--	240.49	--
MW-9	3/11/1997	258.96	15.91	NP	--	243.05	--
MW-9	5/29/1997	258.96	14.77	NP	--	244.19	--
MW-9	8/5/1997	258.96	16.21	NP	--	242.75	--
MW-9	10/23/1997	258.96	15.81	NP	--	243.15	--
MW-9	3/11/1998	258.96	15.88	NP	--	243.08	--
MW-9	6/30/1998	258.96	17.97	NP	--	240.99	--
MW-9	9/25/1998	258.96	18.57	NP	--	240.39	--
MW-9	12/29/1998	258.96	15.84	NP	--	243.12	--
MW-9	3/9/1999	258.96	15.00	NP	--	243.96	--
MW-9	6/2/1999	258.96	17.17	NP	--	241.79	--
MW-9	9/27/1999	258.96	18.39	NP	--	240.57	--
MW-9	12/20/1999	258.96	15.85	NP	--	243.11	--
MW-9	3/16/2000	258.96	16.35	NP	--	242.61	--
MW-9	6/30/2000	258.96	18.05	NP	--	240.91	--
MW-9	9/27/2000	258.96	18.87	NP	--	240.09	--
MW-9	11/10/2000	258.96	18.04	NP	--	240.92	--
MW-9	3/19/2001	258.96	17.50	NP	--	241.46	--
MW-9	6/27/2001	258.96	18.08	NP	--	240.88	--
MW-9	9/26/2001	258.96	18.80	NP	--	240.16	--
MW-9	12/3/2001	258.96	16.25	NP	--	242.71	WI
MW-9	6/6/2002	258.96	17.72	NP	--	241.24	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-9	6/26/2003	258.96	18.07	NP	--	240.89	--
MW-9	12/9/2003	258.96	16.51	NP	--	242.45	--
MW-9	4/7/2004	258.96	17.10	NP	--	241.86	--
MW-9	11/16/2004	258.96	17.21	NP	--	241.75	--
MW-9	3/29/2005	258.96	16.81	NP	--	242.15	--
MW-9	6/22/2005	258.96	17.70	NP	--	241.26	--
MW-9	9/12/2005	258.96	18.64	NP	--	240.32	--
MW-9	12/6/2005	258.96	17.10	NP	--	241.86	--
MW-9	6/5/2006	258.96	17.01	NP	--	241.95	--
MW-9	9/24/2007	258.96	18.88	NP	--	240.08	--
MW-9	12/31/2007	258.96	16.57	NP	--	242.39	--
MW-9	1/30/2008	258.96	--	--	--	--	WI
MW-9	4/2/2008	258.96	19.63	NP	--	239.33	--
MW-9	7/1/2008	258.96	19.99	NP	--	238.97	--
MW-9	10/3/2008	258.96	20.74	NP	--	238.22	--
MW-9	1/6/2009	258.96	19.11	NP	--	239.85	--
MW-9	4/8/2009	258.96	18.98	NP	--	239.98	--
MW-9	7/8/2009	258.96	18.55	NP	--	240.41	--
MW-9	10/6/2009	258.96	19.19	NP	--	239.77	--
MW-9	1/5/2010	258.96	15.50	NP	--	243.46	--
MW-9	5/25/2010	258.96	17.17	NP	--	241.79	--
MW-9	8/19/2010	258.96	18.39	NP	--	240.57	--
MW-9	12/7/2010	258.96	16.95	NP	--	242.01	--
MW-9	1/26/2011	258.96	15.18	NP	--	243.78	--
MW-9	6/16/2011	258.96	16.84	NP	--	242.12	--
MW-9	9/22/2011	258.96	19.62	NP	--	239.34	--
MW-9	12/6/2011	258.96	19.14	NP	--	239.82	--
MW-9	3/8/2012	258.96	17.17	NP	--	241.79	--
MW-9	6/19/2012	258.96	17.22	NP	--	241.74	--
MW-9	9/21/2012	258.96	18.54	NP	--	240.42	--
MW-9	12/11/2012	258.96	15.20	NP	--	243.76	--
MW-9	6/26/2013	258.96	17.31	NP	--	241.65	--
MW-9	9/25/2013	258.96	18.23	NP	--	240.73	--
MW-9	11/14/2013	258.96	17.64	NP	--	241.32	--
MW-9	2/14/2014	258.96	16.96	NP	--	242.00	--
MW-9	4/2/2014	258.96	15.05	NP	--	243.91	--
MW-9	7/10/2014	258.96	17.54	NP	--	241.42	--
MW-9	10/21/2014	258.96	17.90	NP	--	241.06	--
MW-9	1/20/2015	258.96	15.88	NP	--	243.08	--
MW-9	12/14/2015	258.96	15.40	NP	--	243.56	--

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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-9	3/10/2016	258.96	14.74	NP	--	244.22	--
MW-9	6/1/2016	258.96	17.06	NP	--	241.90	--
MW-9	8/29/2016	258.96	18.48	NP	--	240.48	--
MW-9	11/21/2016	258.96	15.80	NP	--	243.16	--
MW-9	2/15/2017	258.96	13.94	NP	--	245.02	--
MW-9	5/26/2017	258.96	15.34	NP	--	243.62	--
MW-9	10/17/2017	258.96	18.29	NP	--	240.67	--
MW-9	2/8/2018	258.96	14.09	NP	--	244.87	--
MW-9	9/11/2018	258.96	18.31	NP	--	240.65	--
MW-9	11/15/2018	258.96	17.71	NP	--	241.25	--
MW-9	1/29/2019	258.96	16.02	NP	--	242.94	--
MW-9	9/26/2019	258.96	18.02	NP	--	240.94	--
MW-10	10/5/1994	256.56	17.52	NP	--	239.04	--
MW-10	2/15/1995	256.56	14.70	NP	--	241.86	--
MW-10	4/10/1995	256.56	14.91	NP	--	241.65	--
MW-10	7/20/1995	256.56	16.67	NP	--	239.89	--
MW-10	10/25/1995	256.56	16.22	NP	--	240.34	--
MW-10	1/23/1996	256.56	13.40	NP	--	243.16	--
MW-10	4/17/1996	256.56	15.27	NP	--	241.29	--
MW-10	7/8/1996	256.56	15.85	NP	--	240.71	--
MW-10	10/10/1996	256.56	16.50	NP	--	240.06	--
MW-10	3/11/1997	256.56	13.91	NP	--	242.65	--
MW-10	5/29/1997	256.56	12.36	NP	--	244.20	--
MW-10	8/5/1997	256.56	16.49	NP	--	240.07	--
MW-10	10/23/1997	256.56	13.82	NP	--	242.74	--
MW-10	3/11/1998	256.56	14.09	NP	--	242.47	--
MW-10	6/30/1998	256.56	16.38	NP	--	240.18	--
MW-10	9/25/1998	256.56	16.69	NP	--	239.87	--
MW-10	12/29/1998	256.56	13.83	NP	--	242.73	--
MW-10	3/9/1999	256.56	13.44	NP	--	243.12	--
MW-10	6/2/1999	256.56	15.31	NP	--	241.25	--
MW-10	9/27/1999	256.56	16.51	NP	--	240.05	--
MW-10	12/20/1999	256.56	13.99	NP	--	242.57	--
MW-10	3/16/2000	256.56	14.60	NP	--	241.96	--
MW-10	6/30/2000	256.56	16.17	NP	--	240.39	--
MW-10	9/27/2000	256.56	17.02	NP	--	239.54	--
MW-10	11/10/2000	256.56	16.02	NP	--	240.54	--
MW-10	3/19/2001	256.56	15.55	NP	--	241.01	--
MW-10	6/27/2001	256.56	16.11	NP	--	240.45	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-10	9/26/2001	256.56	16.90	NP	--	239.66	--
MW-10	12/3/2001	256.56	14.05	NP	--	242.51	WI
MW-10	6/6/2002	256.56	15.95	NP	--	240.61	--
MW-10	6/26/2003	256.56	16.30	NP	--	240.26	--
MW-10	12/9/2003	256.56	14.55	NP	--	242.01	--
MW-10	4/7/2004	256.56	15.36	NP	--	241.20	--
MW-10	11/16/2004	256.56	16.00	NP	--	240.56	--
MW-10	3/29/2005	256.56	14.88	NP	--	241.68	--
MW-10	6/22/2005	256.56	15.95	NP	--	240.61	--
MW-10	9/12/2005	256.56	16.80	NP	--	239.76	--
MW-10	12/6/2005	256.56	15.13	NP	--	241.43	--
MW-10	6/5/2006	256.56	15.22	NP	--	241.34	--
MW-10	9/24/2007	256.56	17.06	NP	--	239.50	--
MW-10	12/31/2007	256.56	14.74	NP	--	241.82	--
MW-10	1/30/2008	256.56	--	--	--	--	WI
MW-10	4/2/2008	256.56	17.65	NP	--	238.91	--
MW-10	7/1/2008	256.56	18.15	NP	--	238.41	--
MW-10	10/3/2008	256.56	18.83	NP	--	237.73	--
MW-10	1/6/2009	256.56	16.96	NP	--	239.60	--
MW-10	4/8/2009	256.56	16.88	NP	--	239.68	--
MW-10	7/8/2009	256.56	16.76	NP	--	239.80	--
MW-10	10/6/2009	256.56	17.32	NP	--	239.24	--
MW-10	1/5/2010	256.56	14.69	NP	--	241.87	--
MW-10	5/25/2010	256.56	15.57	NP	--	240.99	--
MW-10	8/19/2010	256.56	16.68	NP	--	239.88	--
MW-10	12/7/2010	256.56	15.15	NP	--	241.41	--
MW-10	1/26/2011	256.56	13.78	NP	--	242.78	--
MW-10	6/16/2011	256.56	15.41	NP	--	241.15	--
MW-10	9/22/2011	256.56	17.88	NP	--	238.68	--
MW-10	12/6/2011	256.56	17.11	NP	--	239.45	--
MW-10	3/8/2012	256.56	15.34	NP	--	241.22	--
MW-10	6/19/2012	256.56	15.63	NP	--	240.93	--
MW-10	9/21/2012	256.56	16.89	NP	--	239.67	--
MW-10	12/11/2012	256.56	13.59	NP	--	242.97	--
MW-10	6/26/2013	256.56	15.77	NP	--	240.79	--
MW-10	9/25/2013	256.56	16.42	NP	--	240.14	--
MW-10	11/14/2013	256.56	15.96	NP	--	240.60	--
MW-10	2/13/2014	256.56	15.24	NP	--	241.32	--
MW-10	4/2/2014	256.56	13.63	NP	--	242.93	--
MW-10	7/11/2014	256.56	16.15	NP	--	240.41	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-10	10/21/2014	256.56	16.20	NP	--	240.36	--
MW-10	1/20/2015	256.56	14.33	NP	--	242.23	--
MW-10	3/11/2016	256.56	13.05	NP	--	243.51	--
MW-10	8/29/2016	256.56	16.92	NP	--	239.64	--
MW-10	11/21/2016	256.56	14.11	NP	--	242.45	--
MW-10	2/15/2017	256.56	12.77	NP	--	243.79	--
MW-10	5/26/2017	256.56	14.33	NP	--	242.23	--
MW-10	10/17/2017	256.56	16.68	NP	--	239.88	--
MW-10	2/8/2018	256.56	12.94	NP	--	243.62	--
MW-10	9/11/2018	256.56	16.81	NP	--	239.75	--
MW-10	11/15/2018	256.56	16.14	NP	--	240.42	--
MW-10	1/29/2019	256.56	14.65	NP	--	241.91	--
MW-10	9/26/2019	256.56	16.44	NP	--	240.12	--
MW-11	4/10/1995	--	16.95	16.25	0.70	--	--
MW-11	7/20/1995	--	19.04	19.02	0.02	--	--
MW-11	10/25/1995	--	17.98	17.96	0.02	--	--
MW-11	1/23/1996	--	13.35	NP	--	--	--
MW-11	4/17/1996	--	20.50	NP	--	--	--
MW-11	7/8/1996	261.85	20.55	15.50	5.05	245.09	--
MW-11	10/10/1996	261.85	16.25	15.00	1.25	246.54	--
MW-11	3/11/1997	261.85	16.39	15.47	0.92	246.15	--
MW-11	5/29/1997	261.85	12.99	12.82	0.17	248.99	--
MW-11	8/5/1997	261.85	14.81	14.11	0.70	247.56	--
MW-11	10/23/1997	261.85	20.04	19.93	0.11	241.89	--
MW-11	3/11/1998	261.85	15.00	NP	--	246.85	--
MW-11	6/30/1998	261.85	13.26	NP	--	248.59	--
MW-11	9/25/1998	261.85	16.49	16.47	0.02	245.37	--
MW-11	12/29/1998	261.85	14.43	NP	--	247.42	--
MW-11	3/9/1999	261.85	10.35	NP	--	251.50	--
MW-11	6/2/1999	261.85	16.34	16.32	0.02	245.52	--
MW-11	9/27/1999	261.85	15.80	NP	--	246.05	--
MW-11	12/20/1999	261.85	15.21	NP	--	246.64	--
MW-11	3/16/2000	261.85	11.90	NP	--	249.95	--
MW-11	6/30/2000	261.85	17.35	NP	--	244.50	--
MW-11	9/27/2000	261.85	18.20	18.14	0.06	243.69	--
MW-11	11/10/2000	261.85	17.28	17.26	0.02	244.58	--
MW-11	3/19/2001	261.85	17.16	17.15	0.01	244.70	--
MW-11	6/27/2001	261.85	16.80	NP	--	245.05	--
MW-11	9/26/2001	261.85	15.30	NP	--	246.55	WI

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-11	12/3/2001	261.85	15.90	NP	--	245.95	--
MW-11	6/6/2002	261.85	16.84	NP	--	245.01	WI
MW-11	6/26/2003	261.85	17.49	17.45	0.04	244.39	WI
MW-11	12/9/2003	261.85	16.19	NP	--	245.66	--
MW-11	4/7/2004	261.85	16.48	16.46	0.02	245.38	--
MW-11	11/16/2004	261.85	17.00	NP	--	244.85	--
MW-11	3/29/2005	261.85	16.15	NP	--	245.70	--
MW-11	6/22/2005	261.85	17.15	NP	--	244.70	--
MW-11	9/12/2005	261.85	17.99	NP	--	243.86	--
MW-11	12/6/2005	261.85	16.68	NP	--	245.17	--
MW-11	6/5/2006	261.85	16.55	NP	--	245.30	--
MW-11	9/29/2006	261.85	20.90	NP	--	240.95	--
MW-11	12/19/2006	261.85	15.25	NP	--	246.60	--
MW-11	9/24/2007	261.85	14.42	NP	--	247.43	--
MW-11	12/31/2007	261.85	--	--	--	--	WI
MW-11	4/3/2008	261.85	--	--	--	--	WI
MW-11	7/1/2008	261.85	--	--	--	--	WI
MW-11	10/3/2008	261.85	21.82	NP	--	240.03	--
MW-11	1/6/2009	261.85	--	--	--	--	Dry
MW-11	4/8/2009	261.85	19.20	NP	--	242.65	--
MW-11	7/8/2009	261.85	18.09	NP	--	243.76	--
MW-11	10/6/2009	261.85	18.77	NP	--	243.08	--
MW-11	1/5/2010	261.85	16.14	NP	--	245.71	--
MW-11	5/25/2010	261.85	16.56	NP	--	245.29	--
MW-11	8/19/2010	261.85	17.84	NP	--	244.01	--
MW-11	12/7/2010	261.85	16.95	NP	--	244.90	--
MW-11	1/26/2011	261.85	14.91	NP	--	246.94	--
MW-11	6/16/2011	261.85	16.29	NP	--	245.56	--
MW-11	9/22/2011	261.85	20.40	NP	--	241.45	--
MW-11	12/6/2011	261.85	18.11	NP	--	243.74	--
MW-11	3/8/2012	261.85	17.40	NP	--	244.45	--
MW-11	6/19/2012	261.85	16.80	NP	--	245.05	--
MW-11	9/21/2012	261.85	18.15	NP	--	243.70	--
MW-11	12/11/2012	261.85	14.80	NP	--	247.05	--
MW-11	6/27/2013	261.85	16.88	NP	--	244.97	--
MW-11	9/26/2013	261.85	17.90	NP	--	243.95	--
MW-11	11/15/2013	261.85	17.07	NP	--	244.78	--
MW-11	2/13/2014	261.85	16.51	NP	--	245.34	--
MW-11	4/2/2014	261.85	14.52	NP	--	247.33	--
MW-11	7/11/2014	261.85	17.12	NP	--	244.73	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-11	10/22/2014	261.85	17.54	NP	--	244.31	--
MW-11	1/21/2015	261.85	15.60	NP	--	246.25	--
MW-11	12/14/2015	261.85	14.20	NP	--	247.65	--
MW-11	3/10/2016	261.85	14.86	NP	--	246.99	--
MW-11	6/1/2016	261.85	16.95	NP	--	244.90	--
MW-11	8/29/2016	261.85	18.11	NP	--	243.74	--
MW-11	11/21/2016	261.85	15.50	NP	--	246.35	--
MW-11	2/15/2017	261.85	14.54	NP	--	247.31	--
MW-11	5/26/2017	261.85	15.66	NP	--	246.19	--
MW-11	10/17/2017	261.85	18.04	NP	--	243.81	--
MW-11	2/8/2018	261.85	14.45	NP	--	247.40	--
MW-11	9/11/2018	261.85	17.96	NP	--	243.89	--
MW-11	11/15/2018	261.85	17.42	NP	--	244.43	--
MW-11	1/29/2019	261.85	15.89	NP	--	245.96	--
MW-11	8/27/2019	261.85	17.94	NP	--	243.91	--
MW-11	9/26/2019	261.85	17.77	NP	--	244.08	--
MW-12	7/11/1996	257.84	11.69	NP	--	246.15	--
MW-12	10/10/1996	257.84	13.63	NP	--	244.21	--
MW-12	3/11/1997	257.84	8.65	NP	--	249.19	--
MW-12	5/29/1997	257.84	11.17	NP	--	246.67	--
MW-12	8/5/1997	257.84	11.68	NP	--	246.16	--
MW-12	10/23/1997	257.84	11.41	NP	--	246.43	--
MW-12	3/11/1998	257.84	10.50	NP	--	247.34	--
MW-12	6/30/1998	257.84	13.12	NP	--	244.72	--
MW-12	9/25/1998	257.84	13.57	13.51	0.06	244.32	--
MW-12	12/29/1998	257.84	11.37	NP	--	246.47	--
MW-12	3/9/1999	257.84	10.67	NP	--	247.17	--
MW-12	6/2/1999	257.84	12.48	NP	--	245.36	--
MW-12	9/27/1999	257.84	13.76	13.50	0.26	244.27	--
MW-12	12/20/1999	257.84	11.64	11.24	0.40	246.50	--
MW-12	3/16/2000	257.84	11.75	11.74	0.01	246.10	--
MW-12	6/30/2000	257.84	13.45	NP	--	244.39	--
MW-12	9/27/2000	257.84	14.00	13.84	0.16	243.96	--
MW-12	11/10/2000	257.84	13.28	13.03	0.25	244.75	--
MW-12	3/19/2001	257.84	13.20	13.00	0.20	244.79	--
MW-12	6/27/2001	257.84	13.95	13.92	0.03	243.91	--
MW-12	9/26/2001	257.84	14.10	14.08	0.02	243.75	--
MW-12	12/3/2001	257.84	12.16	12.13	0.03	245.70	--
MW-12	6/6/2002	257.84	13.30	13.25	0.05	244.58	--

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Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
MW-12	6/26/2003	257.84	13.52	13.25	0.27	244.52	--
MW-12	12/9/2003	257.84	12.18	12.16	0.02	245.68	--
MW-12	4/7/2004	257.84	12.71	NP	--	245.13	--
MW-12	11/16/2004	257.84	13.00	12.80	0.20	244.99	--
MW-12	3/29/2005	257.84	12.08	NP	--	245.76	--
MW-12	6/22/2005	257.84	13.04	NP	--	244.80	--
MW-12	9/12/2005	257.84	13.84	NP	--	244.00	--
MW-12	12/6/2005	257.84	12.26	NP	--	245.58	--
MW-12	6/5/2006	257.84	12.11	NP	--	245.73	--
MW-12	9/29/2006	257.84	17.50	NP	--	240.34	--
MW-12	12/19/2006	257.84	10.87	NP	--	246.97	--
MW-12	9/24/2007	257.84	14.30	NP	--	243.54	--
MW-12	12/31/2007	257.84	12.12	NP	--	245.72	--
MW-12	1/29/2008	257.84	11.92	NP	--	245.92	--
MW-12	4/3/2008	257.84	19.67	NP	--	238.17	--
MW-12	7/1/2008	257.84	17.26	NP	--	240.58	--
MW-12	10/3/2008	257.84	19.78	NP	--	238.06	--
MW-12	1/6/2009	257.84	12.93	NP	--	244.91	--
MW-12	4/8/2009	257.84	17.04	NP	--	240.80	--
MW-12	7/8/2009	257.84	13.67	NP	--	244.17	--
MW-12	10/6/2009	257.84	14.25	NP	--	243.59	--
MW-12	1/6/2010	257.84	12.09	NP	--	245.75	--
MW-12	5/25/2010	257.84	12.37	NP	--	245.47	--
MW-12	8/19/2010	257.84	13.30	NP	--	244.54	--
MW-12	12/7/2010	257.84	12.28	NP	--	245.56	--
MW-12	1/26/2011	257.84	10.83	NP	--	247.01	--
MW-12	6/16/2011	257.84	12.20	NP	--	245.64	--
MW-12	9/22/2011	257.84	16.41	NP	--	241.43	--
MW-12	12/6/2011	257.84	17.17	NP	--	240.67	--
MW-12	3/8/2012	257.84	14.07	NP	--	243.77	--
MW-12	6/19/2012	257.84	12.23	NP	--	245.61	--
MW-12	9/21/2012	257.84	13.63	NP	--	244.21	--
MW-12	12/11/2012	257.84	10.10	NP	--	247.74	--
MW-12	6/27/2013	257.84	12.58	NP	--	245.26	--
MW-12	9/26/2013	257.84	13.45	NP	--	244.39	--
MW-12	11/15/2013	257.84	12.50	NP	--	245.34	--
MW-12	2/13/2014	257.84	12.19	NP	--	245.65	--
MW-12	4/2/2014	257.84	10.28	NP	--	247.56	--
MW-12	7/11/2014	257.84	12.69	NP	--	245.15	--
MW-12	10/22/2014	257.84	13.08	NP	--	244.76	--

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Groundwater Gauging Data
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
MW-12	1/21/2015	257.84	11.59	NP	--	246.25	--
MW-12	12/16/2015	257.84	10.76	NP	--	247.08	--
MW-12	3/11/2016	257.84	10.08	NP	--	247.76	--
MW-12	6/1/2016	257.84	12.51	NP	--	245.33	--
MW-12	8/29/2016	257.84	13.71	NP	--	244.13	--
MW-12	11/21/2016	257.84	11.20	NP	--	246.64	--
MW-12	2/15/2017	257.84	9.90	NP	--	247.94	--
MW-12	4/7/2017	257.84	9.05	NP	--	248.79	--
MW-12	5/26/2017	257.84	11.05	NP	--	246.79	--
MW-12	10/17/2017	257.84	13.60	NP	--	244.24	--
MW-12	2/8/2018	257.84	9.87	NP	--	247.97	--
MW-12	9/11/2018	257.84	13.57	NP	--	244.27	--
MW-12	11/15/2018	257.84	13.10	NP	--	244.74	--
MW-12	1/29/2019	257.84	11.50	NP	--	246.34	--
MW-12	9/26/2019	257.84	13.42	NP	--	244.42	--
MW-13	9/26/2019	258.01	13.34	NP	--	244.67	--
MW-14	9/26/2019	258.27	6.08	NP	--	252.19	--
MW-15	9/26/2019	258.25	13.92	NP	--	244.33	--
MW-16	9/26/2019	259.53	16.41	NP	--	243.12	--
VP-1	10/5/1994	--	15.20	NP	--	--	--
VP-1	2/15/1995	--	12.47	NP	--	--	--
VP-1	4/11/1995	--	13.44	NP	--	--	--
VP-1	7/20/1995	--	14.00	NP	--	--	--
VP-1	10/26/1995	--	14.08	NP	--	--	--
VP-1	1/23/1996	--	11.97	NP	--	--	--
VP-1	4/17/1996	--	12.80	NP	--	--	--
VP-1	7/8/1996	--	11.45	NP	--	--	--
VP-1	10/10/1996	--	14.17	NP	--	--	--
VP-1	3/11/1997	--	12.10	NP	--	--	--
VP-1	5/29/1997	--	11.11	NP	--	--	--
VP-1	8/5/1997	--	12.01	NP	--	--	--
VP-1	10/23/1997	--	14.11	NP	--	--	--
VP-1	3/11/1998	--	9.88	NP	--	--	--
VP-1	6/30/1998	--	14.14	NP	--	--	--
VP-1	9/25/1998	--	14.08	NP	--	--	--

TABLE 4
Groundwater Gauging Data
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
VP-1	12/29/1998	--	11.50	NP	--	--	--
VP-1	3/9/1999	--	10.55	NP	--	--	--
VP-1	6/2/1999	--	12.35	NP	--	--	--
VP-1	9/27/1999	--	13.72	NP	--	--	--
VP-1	12/20/1999	--	11.40	NP	--	--	--
VP-1	3/16/2000	--	12.60	NP	--	--	--
VP-1	6/30/2000	--	13.54	NP	--	--	--
VP-1	9/27/2000	--	14.49	NP	--	--	--
VP-1	11/10/2000	--	13.91	NP	--	--	--
VP-1	3/19/2001	--	13.40	NP	--	--	--
VP-1	6/27/2001	--	13.75	NP	--	--	--
VP-1	9/26/2001	--	14.25	NP	--	--	WI
VP-1	12/3/2001	--	12.48	NP	--	--	--
VP-1	6/6/2002	--	13.30	NP	--	--	--
VP-1	6/26/2003	--	13.85	NP	--	--	--
VP-1	12/9/2003	--	12.70	NP	--	--	--
VP-1	4/7/2004	--	12.43	NP	--	--	--
VP-1	11/16/2004	--	13.15	NP	--	--	--
VP-1	3/29/2005	--	12.40	NP	--	--	--
VP-1	6/22/2005	--	12.98	NP	--	--	--
VP-1	9/12/2005	--	14.05	NP	--	--	--
VP-1	12/6/2005	--	13.65	NP	--	--	--
VP-1	6/5/2006	--	11.81	NP	--	--	--
VP-1	9/29/2006	--	17.48	NP	--	--	--
VP-1	12/19/2006	--	11.17	NP	--	--	--
VP-1	9/24/2007	--	13.87	NP	--	--	--
VP-1	12/31/2007	--	--	--	--	--	WI
VP-1	1/30/2008	--	13.08	NP	--	--	--
VP-1	4/2/2008	--	15.55	NP	--	--	--
VP-1	7/1/2008	--	15.18	NP	--	--	--
VP-1	10/3/2008	--	17.58	NP	--	--	--
VP-1	1/6/2009	--	17.07	NP	--	--	--
VP-1	4/8/2009	--	16.64	NP	--	--	--
VP-1	7/8/2009	--	14.08	NP	--	--	--
VP-1	10/6/2009	--	14.85	NP	--	--	--
VP-1	1/6/2010	--	13.51	NP	--	--	--
VP-1	5/25/2010	--	13.03	NP	--	--	--
VP-1	8/19/2010	--	13.93	NP	--	--	--
VP-1	12/7/2010	--	13.07	NP	--	--	--
VP-1	1/26/2011	--	11.40	NP	--	--	--

TABLE 4
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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
VP-1	6/16/2011	--	13.09	NP	--	--	--
VP-1	9/22/2011	--	15.67	NP	--	--	--
VP-1	12/6/2011	--	16.10	NP	--	--	--
VP-1	3/8/2012	--	14.32	NP	--	--	--
VP-1	6/19/2012	--	13.25	NP	--	--	--
VP-1	9/21/2012	--	14.25	NP	--	--	--
VP-1	12/11/2012	--	13.43	NP	--	--	--
VP-1D	6/26/2013	--	13.42	NP	--	--	--
VP-1D	9/26/2013	--	14.11	NP	--	--	--
VP-1D	11/15/2013	--	13.16	NP	--	--	--
VP-1D	2/13/2014	--	13.25	NP	--	--	--
VP-1D	4/1/2014	--	11.98	NP	--	--	--
VP-1D	7/9/2014	--	13.70	NP	--	--	--
VP-1D	10/20/2014	--	13.81	NP	--	--	--
VP-1D	1/19/2015	--	12.02	NP	--	--	--
VP-1D	12/14/2015	--	12.10	NP	--	--	--
VP-1D	3/10/2016	--	9.52	NP	--	--	--
VP-1S	6/26/2013	--	12.89	NP	--	--	--
VP-1S	9/26/2013	--	14.01	NP	--	--	--
VP-1S	11/15/2013	--	13.45	NP	--	--	--
VP-1S	2/12/2014	--	12.97	NP	--	--	--
VP-1S	4/1/2014	--	10.99	NP	--	--	--
VP-1S	7/9/2014	--	13.35	NP	--	--	--
VP-1S	10/20/2014	--	13.71	NP	--	--	--
VP-1S	1/19/2015	--	11.96	NP	--	--	--
VP-2	10/5/1994	--	14.64	NP	--	--	--
VP-2	2/15/1995	--	14.77	NP	--	--	--
VP-2	4/10/1995	--	13.24	NP	--	--	--
VP-2	7/20/1995	--	13.43	NP	--	--	--
VP-2	10/26/1995	--	13.67	NP	--	--	--
VP-2	1/23/1996	--	11.80	NP	--	--	--
VP-2	4/17/1996	--	14.95	NP	--	--	--
VP-2	7/8/1996	--	12.40	NP	--	--	--
VP-2	10/10/1996	--	16.96	NP	--	--	--
VP-2	3/11/1997	--	10.98	NP	--	--	--
VP-2	5/29/1997	--	10.03	NP	--	--	--
VP-2	8/5/1997	--	13.08	NP	--	--	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
VP-2	10/23/1997	--	14.21	NP	--	--	--
VP-2	3/11/1998	--	10.11	NP	--	--	--
VP-2	6/30/1998	--	13.74	NP	--	--	--
VP-2	9/25/1998	--	13.67	NP	--	--	--
VP-2	12/29/1998	--	11.00	NP	--	--	--
VP-2	3/9/1999	--	10.19	NP	--	--	--
VP-2	6/2/1999	--	11.99	NP	--	--	--
VP-2	9/27/1999	--	13.55	NP	--	--	--
VP-2	12/20/1999	--	10.97	NP	--	--	--
VP-2	3/16/2000	--	11.66	NP	--	--	--
VP-2	6/30/2000	--	12.76	NP	--	--	--
VP-2	9/27/2000	--	14.68	NP	--	--	--
VP-2	11/10/2000	--	13.79	NP	--	--	--
VP-2	3/19/2001	--	13.70	NP	--	--	--
VP-2	6/27/2001	--	13.10	NP	--	--	--
VP-2	9/26/2001	--	13.86	NP	--	--	WI
VP-2	12/3/2001	--	13.05	NP	--	--	--
VP-2	6/6/2002	--	12.70	NP	--	--	--
VP-2	6/26/2003	--	15.34	NP	--	--	--
VP-2	12/9/2003	--	13.08	NP	--	--	--
VP-2	4/7/2004	--	12.35	NP	--	--	--
VP-2	11/16/2004	--	13.15	NP	--	--	--
VP-2	3/29/2005	--	12.40	NP	--	--	--
VP-2	6/22/2005	--	15.51	NP	--	--	--
VP-2	9/12/2005	--	16.72	NP	--	--	--
VP-2	12/6/2005	--	12.80	NP	--	--	--
VP-2	6/5/2006	--	11.94	NP	--	--	--
VP-2	9/24/2007	--	15.29	NP	--	--	--
VP-2	12/31/2007	--	--	--	--	--	WI
VP-2	1/30/2008	--	14.11	NP	--	--	--
VP-2	4/2/2008	--	16.37	NP	--	--	--
VP-2	7/1/2008	--	13.17	NP	--	--	--
VP-2	10/3/2008	--	14.10	NP	--	--	--
VP-2	1/6/2009	--	17.02	NP	--	--	--
VP-2	4/8/2009	--	13.72	NP	--	--	--
VP-2	9/22/2011	--	16.46	NP	--	--	--
VP-2D	6/26/2013	--	14.43	NP	--	--	--
VP-2D	9/25/2013	--	15.09	NP	--	--	--
VP-2D	11/15/2013	--	14.68	NP	--	--	--

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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
VP-2D	2/13/2014	--	14.20	NP	--	--	--
VP-2D	4/1/2014	--	12.34	NP	--	--	--
VP-2D	7/9/2014	--	14.69	NP	--	--	--
VP-2D	10/20/2014	--	14.96	NP	--	--	--
VP-2D	1/19/2015	--	13.00	NP	--	--	--
VP-2D	12/14/2015	--	12.61	NP	--	--	--
VP-2D	3/10/2016	--	12.62	NP	--	--	--
VP-2S	6/26/2013	--	12.67	NP	--	--	--
VP-2S	9/25/2013	--	13.21	NP	--	--	--
VP-2S	11/15/2013	--	13.05	NP	--	--	--
VP-2S	2/12/2014	--	12.63	NP	--	--	--
VP-2S	4/1/2014	--	11.31	NP	--	--	--
VP-2S	7/9/2014	--	12.07	NP	--	--	--
VP-2S	10/20/2014	--	12.89	NP	--	--	--
VP-2S	1/19/2015	--	11.70	NP	--	--	--
BV-1	4/11/1995	--	6.57	NP	--	--	--
BV-1	7/20/1995	--	7.38	NP	--	--	--
BV-1	10/26/1995	--	6.98	NP	--	--	--
BV-1	1/23/1996	--	5.49	NP	--	--	--
BV-1	4/17/1996	--	6.75	NP	--	--	--
BV-1	7/8/1996	--	7.00	NP	--	--	--
BV-1	10/10/1996	--	7.36	NP	--	--	--
BV-1	3/11/1997	--	5.12	NP	--	--	--
BV-1	5/29/1997	--	6.02	NP	--	--	--
BV-1	8/5/1997	--	6.92	NP	--	--	--
BV-1	10/23/1997	--	7.17	NP	--	--	--
BV-1	3/11/1998	--	5.65	NP	--	--	--
BV-1	6/30/1998	--	7.34	NP	--	--	--
BV-1	9/25/1998	--	8.01	NP	--	--	--
BV-1	12/29/1998	--	7.00	NP	--	--	--
BV-1	3/9/1999	--	6.51	NP	--	--	--
BV-1	6/2/1999	--	7.30	NP	--	--	--
BV-1	9/27/1999	--	7.62	NP	--	--	--
BV-1	12/20/1999	--	6.40	NP	--	--	--
BV-1	6/30/2000	--	7.38	NP	--	--	--
BV-1	9/27/2000	--	7.87	NP	--	--	--
BV-1	11/10/2000	--	6.75	NP	--	--	--
BV-1	3/19/2001	--	6.54	NP	--	--	--

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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
BV-1	6/25/2013	--	7.04	NP	--	--	--
BV-1	9/25/2013	--	7.36	NP	--	--	--
BV-1	11/14/2013	--	7.05	NP	--	--	--
BV-1	2/13/2014	--	6.69	NP	--	--	--
BV-1	4/1/2014	--	5.89	NP	--	--	--
BV-1	7/9/2014	--	7.05	NP	--	--	--
BV-1	10/20/2014	--	7.20	NP	--	--	--
BV-1	1/19/2015	--	6.42	NP	--	--	--
BV-2	4/10/1995	--	8.83	NP	--	--	--
BV-2	10/26/1995	--	9.67	NP	--	--	--
BV-2	1/23/1996	--	7.76	NP	--	--	--
BV-2	4/17/1996	--	9.10	NP	--	--	--
BV-2	7/8/1996	--	9.25	NP	--	--	--
BV-2	10/10/1996	--	9.63	NP	--	--	--
BV-2	3/11/1997	--	7.31	NP	--	--	--
BV-2	5/29/1997	--	7.01	NP	--	--	--
BV-2	8/5/1997	--	8.06	NP	--	--	--
BV-2	10/23/1997	--	11.03	NP	--	--	--
BV-2	3/11/1998	--	7.76	NP	--	--	--
BV-2	6/30/1998	--	9.29	NP	--	--	--
BV-2	9/25/1998	--	10.16	NP	--	--	--
BV-2	12/29/1998	--	8.92	NP	--	--	--
BV-2	3/9/1999	--	8.33	NP	--	--	--
BV-2	6/2/1999	--	9.32	NP	--	--	--
BV-2	9/27/1999	--	9.37	NP	--	--	--
BV-2	12/20/1999	--	7.59	NP	--	--	--
BV-2	6/30/2000	--	9.40	NP	--	--	--
BV-2	9/27/2000	--	10.08	NP	--	--	--
BV-2	11/10/2000	--	8.86	NP	--	--	--
BV-2	3/19/2001	--	8.78	NP	--	--	--
BV-2	6/25/2013	--	9.66	NP	--	--	--
BV-2	9/25/2013	--	10.23	NP	--	--	--
BV-2	11/14/2013	--	8.78	NP	--	--	--
BV-2	2/13/2014	--	6.74	NP	--	--	--
BV-2	4/1/2014	--	5.75	NP	--	--	--
BV-2	7/9/2014	--	9.83	NP	--	--	--
BV-2	10/20/2014	--	10.10	NP	--	--	--
BV-2	1/19/2015	--	8.83	NP	--	--	--
BV-2	12/14/2015	--	7.57	NP	--	--	--

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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
BV-2	3/10/2016	--	5.96	NP	--	--	--
BV-3	3/3/1995	--	11.40	NP	--	--	--
BV-3	4/10/1995	--	11.79	NP	--	--	--
BV-3	7/20/1995	--	11.15	NP	--	--	--
BV-3	10/26/1995	--	11.44	NP	--	--	--
BV-3	1/23/1996	--	10.65	NP	--	--	--
BV-3	4/17/1996	--	6.61	NP	--	--	--
BV-3	7/8/1996	--	10.72	NP	--	--	--
BV-3	10/10/1996	--	8.40	NP	--	--	--
BV-3	3/11/1997	--	12.07	NP	--	--	--
BV-3	5/29/1997	--	9.13	NP	--	--	--
BV-3	8/5/1997	--	9.53	NP	--	--	--
BV-3	10/23/1997	--	9.06	NP	--	--	--
BV-3	3/11/1998	--	7.00	NP	--	--	--
BV-3	6/30/1998	--	7.68	NP	--	--	--
BV-3	9/25/1998	--	8.00	NP	--	--	--
BV-3	12/29/1998	--	9.34	NP	--	--	--
BV-3	3/9/1999	--	5.39	NP	--	--	--
BV-3	6/2/1999	--	12.85	NP	--	--	--
BV-3	9/27/1999	--	9.55	NP	--	--	--
BV-3	12/20/1999	--	9.90	NP	--	--	--
BV-3	3/16/2000	--	8.15	NP	--	--	--
BV-3	6/30/2000	--	12.16	NP	--	--	--
BV-3	9/27/2000	--	14.52	NP	--	--	--
BV-3	11/10/2000	--	13.39	NP	--	--	--
BV-3	3/19/2001	--	13.30	NP	--	--	--
BV-3	6/25/2013	--	14.30	NP	--	--	--
BV-3	9/25/2013	--	15.15	NP	--	--	--
BV-3	11/14/2013	--	14.42	NP	--	--	--
BV-3	2/13/2014	--	13.75	NP	--	--	--
BV-3	4/1/2014	--	12.01	NP	--	--	--
BV-3	7/9/2014	--	14.65	NP	--	--	--
BV-3	10/20/2014	--	14.87	NP	--	--	--
BV-3	1/19/2015	--	13.41	NP	--	--	--
BV-4	4/10/1995	--	--	--	--	--	Dry
BV-4	7/20/1995	--	--	--	--	--	Dry
BV-4	10/26/1995	--	--	--	--	--	Dry
BV-4	1/23/1996	--	9.51	NP	--	--	--

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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
BV-4	4/17/1996	--	--	--	--	--	Dry
BV-4	7/8/1996	--	--	--	--	--	Dry
BV-4	10/10/1996	--	8.35	NP	--	--	--
BV-4	3/11/1997	--	9.96	NP	--	--	--
BV-4	5/29/1997	--	8.40	NP	--	--	--
BV-4	8/5/1997	--	9.40	NP	--	--	--
BV-4	10/23/1997	--	12.16	NP	--	--	--
BV-4	3/11/1998	--	8.86	NP	--	--	--
BV-4	6/30/1998	--	6.54	NP	--	--	--
BV-4	12/29/1998	--	9.01	NP	--	--	--
BV-4	9/27/1999	--	9.58	NP	--	--	--
BV-4	12/20/1999	--	--	--	--	--	Dry
BV-4	3/16/2000	--	6.47	NP	--	--	--
BV-4	6/30/2000	--	--	--	--	--	Dry
BV-4	9/27/2000	--	--	--	--	--	Dry
BV-4	11/10/2000	--	--	--	--	--	Dry
BV-4	3/19/2001	--	--	--	--	--	Dry
BV-4	6/25/2013	--	--	--	--	--	Dry
BV-4	9/25/2013	--	--	--	--	--	Dry
BV-4	11/14/2013	--	--	--	--	--	Dry
BV-4	2/13/2014	--	10.02	NP	--	--	--
BV-4	4/1/2014	--	9.09	NP	--	--	--
BV-4	7/9/2014	--	--	--	--	--	Dry
BV-4	10/20/2014	--	--	--	--	--	Dry
BV-4	1/19/2015	--	--	--	--	--	WI
BV-5	3/3/1995	--	9.16	NP	--	--	--
BV-5	4/10/1995	--	9.21	NP	--	--	--
BV-5	7/20/1995	--	9.45	NP	--	--	--
BV-5	10/26/1995	--	9.76	NP	--	--	--
BV-5	1/23/1996	--	8.49	NP	--	--	--
BV-5	4/17/1996	--	9.32	NP	--	--	--
BV-5	7/8/1996	--	10.00	NP	--	--	--
BV-5	10/10/1996	--	10.25	NP	--	--	--
BV-5	3/11/1997	--	7.96	NP	--	--	--
BV-5	5/29/1997	--	6.91	NP	--	--	--
BV-5	8/5/1997	--	8.75	NP	--	--	--
BV-5	10/23/1997	--	9.63	NP	--	--	--
BV-5	3/11/1998	--	--	--	--	--	Dry
BV-5	6/30/1998	--	--	--	--	--	Dry

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BV-5	9/25/1998	--	--	--	--	--	Dry
BV-5	12/29/1998	--	10.04	NP	--	--	--
BV-5	3/9/1999	--	--	--	--	--	Dry
BV-5	6/2/1999	--	--	--	--	--	Dry
BV-5	9/27/1999	--	10.41	NP	--	--	--
BV-5	12/20/1999	--	9.30	NP	--	--	--
BV-5	3/16/2000	--	10.00	NP	--	--	--
BV-5	6/30/2000	--	--	--	--	--	Dry
BV-5	9/27/2000	--	--	--	--	--	Dry
BV-5	11/10/2000	--	9.55	NP	--	--	--
BV-5	3/19/2001	--	9.47	NP	--	--	--
BV-5	6/27/2001	--	10.30	NP	--	--	--
BV-5	9/26/2001	--	--	--	--	--	Dry
BV-5	6/25/2013	--	9.31	NP	--	--	--
BV-5	9/25/2013	--	9.60	NP	--	--	--
BV-5	11/14/2013	--	9.21	NP	--	--	--
BV-5	2/13/2014	--	8.91	NP	--	--	--
BV-5	4/1/2014	--	8.31	NP	--	--	--
BV-5	7/9/2014	--	9.39	NP	--	--	--
BV-5	10/20/2014	--	9.55	NP	--	--	--
BV-5	1/19/2015	--	8.76	NP	--	--	--
BV-6	4/10/1995	--	8.68	NP	--	--	--
BV-6	10/26/1995	--	9.13	NP	--	--	--
BV-6	1/23/1996	--	7.77	NP	--	--	--
BV-6	4/17/1996	--	8.88	NP	--	--	--
BV-6	7/8/1996	--	9.10	NP	--	--	--
BV-6	10/10/1996	--	9.30	NP	--	--	--
BV-6	3/11/1997	--	8.05	NP	--	--	--
BV-6	5/29/1997	--	7.90	NP	--	--	--
BV-6	8/5/1997	--	8.19	NP	--	--	--
BV-6	10/23/1997	--	11.27	NP	--	--	--
BV-6	3/11/1998	--	9.58	NP	--	--	--
BV-6	6/30/1998	--	10.32	NP	--	--	--
BV-6	9/25/1998	--	9.82	NP	--	--	--
BV-6	12/29/1998	--	8.94	NP	--	--	--
BV-6	3/9/1999	--	9.38	NP	--	--	--
BV-6	6/2/1999	--	9.25	NP	--	--	--
BV-6	12/20/1999	--	8.48	NP	--	--	--
BV-6	6/30/2000	--	9.38	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
BV-6	9/27/2000	--	9.85	NP	--	--	--
BV-6	6/25/2013	--	9.19	NP	--	--	--
BV-6	9/25/2013	--	9.48	NP	--	--	--
BV-6	11/14/2013	--	8.99	NP	--	--	--
BV-6	2/13/2014	--	8.63	NP	--	--	--
BV-6	4/1/2014	--	7.72	NP	--	--	--
BV-6	7/9/2014	--	9.22	NP	--	--	--
BV-6	10/20/2014	--	9.34	NP	--	--	--
BV-6	1/19/2015	--	8.43	NP	--	--	--
BV-7	4/10/1995	--	17.11	15.50	1.61	--	--
BV-7	7/20/1995	--	17.97	16.34	1.63	--	--
BV-7	10/25/1995	--	16.45	16.44	0.01	--	--
BV-7	1/23/1996	--	14.79	NP	--	--	--
BV-7	4/17/1996	--	13.87	NP	--	--	--
BV-7	7/8/1996	--	12.00	NP	--	--	--
BV-7	10/10/1996	--	13.92	13.91	0.01	--	--
BV-7	3/11/1997	--	14.98	NP	--	--	--
BV-7	5/29/1997	--	12.06	NP	--	--	--
BV-7	8/5/1997	--	12.67	NP	--	--	--
BV-7	10/23/1997	--	12.54	NP	--	--	--
BV-7	3/11/1998	--	11.60	NP	--	--	--
BV-7	6/30/1998	--	12.74	NP	--	--	--
BV-7	9/25/1998	--	16.02	NP	--	--	--
BV-7	12/29/1998	--	13.03	NP	--	--	--
BV-7	3/9/1999	--	10.05	NP	--	--	--
BV-7	6/2/1999	--	15.26	NP	--	--	--
BV-7	12/20/1999	--	11.88	NP	--	--	--
BV-7	3/16/2000	--	11.65	NP	--	--	--
BV-7	6/30/2000	--	16.58	NP	--	--	--
BV-7	9/27/2000	--	--	--	--	--	Dry
BV-7	11/10/2000	--	16.81	NP	--	--	--
BV-7	3/19/2001	--	16.85	NP	--	--	--
BV-7	6/27/2001	--	16.50	NP	--	--	--
BV-7	9/26/2001	--	14.50	NP	--	--	--
BV-7	6/25/2013	--	14.41	NP	--	--	--
BV-7	9/25/2013	--	15.47	NP	--	--	--
BV-7	11/14/2013	--	14.86	NP	--	--	--
BV-7	2/13/2014	--	14.27	NP	--	--	--
BV-7	4/1/2014	--	11.97	NP	--	--	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
BV-7	7/9/2014	--	14.84	NP	--	--	--
BV-7	10/20/2014	--	15.17	NP	--	--	--
BV-7	1/19/2015	--	13.14	NP	--	--	--
SVE-1	10/5/1994	--	15.37	NP	--	--	--
SVE-1	2/15/1995	--	12.18	NP	--	--	--
SVE-1	4/10/1995	--	12.05	NP	--	--	--
SVE-1	7/20/1995	--	13.95	NP	--	--	--
SVE-1	10/25/1995	--	14.23	NP	--	--	--
SVE-1	1/23/1996	--	11.45	NP	--	--	--
SVE-1	4/17/1996	--	12.38	NP	--	--	--
SVE-1	10/10/1996	--	13.97	NP	--	--	--
SVE-1	3/11/1997	--	12.32	NP	--	--	--
SVE-1	5/29/1997	--	10.19	NP	--	--	--
SVE-1	8/5/1997	--	15.82	NP	--	--	--
SVE-1	10/23/1997	--	11.26	NP	--	--	--
SVE-1	3/11/1998	--	10.27	NP	--	--	--
SVE-1	6/30/1998	--	14.04	NP	--	--	--
SVE-1	9/25/1998	--	14.12	NP	--	--	--
SVE-1	12/29/1998	--	11.99	NP	--	--	--
SVE-1	3/9/1999	--	10.15	NP	--	--	--
SVE-1	6/2/1999	--	12.19	NP	--	--	--
SVE-1	12/20/1999	--	11.65	NP	--	--	--
SVE-1	3/16/2000	--	12.85	NP	--	--	--
SVE-1	6/30/2000	--	13.38	NP	--	--	--
SVE-1	9/27/2000	--	14.62	NP	--	--	--
SVE-1	11/10/2000	--	14.30	NP	--	--	--
SVE-1	3/19/2001	--	13.20	NP	--	--	--
SVE-1	6/27/2001	--	13.70	NP	--	--	--
SVE-1	9/26/2001	--	14.55	NP	--	--	--
SVE-1	12/3/2001	--	12.90	NP	--	--	--
SVE-1	6/6/2002	--	12.85	NP	--	--	--
SVE-1	6/26/2003	--	13.45	NP	--	--	--
SVE-1	12/9/2003	--	13.00	NP	--	--	--
SVE-1	4/7/2004	--	12.33	NP	--	--	--
SVE-1	11/16/2004	--	13.80	NP	--	--	--
SVE-1	12/6/2005	--	13.20	NP	--	--	--
SVE-1	6/5/2006	--	12.23	NP	--	--	--
SVE-1	12/19/2006	--	10.79	NP	--	--	--
SVE-1	9/24/2007	--	14.04	NP	--	--	--

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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
SVE-1	12/31/2007	--	11.60	NP	--	--	--
SVE-1	1/30/2008	--	11.44	NP	--	--	--
SVE-1	4/2/2008	--	14.74	NP	--	--	--
SVE-1	7/1/2008	--	14.52	NP	--	--	--
SVE-1	10/3/2008	--	16.18	NP	--	--	--
SVE-1	1/6/2009	--	15.08	NP	--	--	--
SVE-1	4/8/2009	--	14.42	NP	--	--	--
SVE-1	6/26/2013	--	12.44	NP	--	--	--
SVE-1	9/26/2013	--	14.03	NP	--	--	--
SVE-1	11/15/2013	--	13.48	NP	--	--	--
SVE-1	2/13/2014	--	12.82	NP	--	--	--
SVE-1	4/1/2014	--	9.92	NP	--	--	--
SVE-1	7/9/2014	--	12.69	NP	--	--	--
SVE-1	10/20/2014	--	13.87	NP	--	--	--
SVE-1	1/19/2015	--	11.14	NP	--	--	--
SVE-2	10/5/1994	--	16.85	NP	--	--	--
SVE-2	2/15/1995	--	13.59	NP	--	--	--
SVE-2	4/11/1995	--	13.38	NP	--	--	--
SVE-2	7/20/1995	--	15.40	NP	--	--	--
SVE-2	10/25/1995	--	15.70	NP	--	--	--
SVE-2	1/23/1996	--	12.70	NP	--	--	--
SVE-2	4/17/1996	--	13.77	NP	--	--	--
SVE-2	7/8/1996	--	14.00	NP	--	--	--
SVE-2	10/10/1996	--	15.38	NP	--	--	--
SVE-2	3/11/1997	--	12.52	NP	--	--	--
SVE-2	5/29/1997	--	10.71	NP	--	--	--
SVE-2	8/5/1997	--	16.11	NP	--	--	--
SVE-2	10/23/1997	--	12.62	NP	--	--	--
SVE-2	3/11/1998	--	11.81	NP	--	--	--
SVE-2	6/30/1998	--	15.94	NP	--	--	--
SVE-2	9/25/1998	--	15.57	NP	--	--	--
SVE-2	12/29/1998	--	13.57	NP	--	--	--
SVE-2	3/9/1999	--	11.09	NP	--	--	--
SVE-2	6/2/1999	--	13.56	NP	--	--	--
SVE-2	12/20/1999	--	13.45	NP	--	--	--
SVE-2	3/16/2000	--	13.15	NP	--	--	--
SVE-2	6/30/2000	--	14.75	NP	--	--	--
SVE-2	9/27/2000	--	16.01	NP	--	--	--
SVE-2	11/10/2000	--	15.75	NP	--	--	--

TABLE 4
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
SVE-2	3/19/2001	--	14.40	NP	--	--	--
SVE-2	12/19/2006	--	11.84	NP	--	--	--
SVE-2	6/26/2013	--	13.95	NP	--	--	--
SVE-2	9/25/2013	--	15.59	NP	--	--	--
SVE-2	11/15/2013	--	15.09	NP	--	--	--
SVE-2	2/13/2014	--	14.44	NP	--	--	--
SVE-2	4/1/2014	--	11.15	NP	--	--	--
SVE-2	7/9/2014	--	14.17	NP	--	--	--
SVE-2	10/20/2014	--	15.43	NP	--	--	--
SVE-2	1/19/2015	--	12.50	NP	--	--	--
SVE-2	12/14/2015	--	12.38	NP	--	--	--
SVE-2	3/10/2016	--	10.43	NP	--	--	--
SVE-3	5/29/1997	--	5.31	NP	--	--	--
SVE-3	8/5/1997	--	6.48	NP	--	--	--
SVE-3	10/23/1997	--	4.67	NP	--	--	--
SVE-3	3/11/1998	--	8.24	NP	--	--	--
SVE-3	6/30/1998	--	5.52	NP	--	--	--
SVE-3	9/25/1998	--	9.02	NP	--	--	--
SVE-3	12/29/1998	--	6.64	NP	--	--	--
SVE-3	6/2/1999	--	9.04	NP	--	--	--
SVE-3	12/20/1999	--	8.15	NP	--	--	--
SVE-3	6/30/2000	--	--	--	--	--	Dry
SVE-3	9/27/2000	--	--	--	--	--	Dry
SVE-3	11/10/2000	--	8.02	NP	--	--	--
SVE-3	3/19/2001	--	7.95	7.94	0.01	--	--
SVE-3	6/27/2001	--	8.50	NP	--	--	--
SVE-3	9/26/2001	--	6.75	NP	--	--	WI
SVE-3	12/3/2001	--	7.86	NP	--	--	--
SVE-3	6/6/2002	--	8.60	NP	--	--	--
SVE-3	6/26/2003	--	10.27	NP	--	--	--
SVE-3	12/9/2003	--	7.71	NP	--	--	--
SVE-3	4/7/2004	--	7.41	NP	--	--	--
SVE-3	11/16/2004	--	7.60	NP	--	--	--
SVE-3	3/29/2005	--	6.31	NP	--	--	--
SVE-3	6/22/2005	--	7.47	NP	--	--	--
SVE-3	9/12/2005	--	8.46	NP	--	--	IW
SVE-3	12/6/2005	--	6.04	NP	--	--	--
SVE-3	6/5/2006	--	6.00	NP	--	--	--
SVE-3	12/19/2006	--	6.20	NP	--	--	--

TABLE 4
Groundwater Gauging Data
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
SVE-3	9/24/2007	--	8.49	NP	--	--	--
SVE-3	12/31/2007	--	--	--	--	--	WI
SVE-3	1/30/2008	--	8.52	NP	--	--	--
SVE-3	4/2/2008	--	--	--	--	--	Dry
SVE-3	7/1/2008	--	--	--	--	--	Dry
SVE-3	10/3/2008	--	--	--	--	--	Dry
SVE-3	1/6/2009	--	--	--	--	--	Dry
SVE-3	4/7/2009	--	--	--	--	--	Dry
SVE-3	7/8/2009	--	9.21	NP	--	--	--
SVE-3	10/6/2009	--	--	--	--	--	Dry
SVE-3	1/5/2010	--	8.36	NP	--	--	IW
SVE-3	5/25/2010	--	8.51	NP	--	--	--
SVE-3	8/19/2010	--	--	--	--	--	Dry
SVE-3	12/7/2010	--	8.30	NP	--	--	--
SVE-3	1/26/2011	--	7.82	NP	--	--	--
SVE-3	6/16/2011	--	8.22	NP	--	--	--
SVE-3	9/22/2011	--	--	--	--	--	Dry
SVE-3	12/6/2011	--	--	--	--	--	Dry
SVE-3	3/8/2012	--	--	--	--	--	Dry
SVE-3	6/19/2012	--	8.30	NP	--	--	--
SVE-3	9/21/2012	--	--	--	--	--	Dry
SVE-3	12/11/2012	--	--	--	--	--	Dry
SVE-3	6/25/2013	--	8.22	NP	--	--	--
SVE-3	9/25/2013	--	8.50	NP	--	--	--
SVE-3	11/14/2013	--	8.10	NP	--	--	--
SVE-3	2/13/2014	--	7.78	NP	--	--	--
SVE-3	4/1/2014	--	7.09	NP	--	--	--
SVE-3	7/9/2014	--	8.15	NP	--	--	--
SVE-3	1/19/2015	--	7.20	NP	--	--	--
AS-1	7/20/1995	--	14.43	NP	--	--	--
AS-2	2/15/1995	--	14.33	NP	--	--	--
AS-2	7/20/1995	--	16.23	NP	--	--	--
AS-3	10/5/1994	--	17.10	NP	--	--	--
AS-3	2/15/1995	--	14.81	NP	--	--	--
AS-3	4/10/1995	--	14.64	NP	--	--	--
AS-3	7/20/1995	--	15.80	NP	--	--	--

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Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
B1 (JPHC)	2/15/1995	--	14.72	11.45	3.27	--	--
B1 (JPHC)	7/20/1995	--	14.63	14.37	0.26	--	--
B1 (JPHC)	10/25/1995	--	14.20	NP	--	--	--
B1 (JPHC)	1/23/1996	--	12.20	NP	--	--	--
B1 (JPHC)	4/17/1996	--	14.13	13.43	0.70	--	--
B1 (JPHC)	7/8/1996	257.71	13.10	NP	--	244.61	--
B1 (JPHC)	10/10/1996	257.71	14.40	NP	--	243.31	--
B1 (JPHC)	3/11/1997	257.71	8.67	NP	--	249.04	--
B1 (JPHC)	5/29/1997	257.71	9.06	NP	--	248.65	--
B1 (JPHC)	8/5/1997	257.71	9.28	NP	--	248.43	--
B1 (JPHC)	10/23/1997	257.71	9.40	NP	--	248.31	--
B1 (JPHC)	3/11/1998	257.71	15.02	NP	--	242.69	--
B1 (JPHC)	6/30/1998	257.71	13.41	NP	--	244.30	--
B1 (JPHC)	9/25/1998	257.71	13.67	13.59	0.08	244.10	--
B1 (JPHC)	12/29/1998	257.71	12.24	NP	--	245.47	--
B1 (JPHC)	3/9/1999	257.71	11.50	NP	--	246.21	--
B1 (JPHC)	6/2/1999	257.71	12.57	NP	--	245.14	--
B1 (JPHC)	12/20/1999	257.71	--	--	--	--	Dry
B1 (JPHC)	3/16/2000	257.71	12.00	NP	--	245.71	--
B1 (JPHC)	6/30/2000	257.71	13.56	NP	--	244.15	--
B1 (JPHC)	9/27/2000	257.71	14.02	NP	--	243.69	--
B1 (JPHC)	11/10/2000	257.71	13.59	NP	--	244.12	--
B1 (JPHC)	3/19/2001	257.71	13.47	NP	--	244.24	--
B1 (JPHC)	6/27/2001	257.71	14.90	14.89	0.01	242.82	WI
B1 (JPHC)	9/26/2001	257.71	14.25	14.24	0.01	243.47	--
B1 (JPHC)	12/3/2001	257.71	12.00	NP	--	245.71	IW
B1 (JPHC)	6/26/2003	257.71	13.91	13.61	0.30	244.03	--
B1 (JPHC)	12/9/2003	257.71	12.20	NP	--	245.51	--
B1 (JPHC)	4/7/2004	257.71	12.71	NP	--	245.00	--
B1 (JPHC)	11/16/2004	257.71	13.58	NP	--	244.13	--
B1 (JPHC)	3/29/2005	257.71	12.30	NP	--	245.41	--
B1 (JPHC)	6/22/2005	257.71	15.50	NP	--	242.21	--
B1 (JPHC)	9/12/2005	257.71	14.04	NP	--	243.67	--
B1 (JPHC)	12/6/2005	257.71	13.27	NP	--	244.44	--
B1 (JPHC)	6/5/2006	257.71	12.79	NP	--	244.92	--
B1 (JPHC)	12/19/2006	257.71	11.40	NP	--	246.31	--
B1 (JPHC)	9/24/2007	257.71	14.95	NP	--	242.76	--
B1 (JPHC)	12/31/2007	257.71	--	--	--	--	WI
B1 (JPHC)	1/30/2008	257.71	12.76	NP	--	244.95	--
B1 (JPHC)	4/3/2008	257.71	21.44	NP	--	236.27	IW

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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
B1 (JPHC)	7/1/2008	257.71	17.62	NP	--	240.09	--
B1 (JPHC)	10/3/2008	257.71	19.15	NP	--	238.56	--
B1 (JPHC)	1/6/2009	257.71	18.50	NP	--	239.21	--
B1 (JPHC)	4/8/2009	257.71	19.79	NP	--	237.92	--
B1 (JPHC)	7/8/2009	257.71	14.12	NP	--	243.59	--
B1 (JPHC)	10/6/2009	257.71	15.70	NP	--	242.01	--
B1 (JPHC)	1/6/2010	257.71	12.68	NP	--	245.03	--
B1 (JPHC)	5/25/2010	257.71	13.12	NP	--	244.59	--
B1 (JPHC)	8/19/2010	257.71	14.04	NP	--	243.67	--
B1 (JPHC)	12/7/2010	257.71	12.87	NP	--	244.84	--
B1 (JPHC)	1/26/2011	257.71	11.58	NP	--	246.13	--
B1 (JPHC)	6/16/2011	257.71	12.84	NP	--	244.87	--
B1 (JPHC)	9/22/2011	257.71	16.09	NP	--	241.62	--
B1 (JPHC)	12/6/2011	257.71	18.31	NP	--	239.40	--
B1 (JPHC)	3/8/2012	257.71	13.30	NP	--	244.41	--
B1 (JPHC)	6/19/2012	257.71	12.98	NP	--	244.73	--
B1 (JPHC)	9/21/2012	257.71	14.19	NP	--	243.52	--
B1 (JPHC)	12/11/2012	257.71	11.16	NP	--	246.55	--
B1 (JPHC)	6/26/2013	257.71	13.20	NP	--	244.51	--
B1 (JPHC)	9/26/2013	257.71	13.90	NP	--	243.81	--
B1 (JPHC)	11/15/2013	257.71	13.20	NP	--	244.51	--
B1 (JPHC)	2/13/2014	257.71	12.72	NP	--	244.99	--
B1 (JPHC)	4/2/2014	257.71	11.21	NP	--	246.50	--
B1 (JPHC)	7/11/2014	257.71	13.37	NP	--	244.34	--
B1 (JPHC)	10/22/2014	257.71	13.73	NP	--	243.98	--
B1 (JPHC)	1/21/2015	257.71	12.10	NP	--	245.61	--
B1 (JPHC)	12/16/2015	257.71	11.42	NP	--	246.29	--
B1 (JPHC)	3/11/2016	257.71	10.85	NP	--	246.86	--
B1 (JPHC)	6/1/2016	257.71	13.11	NP	--	244.60	--
B1 (JPHC)	8/29/2016	257.71	14.18	NP	--	243.53	--
B1 (JPHC)	11/21/2016	257.71	11.70	NP	--	246.01	--
B1 (JPHC)	2/15/2017	257.71	10.75	NP	--	246.96	--
B1 (JPHC)	4/7/2017	257.71	10.85	NP	--	246.86	--
B1 (JPHC)	5/26/2017	257.71	11.87	NP	--	245.84	--
B1 (JPHC)	9/28/2017	257.71	14.05	NP	--	243.66	--
B1 (JPHC)	10/17/2017	257.71	14.04	NP	--	243.67	--
B1 (JPHC)	2/8/2018	257.71	10.66	NP	--	247.05	--
B1 (JPHC)	9/11/2018	257.71	14.02	NP	--	243.69	--
B1 (JPHC)	11/15/2018	257.71	13.50	NP	--	244.21	--
B1 (JPHC)	1/29/2019	257.71	12.03	NP	--	245.68	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
B1 (JPHC)	8/27/2019	257.71	14.05	NP	--	243.66	--
B1 (JPHC)	9/26/2019	257.71	13.78	NP	--	243.93	--
B3 (JPHC)	2/15/1995	--	13.37	NP	--	--	--
B3 (JPHC)	4/11/1995	--	13.52	NP	--	--	--
B3 (JPHC)	7/20/1995	--	15.15	NP	--	--	--
B3 (JPHC)	10/25/1995	--	14.93	NP	--	--	--
B3 (JPHC)	1/23/1996	--	12.58	NP	--	--	--
B3 (JPHC)	4/17/1996	--	13.68	NP	--	--	--
B3 (JPHC)	7/8/1996	258.41	9.21	NP	--	249.20	--
B3 (JPHC)	10/10/1996	258.41	15.50	NP	--	242.91	--
B3 (JPHC)	3/11/1997	258.41	9.41	NP	--	249.00	--
B3 (JPHC)	5/29/1997	258.41	9.22	NP	--	249.19	--
B3 (JPHC)	8/5/1997	258.41	19.57	NP	--	238.84	--
B3 (JPHC)	10/23/1997	258.41	--	--	--	--	Dry
B3 (JPHC)	3/11/1998	258.41	14.75	NP	--	243.66	--
B3 (JPHC)	6/30/1998	258.41	15.08	NP	--	243.33	--
B3 (JPHC)	9/25/1998	258.41	14.95	NP	--	243.46	--
B3 (JPHC)	12/29/1998	258.41	14.21	NP	--	244.20	--
B3 (JPHC)	3/9/1999	258.41	14.41	NP	--	244.00	--
B3 (JPHC)	6/2/1999	258.41	13.68	NP	--	244.73	--
B3 (JPHC)	12/20/1999	258.41	12.50	NP	--	245.91	--
B3 (JPHC)	3/16/2000	258.41	13.55	NP	--	244.86	--
B3 (JPHC)	6/30/2000	258.41	14.52	NP	--	243.89	--
B3 (JPHC)	9/27/2000	258.41	15.35	NP	--	243.06	--
B3 (JPHC)	11/10/2000	258.41	14.61	NP	--	243.80	--
B3 (JPHC)	3/19/2001	258.41	14.17	NP	--	244.24	--
B3 (JPHC)	6/27/2001	258.41	15.72	NP	--	242.69	--
B3 (JPHC)	9/26/2001	258.41	15.23	NP	--	243.18	WI
B3 (JPHC)	12/3/2001	258.41	13.15	NP	--	245.26	--
B3 (JPHC)	6/6/2002	258.41	14.33	NP	--	244.08	IW
B3 (JPHC)	6/26/2003	258.41	14.63	NP	--	243.78	--
B3 (JPHC)	12/9/2003	258.41	13.25	NP	--	245.16	--
B3 (JPHC)	4/7/2004	258.41	14.00	NP	--	244.41	--
B3 (JPHC)	11/16/2004	258.41	14.63	NP	--	243.78	--
B3 (JPHC)	3/29/2005	258.41	13.81	NP	--	244.60	--
B3 (JPHC)	6/22/2005	258.41	14.31	NP	--	244.10	--
B3 (JPHC)	9/12/2005	258.41	15.05	NP	--	243.36	--
B3 (JPHC)	12/6/2005	258.41	13.90	NP	--	244.51	--
B3 (JPHC)	6/5/2006	258.41	13.51	NP	--	244.90	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
B3 (JPHC)	12/19/2006	258.41	12.36	NP	--	246.05	--
B3 (JPHC)	9/24/2007	258.41	15.36	NP	--	243.05	--
B3 (JPHC)	12/31/2007	258.41	--	--	--	--	WI
B3 (JPHC)	1/29/2008	258.41	13.53	NP	--	244.88	--
B3 (JPHC)	4/3/2008	258.41	20.10	NP	--	238.31	IW
B3 (JPHC)	7/1/2008	258.41	17.84	NP	--	240.57	--
B3 (JPHC)	10/3/2008	258.41	18.76	NP	--	239.65	--
B3 (JPHC)	1/6/2009	258.41	18.92	NP	--	239.49	--
B3 (JPHC)	4/8/2009	258.41	19.00	NP	--	239.41	--
B3 (JPHC)	7/8/2009	258.41	15.25	NP	--	243.16	--
B3 (JPHC)	10/6/2009	258.41	15.81	NP	--	242.60	--
B3 (JPHC)	1/6/2010	258.41	13.43	NP	--	244.98	--
B3 (JPHC)	5/25/2010	258.41	14.12	NP	--	244.29	--
B3 (JPHC)	8/19/2010	258.41	15.12	NP	--	243.29	--
B3 (JPHC)	12/7/2010	258.41	13.95	NP	--	244.46	--
B3 (JPHC)	1/26/2011	258.41	12.64	NP	--	245.77	--
B3 (JPHC)	6/16/2011	258.41	13.84	NP	--	244.57	--
B3 (JPHC)	9/22/2011	258.41	16.75	NP	--	241.66	--
B3 (JPHC)	12/6/2011	258.41	18.04	NP	--	240.37	--
B3 (JPHC)	3/8/2012	258.41	14.34	NP	--	244.07	--
B3 (JPHC)	6/19/2012	258.41	12.14	NP	--	246.27	--
B3 (JPHC)	9/21/2012	258.41	15.33	NP	--	243.08	--
B3 (JPHC)	12/11/2012	258.41	12.70	NP	--	245.71	--
B3 (JPHC)	6/26/2013	258.41	14.32	NP	--	244.09	--
B3 (JPHC)	9/26/2013	258.41	15.06	NP	--	243.35	--
B3 (JPHC)	11/15/2013	258.41	14.39	NP	--	244.02	--
B3 (JPHC)	2/13/2014	258.41	14.00	NP	--	244.41	--
B3 (JPHC)	4/2/2014	258.41	12.31	NP	--	246.10	--
B3 (JPHC)	7/11/2014	258.41	14.54	NP	--	243.87	--
B3 (JPHC)	10/22/2014	258.41	14.77	NP	--	243.64	--
B3 (JPHC)	1/20/2015	258.41	13.25	NP	--	245.16	--
B3 (JPHC)	12/14/2015	258.41	12.68	NP	--	245.73	--
B3 (JPHC)	3/11/2016	258.41	11.97	NP	--	246.44	--
B3 (JPHC)	8/29/2016	258.41	15.33	NP	--	243.08	--
B3 (JPHC)	11/21/2016	258.41	12.23	NP	--	246.18	--
B3 (JPHC)	2/15/2017	258.41	11.77	NP	--	246.64	--
B3 (JPHC)	5/26/2017	258.41	12.67	NP	--	245.74	--
B3 (JPHC)	10/17/2017	258.41	15.19	NP	--	243.22	--
B3 (JPHC)	2/8/2018	258.41	11.88	NP	--	246.53	--
B3 (JPHC)	9/11/2018	258.41	15.18	NP	--	243.23	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
B3 (JPHC)	11/15/2018	258.41	--	--	--	--	WI
B3 (JPHC)	1/29/2019	258.41	--	--	--	--	WI
B3 (JPHC)	9/26/2019	258.41	14.84	NP	--	243.57	--
IW-1	3/10/2017	--	11.45	10.61	0.84	--	--
IW-1	3/17/2017	--	9.90	9.88	0.02	--	--
IW-1	3/24/2017	--	10.06	NP	--	--	--
IW-1	3/30/2017	--	10.71	NP	--	--	--
IW-1	4/7/2017	--	10.21	NP	--	--	--
IW-1	4/14/2017	--	10.51	NP	--	--	--
IW-1	4/28/2017	--	11.15	NP	--	--	--
IW-1	5/26/2017	--	11.38	11.37	0.01	--	--
IW-1	9/28/2017	--	13.63	NP	--	--	--
IW-1	10/5/2017	--	13.71	NP	--	--	--
IW-1	10/17/2017	--	13.68	NP	--	--	--
IW-1	11/6/2017	--	13.11	NP	--	--	--

TABLE 4
Groundwater Gauging Data
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 10822 Roosevelt Way NE
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Well I.D.	Date	GROUNDWATER ELEVATION DATA					Qualifiers
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	
IW-1	11/17/2017	--	12.58	NP	--	--	--
IW-1	12/7/2017	--	11.28	NP	--	--	--
IW-1	1/18/2018	--	10.58	10.57	0.01	--	--
IW-1	2/8/2018	--	--	--	--	--	WI
IW-1	9/11/2018	--	--	--	--	--	WI
IW-1	11/15/2018	--	13.06	NP	--	--	--
IW-1	1/29/2019	--	12.50	NP	--	--	--
IW-1	8/27/2019	--	13.63	13.62	0.01	--	--
IW-1	9/26/2019	--	13.47	NP	--	--	--
IW-2	3/10/2017	--	11.30	NP	--	--	--
IW-2	3/17/2017	--	10.46	NP	--	--	--
IW-2	3/24/2017	--	10.69	NP	--	--	--
IW-2	3/30/2017	--	10.80	NP	--	--	--
IW-2	4/7/2017	--	10.79	NP	--	--	--
IW-2	4/14/2017	--	10.80	NP	--	--	--
IW-2	4/28/2017	--	11.32	NP	--	--	--
IW-2	5/26/2017	--	11.64	NP	--	--	--
IW-2	10/17/2017	--	14.05	NP	--	--	--
IW-2	2/8/2018	--	10.59	NP	--	--	--
IW-2	9/11/2018	--	--	--	--	--	WI
IW-2	11/15/2018	--	--	--	--	--	WI
IW-2	1/29/2019	--	11.70	NP	--	--	--
IW-2	9/26/2019	--	13.79	NP	--	--	--
IW-3	3/10/2017	--	10.55	NP	--	--	--
IW-3	3/17/2017	--	9.80	NP	--	--	--
IW-3	3/24/2017	--	9.92	NP	--	--	--
IW-3	3/30/2017	--	10.28	NP	--	--	--
IW-3	4/7/2017	--	10.07	NP	--	--	--
IW-3	4/14/2017	--	10.24	NP	--	--	--
IW-3	4/28/2017	--	10.75	NP	--	--	--
IW-3	5/26/2017	--	11.21	NP	--	--	--
IW-3	10/17/2017	--	13.52	NP	--	--	--
IW-3	2/8/2018	--	9.95	NP	--	--	--
IW-3	9/11/2018	--	13.45	NP	--	--	--
IW-3	11/15/2018	--	13.15	NP	--	--	--
IW-3	1/29/2019	--	11.61	NP	--	--	--
IW-3	8/27/2019	--	13.56	NP	--	--	--
IW-3	9/26/2019	--	13.32	NP	--	--	--

TABLE 4
Groundwater Gauging Data
 ARCO Facility 980
 10822 Roosevelt Way NE
 Seattle, WA 98125

Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
IW-4	3/10/2017	--	10.63	NP	--	--	--
IW-4	3/17/2017	--	9.68	NP	--	--	--
IW-4	3/24/2017	--	9.78	NP	--	--	--
IW-4	3/30/2017	--	10.14	NP	--	--	--
IW-4	4/7/2017	--	9.88	NP	--	--	--
IW-4	4/14/2017	--	10.05	NP	--	--	--
IW-4	4/28/2017	--	10.68	NP	--	--	--
IW-4	5/26/2017	--	11.24	NP	--	--	--
IW-4	10/17/2017	--	13.42	NP	--	--	--
IW-4	2/8/2018	--	9.80	NP	--	--	--
IW-4	9/11/2018	--	13.39	NP	--	--	--
IW-4	11/15/2018	--	12.90	NP	--	--	--
IW-4	1/29/2019	--	11.47	NP	--	--	--
IW-4	8/27/2019	--	13.47	NP	--	--	--
IW-4	9/26/2019	--	13.24	NP	--	--	--

Notes:

TOC - Top of Casing

ft - feet

NP - No Product

LNAPL - Light Non-Aqueous Phase Liquid

* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)

-- No Information Available

WI = Well Inaccessible

IW = Insufficient Water

Table 5
Groundwater Analytical Data
ARCO Facility 980
10822 Roosevelt Way NE
Seattle, WA 98125

CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800 ¹	500	500	15	--
Well ID	Date												
MW-1	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	< 2.0	--
MW-1	2/15/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	< 2.0	--
MW-1	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
MW-1	6/27/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 750	--	--
MW-1	9/26/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	10100	29100	--	--
MW-1	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	--	--
MW-1	6/6/2002	< 0.500	0.602	< 0.500	< 1.00	< 2.00	< 0.01	< 1.00	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-1	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-1	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-1	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	2.49	< 1.00
MW-1	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 255	< 510	1.26	< 1.00
MW-1	6/5/2006	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 253	< 505	1.76	< 1.00
MW-1	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-1	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 243	< 485	--	--
MW-1	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	--	--	--	--
MW-1	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
MW-1	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-1	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
MW-1	4/7/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00
MW-1	12/11/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 100	< 182	< 182	< 3.0	< 3.0
MW-2	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	59	--	--	< 2.0	--
MW-2	2/15/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	< 2.0	--
MW-2	4/11/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-2	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-2	10/25/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-2	1/23/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-2	4/17/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-2	7/8/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-2	10/23/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	54.7	< 250	< 750	--	--
MW-2	3/11/1998	0.834	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
MW-2	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-2	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
MW-2	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-2	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-2	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	--	--
MW-2	6/6/2002	< 0.500	< 0.500	< 0.500	< 1.00	< 2.00	< 0.01	< 1.00	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-2	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-2	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-2	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-2	6/22/2005	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-2	9/12/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 281	< 562	< 1.00	< 1.00
MW-2	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 248	< 495	< 1.00	< 1.00
MW-2	6/5/2006	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	< 1.00	< 1.00
MW-2	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 243	< 485	--	--
MW-2	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-2	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 243	< 485	--	--
MW-2	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	--	--	--	--
MW-2	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 240	< 481	--	--

Table 5
Groundwater Analytical Data
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10822 Roosevelt Way NE
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800 ¹	500	500	15	--
MW-2	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-2	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
MW-2	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00
MW-2	6/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 250	< 500	< 10	< 10
MW-2	9/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-2	11/14/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-2	2/12/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50	48	61	< 2.0	< 2.0
MW-2	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	< 10	< 19	48 JB	< 0.17	< 0.17
MW-2	7/10/2014	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 10	< 9.5	< 14	< 0.17	3.5
MW-2	10/21/2014	< 1.0	< 1.0	< 1.0	0.17 JB	< 1.0	--	--	< 50	35	< 250	0.55 JB	< 2.0
MW-2	1/20/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 27	29	180 JB^	< 0.17	< 0.17
MW-2	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50	37 JB	< 250	0.24 J	< 2.0
MW-2	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	430	490	< 2.0	< 2.0
MW-2	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 110	< 250	< 2.0	< 2.0
MW-2	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 100	< 250	< 4.0	< 4.0
MW-2	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 120	< 400	< 4.0	< 4.0
MW-2	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-2	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-2	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-2	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-3	10/5/1994	12	3	< 0.5	1.5	--	3	< 0.51	< 50	--	--	< 2.0	--
MW-3	2/15/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	< 2.0	--
MW-3	7/20/1995	0.78	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-3	4/17/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-3	7/8/1996	0.879	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-3	3/11/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-3	5/29/1997	2.10	< 0.5	< 0.5	< 1.0	--	--	--	223	--	--	--	--
MW-3	8/5/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	56.5	--	--	--	--
MW-3	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-3	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-3	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-3	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-3	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-3	4/7/2004	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-3	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	1.52	< 1.00
MW-3	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-3	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 258	< 515	< 1.00	< 1.00
MW-3	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-3	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-3	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	--	--	--	--
MW-3	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	--	--
MW-3	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-3	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
MW-3	4/7/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 240	< 481	< 1.00	< 1.00

Table 5
Groundwater Analytical Data
ARCO Facility 980
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-4	1/23/1996	5000	5100	2000	15000	--	--	--	3300000	9000	14000	--	--
MW-4	3/9/1999	4.76	< 0.5	< 0.5	1.73	--	--	--	53.3	< 250	< 750	--	--
MW-4	9/27/1999	4.04	< 0.500	< 0.500	< 10.0	--	--	--	2100	590	--	--	--
MW-4	12/20/1999	690	< 2.50	4.77	33.7	--	--	--	385	< 498	--	--	--
MW-4	3/16/2000	52.8	1.22	3.25	25.3	--	--	--	685	--	--	--	--
MW-4	6/30/2000	152	5.70	3.54	31.1	--	--	--	983	3340	< 750	--	--
MW-4	9/27/2000	147	3.51	19.4	64.7	--	--	--	1430	1800	< 750	--	--
MW-4	3/19/2001	338	< 5.00	14.0	31.9	319	--	--	1040	739	< 1450	--	--
MW-4	6/27/2001	37.8	0.821	1.69	13.0	18.6	--	--	630	< 250	< 750	--	--
MW-4	9/26/2001	1850	491	3480	30100	149	--	--	611000	11300	11500	--	--
MW-4	12/3/2001	325	< 5.00	< 5.00	32.5	34.7	--	--	1980	2120	3880	--	--
MW-4	6/6/2002	199	< 2.50	6.30	48.6	33.2	< 0.01	< 1.00	2940	1620	2160	6.96	2.43
MW-4	6/26/2003	1350	< 5.00	45.1	52.1	< 20.0	--	--	4410	6630	3070	4.04	1.87
MW-4	12/9/2003	918	2.52	64.0	47.6	38.2	--	--	3200	1240	2450	< 1.00	< 1.00
MW-4	4/7/2004	1230	< 5.00	10.1	25.2	< 10.0	--	--	3470	711	1230	2.45	1.58
MW-4	11/16/2004	990	< 5.00	96.9	154	20.9	--	--	76200	24300	8350	11.5	< 1.00
MW-4	3/29/2005	5920	79.0	1140	6630	< 100	< 0.010	< 25.0	28900	16700	25800	204	--
MW-4	6/22/2005	1070	< 5.00	22.5	44.7	< 20.0	--	--	2730	4600	6130	10	< 1.00
MW-4	9/12/2005	980	10.3	143	55.1	16.2	--	--	5450	1070	1590	2.62	< 1.00
MW-4	12/6/2005	737	5.0	127	58.0	< 10.0	--	--	4320	1030	1720	2.42	< 1.00
MW-4	6/5/2006	851	< 10.0	146	168	< 20.0	--	--	3720	430	641	3.04	< 1.00
MW-4	9/29/2006	< 0.500	< 0.500	0.81	< 3.00	--	--	--	174	--	--	--	--
MW-4	12/19/2006	33.8	< 0.500	2.35	2.03	--	--	--	566	--	--	--	--
MW-4	9/24/2007	99.5	1.62	67.3	82.2	< 1.00	--	--	1360	1610	3710	--	--
MW-4	12/31/2007	111	2.9	53.6	63.5	< 1.00	--	--	1620	< 236	< 472	--	--
MW-4	1/30/2008	134	11.6	13.2	63.2	< 1.00	--	--	1640	< 236	< 472	--	--
MW-4	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	--	--	--	--
MW-4	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	--	--
MW-4	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-4	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	644	--	--
MW-4	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 245	< 490	< 1.00	< 1.00
MW-4	7/8/2009	0.900	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 248	< 495	3.95	2.96
MW-4	10/6/2009	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	69	< 245	< 490	3.6	2.9
MW-4	1/5/2010	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	< 50.0	< 120	250	3.8	< 2.00
MW-4	5/25/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	< 50.0	210	< 240	< 2.00	< 2.00
MW-4	8/19/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	< 50.0	140	< 240	< 2.00	< 2.00
MW-4	12/7/2010	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	420	920	2.6	< 2.0
MW-4	1/26/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	260	330	3.0	< 2.0
MW-4	6/16/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	1200	2200	< 2.0	< 2.0
MW-4	9/22/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 96.2	< 481	< 2.0	< 2.0
MW-4	12/6/2011	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 75.5	< 377	< 10.0	< 10.0
MW-4	3/8/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 82.5	< 412	< 10.0	< 10.0
MW-4	6/19/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 160	< 800	< 10.0	< 10.0
MW-4	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 80.8	< 404	< 10.0	< 10.0
MW-4	12/11/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 100	< 189	304	< 3.0	< 3.0

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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-4	6/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	25	71	< 10	< 10
MW-4	9/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 270	< 270	< 10.0	< 10.0
MW-4	11/14/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-4	2/12/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50	590 BY	390 BY	0.30	< 2.0
MW-4	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	< 10	900	780	0.51	< 0.17
MW-4	7/10/2014	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	14 JB	300	200	< 0.17	< 0.17
MW-4	10/22/2014	< 1.0	< 1.0	< 1.0	0.16 JB	0.25	--	--	11 JB	350	210	0.55 JB	< 2.0
MW-4	1/20/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 27	580	510	< 0.17	< 0.17
MW-4	12/16/2015	< 0.42	< 0.44	< 0.51	< 0.50	0.20	--	--	35	280	260	--	--
MW-4	3/11/2016	< 0.025	< 0.025	< 0.030	< 0.060	0.11	--	--	< 27	440	610	--	--
MW-4	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	0.25 JH	--	--	< 50	320 B	240 JB	0.26 J	< 2.0
MW-4	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	160	< 250	< 2.0	< 2.0
MW-4	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	420	460	< 2.0	< 2.0
MW-4	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	410	600	< 4.0	< 4.0
MW-4	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	740	470	< 4.0	< 4.0
MW-4	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	510	790	< 4.0	< 4.0
MW-4	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	480	510	< 4.0	< 4.0
MW-4	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	1000	1100	< 4.0	< 4.0
MW-4	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	620	1000	< 4.0	< 4.0
MW-4	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	850	650	< 4.0	< 4.0
MW-5	10/5/1994	57	2.6	0.94	2.2	--	--	--	< 50	--	--	2.4	--
MW-5	2/15/1995	160	0.96	< 0.5	< 1.0	--	--	--	63	440	3300	< 2.0	--
MW-5	4/10/1995	270	< 2.0	< 2.0	< 4.0	--	--	--	< 100	--	--	--	--
MW-5	7/20/1995	330	1.1	1.1	< 1.0	--	--	--	80	720	870	--	--
MW-5	10/26/1995	440	< 0.5	< 0.5	< 1.0	--	--	--	61	1100	2400	--	--
MW-5	1/23/1996	770	< 4.0	< 4.0	8.4	--	--	--	< 200	3200	10000	--	--
MW-5	4/17/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	490	< 750	--	--
MW-5	7/8/1996	< 0.5	< 0.5	< 0.5	2.64	--	--	--	544	683	791	--	--
MW-5	3/11/1997	3.22	10.9	1.65	13.0	--	--	--	76.4	4241	< 750	--	--
MW-5	10/23/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	447	< 750	--	--
MW-5	3/11/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
MW-5	9/25/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-5	12/29/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-5	3/9/1999	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-5	6/2/1999	< 0.500	3.17	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-5	9/27/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	--	--	--
MW-5	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	--	--	--
MW-5	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-5	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-5	6/27/2001	< 2.50	< 2.50	< 2.50	< 5.00	90.1	--	--	< 250	< 322	< 965	--	--
MW-5	9/26/2001	< 0.500	< 0.500	< 0.500	< 1.00	19.7	--	--	< 50.0	< 250	< 750	--	--
MW-5	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	27.2	--	--	< 50.0	< 250	< 500	--	--
MW-5	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	22.1	--	--	< 50.0	< 250	< 500	1.63	< 1.00
MW-5	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	21.0	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-5	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	26.9	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-5	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	9.4	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00
MW-5	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	4.37	--	--	< 50.0	< 263	< 526	2.1	< 1.00
MW-5	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	1.54	--	--	< 50.0	< 236	< 472	--	--

Table 5
Groundwater Analytical Data
ARCO Facility 980
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTC A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800 ¹	500	500	15	--
MW-5	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	1.35	--	--	< 50.0	< 236	< 472	--	--
MW-5	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	1.27	--	--	< 50.0	< 236	< 472	--	--
MW-5	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	1.95	--	--	< 50.0	--	--	--	--
MW-5	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	2.02	--	--	< 50.0	< 236	< 472	--	--
MW-5	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	1.81	--	--	< 50.0	< 236	< 472	--	--
MW-5	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	1.43	--	--	< 50.0	< 250	< 500	--	--
MW-5	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	2.07	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00
MW-5	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 80.0	< 400	< 10.0	< 10.0
MW-5	6/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 250	30	< 10	< 10
MW-5	9/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 270	< 270	< 10.0	< 10.0
MW-5	11/14/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-5	2/12/2014	< 1.0	< 1.0	< 1.0	< 3.0	0.46	--	--	< 50	78	80 JB	< 2.0	< 2.0
MW-5	4/1/2014	< 1.1	< 0.89	< 0.89	< 0.82	0.78	--	--	< 10	110 JB	160 JB	< 0.17	< 0.17
MW-5	7/10/2014	< 0.14	< 0.16	< 0.13	< 0.12	0.38	--	--	< 10	150	180 J	< 0.17	< 0.17
MW-5	10/21/2014	< 1.0	< 1.0	< 1.0	< 3.0	0.39	--	--	< 50	100	< 250	0.44 JB	< 2.0
MW-5	1/20/2015	< 0.14	< 0.16	< 0.13	< 0.12	0.43	--	--	< 27	220	230	< 0.17	< 0.17
MW-5	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	0.31 JH	--	--	< 50	62 JB	35 JB	< 2.0	< 2.0
MW-5	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	120	< 250	< 2.0	< 2.0
MW-5	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	120	< 250	< 2.0	< 2.0
MW-5	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	210	350	< 4.0	< 4.0
MW-5	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	150	< 250	< 4.0	< 4.0
MW-5	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	150	< 390	< 4.0	< 4.0
MW-6	10/5/1994	160	260	45	180	--	--	--	1400	--	--	< 2.0	--
MW-6	2/15/1995	13	32	5.7	30	--	--	--	220	--	< 1000	< 2.0	--
MW-6	7/20/1995	130	410	70	390	--	--	--	2300	< 250	--	--	--
MW-6	4/17/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
MW-6	7/8/1996	< 0.5	0.528	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-6	3/11/1998	1.4	5.35	1.24	19.4	--	--	--	192	< 250	< 750	--	--
MW-6	3/16/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-6	11/10/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 80.0	< 250	< 750	--	--
MW-6	3/19/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 750	--	--
MW-6	12/3/2001	2.15	0.875	10.4	36.1	< 5.00	--	--	394	< 250	< 500	--	--
MW-6	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-6	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-6	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-6	9/12/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 294	< 588	< 1.00	< 1.00
MW-6	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 245	< 490	< 1.00	< 1.00
MW-6	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 263	< 526	< 1.00	< 1.00
MW-6	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-6	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 243	< 485	--	--
MW-6	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	--	--
MW-6	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 240	< 481	--	--
MW-6	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-6	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-6	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00

Table 5
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CONSTITUENT UNIT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-7	10/5/1994	4600	470	81	810	--	--	--	5500	--	--	< 2.0	--
MW-7	2/15/1995	5500	240	80	160	--	--	--	4300	--	12000	< 2.0	--
MW-7	4/10/1995	3600	140	53	470	--	--	--	2800	--	7800	--	--
MW-7	7/20/1995	3300	260	36	350	--	--	--	2400	1200	--	--	--
MW-7	10/26/1995	590	12	< 0.5	< 1.0	--	--	--	170	930	2100	--	--
MW-7	1/23/1996	2.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	1100	2100	--	--
MW-7	4/17/1996	2500	57	45	270	--	--	--	1500	580	< 750	--	--
MW-7	7/8/1996	1220	25.6	< 0.5	162	--	--	--	1100	879	< 750	--	--
MW-7	10/10/1996	1100	21.3	21.5	72.8	--	--	--	< 1000	636	< 750	--	--
MW-7	3/11/1997	708	20.8	8.18	22.0	--	--	--	373	8571	< 750	--	--
MW-7	5/29/1997	580	< 5.0	6.72	14.3	--	--	--	< 500	--	--	--	--
MW-7	8/5/1997	462	3.11	5.81	13.9	--	--	--	265	713	< 750	--	--
MW-7	10/23/1997	23.7	< 0.5	0.689	1.62	--	--	--	89.4	565	< 750	--	--
MW-7	3/11/1998	19.2	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
MW-7	9/25/1998	25.7	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
MW-7	12/29/1998	116	< 2.5	< 2.5	< 5.0	--	--	--	< 250	< 250	< 750	--	--
MW-7	3/9/1999	73.5	0.502	0.559	1.52	--	--	--	68.3	< 250	< 750	--	--
MW-7	6/2/1999	41.1	5.95	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-7	9/27/1999	0.544	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	--	--	--
MW-7	12/20/1999	161	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	--	--	--
MW-7	6/30/2000	1.20	< 0.780	< 0.500	< 1.00	--	--	--	< 50.0	420	< 750	--	--
MW-7	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	323	< 750	--	--
MW-7	11/10/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 80.0	< 250	< 750	--	--
MW-7	3/19/2001	< 0.500	0.821	< 0.500	< 1.00	55.9	--	--	< 50.0	< 250	< 750	--	--
MW-7	6/27/2001	< 0.500	< 0.500	< 0.500	< 1.00	35.2	--	--	< 50.0	< 250	< 750	--	--
MW-7	9/26/2001	< 0.500	< 0.500	< 0.500	< 1.00	57.8	--	--	< 50.0	253	< 750	--	--
MW-7	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	35.6	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-7	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	20.6	--	--	84.3	< 250	< 500	< 1.00	< 1.00
MW-7	12/6/2005	644	8200	942	5250	< 200	--	--	33000	< 243	< 485	< 1.00	< 1.00
MW-7	6/5/2006	26.8	10.0	373	520	< 20.0	--	--	4590	< 278	< 556	< 1.00	< 1.00
MW-7	9/29/2006	< 0.500	0.85	27.3	86.3	--	--	--	1760	--	--	--	--
MW-7	12/19/2006	< 0.500	< 0.500	1.26	8.9	--	--	--	189	--	--	--	--
MW-7	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	3.1	--	--	< 50.0	< 236	< 472	--	--
MW-7	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	2.73	--	--	< 50.0	< 236	< 472	--	--
MW-7	4/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	5.63	--	--	< 50.0	< 243	< 485	--	--
MW-7	7/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	3.96	--	--	< 50.0	< 236	< 472	--	--
MW-7	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	2.23	--	--	< 50.0	< 236	< 472	--	--
MW-7	1/5/2009	< 0.500	< 0.500	< 0.500	< 3.00	2.63	--	--	< 50.0	< 248	< 495	--	--
MW-7	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	5.4	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00

Table 5
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800 ¹	500	500	15	--
MW-8	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	< 2.0	--
MW-8	2/15/1995	--	--	--	--	--	--	--	--	< 250	--	--	--
MW-8	7/20/1995	--	--	--	--	--	--	--	--	410	< 750	--	--
MW-8	3/11/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
MW-8	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
MW-8	6/6/2002	< 0.500	< 0.500	< 0.500	< 1.00	< 2.00	< 0.01	< 1.00	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-8	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-8	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	1.42	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-8	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-8	9/12/2005	< 0.500	0.653	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 281	< 562	< 1.00	< 1.00
MW-8	12/6/2005	< 0.500	1.07	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-8	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00
MW-8	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	--	--
MW-8	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-8	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 250	< 500	--	--
MW-8	4/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	--	--
MW-8	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-8	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-8	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
MW-8	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 245	< 490	< 1.00	< 1.00
MW-8	6/26/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 250	< 500	< 10	< 10
MW-8	9/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 270	< 270	< 10.0	< 10.0
MW-8	11/15/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-8	2/13/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50	62	65	< 2.0	< 2.0
MW-8	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	0.78	--	--	< 10	66 JB	88 JB	< 0.17	< 0.17
MW-8	7/10/2014	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 10	95 JB	81	< 0.17	< 0.17
MW-8	10/21/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50	55 J	< 250	0.44 JB	< 2.0
MW-8	1/19/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 27	98	< 29 H1	< 0.17	< 0.17
MW-8	3/10/2016	--	--	--	--	--	--	--	--	--	--	1.7 J	< 0.17
MW-8	6/1/2016	--	--	--	--	--	--	--	--	--	--	2.9	< 0.17
MW-8	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50	93 JB	59 JB	0.26 J	< 2.0
MW-8	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 110	< 250	< 2.0	< 2.0
MW-8	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	130	< 260	5.5	< 2.0
MW-8	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	< 100	< 250	< 4.0	< 4.0
MW-8	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 100	< 250	< 4.0	< 4.0
MW-8	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 130	< 410	< 4.0	< 4.0
MW-8	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	130	< 350	< 4.0	< 4.0
MW-8	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	130	< 350	< 4.0	< 4.0
MW-8	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	130	< 350	< 4.0	< 4.0
MW-8	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	130	< 350	< 4.0	< 4.0

Table 5
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-9	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	4.6	--
MW-9	7/20/1995	--	--	--	--	--	--	--	--	280	--	--	--
MW-9	7/8/1996	--	--	--	--	--	--	--	--	< 250	< 750	--	--
MW-9	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	--	--	--
MW-9	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
MW-9	6/27/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 5.00	--	--	< 50.0	< 250	< 750	--	--
MW-9	9/26/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 5.00	--	--	< 50.0	< 250	< 750	--	--
MW-9	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 5.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-9	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	2.12	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-9	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-9	9/12/2005	< 0.500	5.91	< 0.500	< 1.00	< 2.00	--	--	156	< 312	< 625	< 1.00	< 1.00
MW-9	12/6/2005	< 0.500	0.85	< 0.500	< 1.00	1.07	--	--	< 50.0	< 248	< 495	< 1.00	< 1.00
MW-9	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-9	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 243	< 485	--	--
MW-9	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-9	4/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 240	< 481	--	--
MW-9	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-9	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
MW-9	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
MW-9	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 248	< 495	< 1.00	< 1.00
MW-9	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 78.4	< 392	< 10.0	< 10.0
MW-9	6/26/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 250	< 500	< 10	< 10
MW-9	9/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 270	< 270	< 10.0	< 10.0
MW-9	11/14/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-9	2/14/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50	74	82	< 2.0	< 2.0
MW-9	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	< 10	46 JB	58 JB	< 0.17	< 0.17
MW-9	7/10/2014	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 10	75 JB	62	< 0.17	0.35
MW-9	10/21/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50	66 J	< 240	0.26 JB	< 2.0
MW-9	1/20/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	< 27	89	< 30 H1	< 0.17	< 0.17
MW-9	12/14/2015	< 0.42	< 0 *	< 0.51	< 0.50	< 0.17	--	--	< 27	55 JB	< 29	--	--
MW-9	3/10/2016	< 0.025	< 0.025	< 0.030	< 0.060	< 0.025	--	--	< 27	47 J	120 J	< 0.17	< 0.17
MW-9	6/1/2016	--	--	--	--	--	--	--	--	--	--	< 0.17	< 0.17
MW-9	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50	53 JB	34 JB	< 2.0	< 2.0
MW-9	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 110	< 250	< 2.0	< 2.0
MW-9	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 110	< 250	< 2.0	< 2.0
MW-9	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	< 100	< 260	< 4.0	< 4.0
MW-9	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 100	< 250	< 4.0	< 4.0
MW-9	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 130	< 410	< 4.0	< 4.0
MW-9	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-9	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	140	< 350	< 4.0	< 4.0
MW-9	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	110	< 350	< 4.0	< 4.0
MW-9	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0

Table 5
Groundwater Analytical Data
ARCO Facility 980
10822 Roosevelt Way NE
Seattle, WA 98125

CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-10	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	8.7	--
MW-10	7/20/1995	--	--	--	--	--	--	--	--	320	--	--	--
MW-10	7/8/1996	--	--	--	--	--	--	--	--	382	< 750	--	--
MW-10	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	--	--	--
MW-10	3/16/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
MW-10	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	23.4	--	--	< 50.0	< 250	< 500	1.06	< 1.00
MW-10	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
MW-10	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	16.8	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-10	3/29/2005	< 0.200	< 0.500	< 0.500	< 1.00	13.8	< 0.010	< 0.500	< 80.0	< 250	< 500	1.72	--
MW-10	6/22/2005	0.240	< 0.500	< 0.500	< 1.00	17.0	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
MW-10	9/12/2005	< 0.500	3.28	< 0.500	< 1.00	19.7	--	--	63.8	< 333	< 667	< 1.00	< 1.00
MW-10	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	13.4	--	--	< 50.0	< 291	< 581	< 1.00	< 1.00
MW-10	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	2.49	--	--	< 50.0	< 248	< 495	< 1.00	< 1.00
MW-10	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	13.9	--	--	< 50.0	< 238	< 476	--	--
MW-10	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	1.55	--	--	< 50.0	< 236	< 472	--	--
MW-10	4/2/2008	< 0.500	1.54	0.61	3.71	21.4	--	--	< 50.0	< 236	< 472	--	--
MW-10	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	91.5	--	--	< 50.0	< 238	< 476	--	--
MW-10	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	110	--	--	< 50.0	< 236	< 472	--	--
MW-10	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	35.5	--	--	< 50.0	< 243	< 485	--	--
MW-10	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	4.59	--	--	< 50.0	< 245	< 490	< 1.00	< 1.00
MW-10	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	1.2	--	--	< 50.0	< 78.4	< 392	< 10.0	< 10.0
MW-10	6/26/2013	< 0.50	0.55	< 0.50	< 1.0	0.78	--	--	< 50	< 250	< 500	< 10	< 10
MW-10	9/25/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 270	< 270	< 10.0	< 10.0
MW-10	11/14/2013	< 0.50	< 0.50	< 0.50	< 1.0	0.86	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-10	2/13/2014	< 1.0	< 1.0	< 1.0	< 3.0	0.51 J	--	--	< 50	42	49	< 2.0	< 2.0
MW-10	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	< 10	55 JB	64 JB	< 0.17	< 0.17
MW-10	7/11/2014	< 0.14	< 0.16	< 0.13	< 0.12	0.21 J	--	--	< 10	64 JB	31 J	< 0.17	< 0.17
MW-10	10/21/2014	< 1.0	< 1.0	< 1.0	< 3.0	0.61 J	--	--	< 50	89 J	< 240	0.26 JB	< 2.0
MW-10	1/20/2015	< 0.14	< 0.16	< 0.13	< 0.12	0.28 J	--	--	< 27	58 JH1B ^A	< 28 H1	< 0.17	< 0.17
MW-10	3/11/2016	--	--	--	--	--	--	--	--	--	--	< 0.17	< 0.17
MW-10	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	0.22 JH	--	--	< 50	48 JB	29 JB	< 2.0	< 2.0
MW-10	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	2000	< 250	< 2.0	< 2.0
MW-10	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 110	< 250	< 2.0	< 2.0
MW-10	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	< 100	< 250	< 4.0	< 4.0
MW-10	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 100	< 260	< 4.0	< 4.0
MW-10	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 120	< 390	< 4.0	< 4.0
MW-10	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-10	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	130	< 350	< 4.0	< 4.0
MW-10	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-10	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0

Table 5
Groundwater Analytical Data
ARCO Facility 980
10822 Roosevelt Way NE
Seattle, WA 98125

CONSTITUENT	UNIT	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-11	3/16/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	15000	24900	--	--
MW-11	6/27/2001	386	32.4	30.4	777	29.6	--	--	11500	700	< 750	--	--
MW-11	9/26/2001	122	13.0	18.4	692	< 20.0	--	--	23600	5890	5510	--	--
MW-11	12/3/2001	177	9.17	19.7	320	25.8	--	--	6220	2510	4850	--	--
MW-11	6/6/2002	192	4.66	30.8	456	< 2.00	< 0.01	< 1.00	5710	5170	6790	16.0	4.95
MW-11	6/26/2003	301	5.01	120	568	< 20.0	--	--	9170	72800	107000	8.71	3.09
MW-11	12/9/2003	99.2	3.00	48.9	314	14.8	--	--	4650	1610	2910	2.94	1.14
MW-11	11/16/2004	155	2.95	66.4	610	< 10.0	--	--	29000	72200	28500	32.1	2.06
MW-11	3/29/2005	138	< 2.50	90.6	145	< 10.0	< 0.010	< 2.50	6310	42200	22600	12.3	--
MW-11	6/22/2005	112	1.97	105	259	5.42	--	--	6810	20100	10800	10.6	1.56
MW-11	9/12/2005	217	< 12.5	224	992	3.48	--	--	22000	81100	169000	43	21.8
MW-11	12/6/2005	148	< 2.50	130	504	< 5.00	--	--	13000	85600	178000	33.1	3.1
MW-11	6/5/2006	245	< 5.00	149	529	< 10.0	--	--	10200	58000	111000	132	32.9
MW-11	9/29/2006	4.44	0.57	2.84	47.5	--	--	--	4840	--	--	--	--
MW-11	12/19/2006	5.0	< 0.500	2.3	11.8	--	--	--	1630	--	--	--	--
MW-11	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	1310	2950	5910	--	--
MW-11	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	69.5	349	833	5.67	1.48
MW-11	7/8/2009	0.370	< 0.500	< 0.500	< 1.00	< 2.00	--	--	175	714	1370	3.90	1.07
MW-11	10/6/2009	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	410	< 243	< 485	2.6	< 2.00
MW-11	1/5/2010	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	290	140	270	< 2.00	< 2.00
MW-11	5/25/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	97	150	< 240	2.1	< 2.00
MW-11	8/19/2010	< 0.50	< 0.50	< 0.50	1.00	< 1.00	--	--	180	210	< 240	3.2	< 2.00
MW-11	12/7/2010	< 0.50	< 0.50	< 0.50	1.1	< 1.0	--	--	190	170	280	2.3	< 2.0
MW-11	1/26/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	81	210	< 240	< 2.0	< 2.0
MW-11	6/16/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	77	870	1300	< 2.0	< 2.0
MW-11	9/22/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	51	1310	3220	2.7	< 2.0
MW-11	12/6/2011	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	292	726	< 10.0	< 10.0
MW-11	3/8/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	179	< 396	< 10.0	< 10.0
MW-11	6/19/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 160	< 800	< 10.0	< 10.0
MW-11	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	111	268	777	< 10.0	< 10.0
MW-11	12/11/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 100	< 182	204	< 3.0	< 3.0
MW-11	6/27/2013	< 0.50	0.5	< 0.50	< 1.00	< 0.50	--	--	< 50	88	290	< 10	< 10
MW-11	9/26/2013	< 0.50	2	< 0.50	< 1.0	< 0.50	--	--	63	< 270	< 270	< 10.0	< 10.0
MW-11	11/15/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
MW-11	2/13/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	150	1500 BY	2700 BY	1.1 J	< 2.0
MW-11	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	25 J	850 BY	1700 BY	0.77 J	< 0.17
MW-11	7/11/2014	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	34 JB	360 BY	470 Y	0.81 J	< 0.17
MW-11	10/22/2014	0.29 J	< 1.0	< 1.0	0.26 JB	< 1.0	--	--	58 B	430 Y	190 J	0.87 JB	< 2.0
MW-11	1/21/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	33 J	230 H1BY^A	180 J^H1	0.32 J	< 0.17
MW-11	12/14/2015	< 0.42	< 0 *	< 0.51	< 0.50	< 0.17	--	--	48 J	170 B	95 J	--	--
MW-11	3/10/2016	0.035 J	< 0.025	< 0.030	< 0.060	< 0.025	--	--	41 J	420	700	--	--
MW-11	6/1/2016	< 0.42	< 0.18	< 0.21	< 0.49	< 0.11	--	--	40 J	460 B	340	--	--
MW-11	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0F1*	--	--	95	480 B	380 B	0.44 J	0.55 J
MW-11	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	110	930	1300	< 2.0	< 2.0
MW-11	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	65	440	480	< 2.0	< 2.0
MW-11	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	450	670	< 4.0	< 4.0

Table 5
Groundwater Analytical Data
ARCO Facility 980
10822 Rosevelt Way NE
Seattle, WA 98125

CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead	
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MTCA METHOD A CLEANUP LEVELS	5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--	
MW-11	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	< 250	740	760	< 4.0	< 4.0	
MW-11	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	< 250	660	1400	< 4.0	< 4.0	
MW-11	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	< 250	580	620	< 4.0	< 4.0	
MW-11	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	< 250	720	1100	< 4.0	< 4.0	
MW-11	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	< 250	810	850	< 4.0	< 4.0	
MW-11	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	< 250	1000	1000	< 4.0	< 4.0	
MW-12	7/11/1996	624	174	41.6	164	--	--	2620	618	--	--	--	
MW-12	10/10/1996	264	2.98	3.23	60.4	--	--	1720	< 250	< 750	--	--	
MW-12	3/11/1997	4.02	1.01	< 0.5	9.94	--	--	541	402	< 750	--	--	
MW-12	5/29/1997	31.1	0.530	< 0.5	16.7	--	--	2100	1460	2500	--	--	
MW-12	8/5/1997	193	5.16	5.19	87.9	--	--	2010	712	< 750	--	--	
MW-12	10/23/1997	71.7	< 0.5	< 0.5	5.78	--	--	358	996	1840	--	--	
MW-12	3/11/1998	204	9.30	< 1.0	18	--	--	398	< 250	< 750	--	--	
MW-12	6/30/1998	134	< 2.50	< 5.00	< 30.0	--	--	8070	289	--	--	--	
MW-12	12/29/1998	85.9	< 1.0	< 1.0	5.80	--	--	313	< 250	< 750	--	--	
MW-12	3/9/1999	62.1	1.71	< 3.0	< 41.0	--	--	6920	770	1810	--	--	
MW-12	6/27/2001	2920	452	275	1360	350	--	33600	679	< 750	--	--	
MW-12	9/26/2001	619	1380	966	6890	< 50.0	--	3630000	23900	37800	--	--	
MW-12	12/3/2001	4180	323	315	1580	386	--	27600	4450	7690	--	--	
MW-12	6/26/2003	712	878	258	1780	< 20.0	--	17000	62300	87100	315	4.93	
MW-12	12/9/2003	2520	338	142	1320	114	--	18000	2730	4960	4.77	4.84	
MW-12	4/7/2004	641	655	201	1590	< 10.0	--	19200	204000	314000	536	8.61	
MW-12	11/16/2004	757	1230	283	2090	< 20.0	--	25800	111000	27800	9.64	2.92	
MW-12	3/29/2005	462	655	250	2470	< 40.0	< 0.010	< 10.0	18600	2150000	590000	313	--
MW-12	6/22/2005	1190	434	350	2320	< 20.0	--	102000	26900	8180	38	3.61	
MW-12	9/12/2005	758	631	250	1480	< 2.00	--	12900	242000	561000	37.5	4.64	
MW-12	12/6/2005	481	1480	1560	11600	< 100	--	18800	145000	290000	76.3	12	
MW-12	6/5/2006	721	61.8	190	1170	< 20.0	--	11400	14300	27700	3.23	1.52	
MW-12	9/29/2006	272	4.79	195	1020	--	--	16700	--	--	--	--	
MW-12	12/19/2006	346	36.6	81.0	620	--	--	41400	--	--	--	--	
MW-12	12/31/2007	378	7.48	104	503	< 1.00	--	10800	1440	3260	--	--	
MW-12	1/29/2008	409	8.39	96.4	584	< 1.00	--	11100	619	1510	--	--	
MW-12	1/6/2009	4.2	0.89	22.5	186	< 1.00	--	6250	358	744	--	--	
MW-12	4/8/2009	0.949	0.647	4.0	52.6	< 1.00	--	4420	722	1170	36	7.86	
MW-12	7/8/2009	< 1.00	< 2.50	< 2.50	8.45	< 10.0	--	1790	< 250	< 500	8.45	5.61	
MW-12	10/6/2009	1.9	< 1.00	1.0	9.3	< 1.00	--	3600	2210	2040	4.2	< 2.00	
MW-12	1/6/2010	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	3700	5500	1100	4.8	2.0	
MW-12	5/25/2010	< 0.50	< 0.50	< 0.50	4.4	< 1.00	--	2900	3800	2900	2.6	< 2.00	
MW-12	8/19/2010	0.89	0.59	0.51	3.4	< 1.00	--	1800	2000	380	3.5	< 2.00	
MW-12	12/7/2010	1.9	0.66	0.51	3.6	< 1.0	--	2300	1700	1300	2.3	< 2.0	
MW-12	1/26/2011	< 0.50	< 0.50	< 0.50	1.2	< 1.0	--	610	1100	2900	< 2.0	< 2.0	
MW-12	6/16/2011	< 0.50	< 0.50	< 0.50	1.7	< 1.0	--	860	2600	1900	< 2.0	< 2.0	
MW-12	9/22/2011	1.5	< 0.50	0.69	7.0	< 1.0	--	1800	8770	15200	21	< 2.0	
MW-12	12/6/2011	2.5	< 1.0	1.3	< 3.0	< 1.0	--	9590	14500	38600	< 10.0	< 10.0	
MW-12	3/8/2012	1.7	< 1.0	< 1.0	< 3.0	< 1.0	--	1460	298	< 400	< 10.0	< 10.0	
MW-12	6/19/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	< 50.0	266	< 800	< 10.0	< 10.0	
MW-12	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	968	1030	2860	< 10.0	< 10.0	
MW-12	12/11/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	< 100	542	1890	< 3.0	< 3.0	
MW-12	6/27/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	170	120	380	< 10	< 10	
MW-12	9/26/2013	0.63	1.3	< 0.50	< 1.0	< 0.50	--	210	< 260	830	< 10.0	< 10.0	

Table 5
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CONSTITUENT	UNIT	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
MW-12	11/15/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	86 Y	400 H	1200 O	< 10.0	< 10.0
MW-12	2/13/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	170	940 BY	1400 BY	0.57 J	< 2.0
MW-12	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	15 J	190 BY	320 BY	0.36 J	< 0.17
MW-12	7/11/2014	0.35 J	< 0.16	< 0.13	< 0.12	< 0.17	--	--	100 B	460 BY	300 Y	0.54 J	< 0.17
MW-12	10/22/2014	3.9	0.46 J	0.91 J	1.4 JB	< 1.0	--	--	770 B	830 Y	790 Y	4.0 B	< 2.0
MW-12	1/21/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	100	250 H1BY^	250 H1Y^	0.60 J	< 0.17
MW-12	12/16/2015	0.64 J*	< 0 *	< 0 *	< 0.50	< 0.17	--	--	170	1300	1900	--	--
MW-12	3/11/2016	0.086 J	< 0.025	< 0.030	< 0.060	< 0.025	--	--	53	240	320	0.32 J	< 0.17
MW-12	6/1/2016	< 0.42	< 0.18	< 0.21	< 0.49	< 0.11	--	--	85	390	310	390 J	< 0.17
MW-12	8/29/2016	1.5 J	0.46 J	< 3.0	< 3.0	< 1.0*	--	--	120	470 B	170 JB	0.33 J	0.24 J
MW-12	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	91	1000	1400	< 2.0	< 2.0
MW-12	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	52	240	300	< 2.0	< 2.0
MW-12	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	150	< 260	< 4.0	< 4.0
MW-12	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	530	510	< 4.0	< 4.0
MW-12	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	170	< 390	< 4.0	< 4.0
MW-12	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	420	400	< 4.0	< 4.0
MW-12	11/15/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	630	570	< 4.0	< 4.0
MW-12	1/29/2019	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	790	1200	< 4.0	< 4.0
MW-12	9/26/2019	< 3.0	2.1	< 3.0	< 3.0	< 2.0	--	--	< 250	680	510	< 4.0	< 4.0
MW-13	9/26/2019	140	3.2 F1	19 F1	140	< 2.0F1F2	--	--	2900	6900	3500 F1	< 4.0	< 4.0
MW-14	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	< 110	< 350	< 4.0	< 4.0
MW-15	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	1100	710	< 4.0	< 4.0
MW-16	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	540	350	< 4.0	< 4.0
VP-1	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	27	--
VP-1	2/15/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 1000	< 2.0	--
VP-1	4/11/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
VP-1	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
VP-1	10/26/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
VP-1	1/23/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
VP-1	4/17/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
VP-1	7/8/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
VP-1	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
VP-1	3/16/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
VP-1	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
VP-1	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
VP-1	11/10/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 80.0	< 250	< 750	--	--
VP-1	3/19/2001	< 0.500	< 0.500	< 0.500	< 1.00	6.23	--	--	< 50.0	< 250	< 750	--	--
VP-1	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	155	--	--	< 50.0	< 250	< 500	--	--
VP-1	6/6/2002	< 0.500	< 0.500	< 0.500	< 1.00	3.57	< 0.01	< 1.00	< 50.0	< 250	< 500	17.9	< 1.00
VP-1	6/26/2003	0.521	< 0.500	1.05	5.25	5.55	--	--	137	< 250	< 500	6.48	< 1.00
VP-1	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	34.1	--	--	< 50.0	< 250	< 500	1.44	< 1.00
VP-1	4/7/2004	< 0.500	< 0.500	< 0.500	< 1.00	1.19	--	--	< 50.0	< 250	< 500	3.21	< 1.00
VP-1	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	34.2	< 1.00
VP-1	3/29/2005	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	< 0.010	< 0.500	< 80.0	< 250	< 500	< 1	--
VP-1	6/22/2005	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	1.21	< 1.00
VP-1	9/12/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 50.0	< 287	< 575	< 1.00	< 1.00

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CONSTITUENT	UNIT	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
VP-1	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	6.63	--	--	< 50.0	< 245	< 490	< 1.00	< 1.00
VP-1	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 248	< 495	2.72	< 1.00
VP-1	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	--	--
VP-1	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 248	< 495	1.09	--
VP-1	4/2/2008	< 0.500	1.1	< 0.500	< 3.00	1.56	--	--	< 50.0	< 236	< 472	--	--
VP-1	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
VP-1	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
VP-1	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
VP-1	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 248	< 495	12	< 1.00
VP-1	7/8/2009	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 245	< 490	7.86	< 1.00
VP-1	10/6/2009	< 1.00	4.1	6.7	41	< 1.00	--	--	650	< 238	< 476	< 2.00	< 2.00
VP-1	1/6/2010	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	< 50.0	< 120	< 240	< 2.00	< 2.00
VP-1	5/25/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	< 50.0	< 120	< 240	< 2.00	< 2.00
VP-1	8/19/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	< 50.0	< 120	< 240	2.3	< 2.00
VP-1	12/7/2010	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 120	< 240	< 2.0	< 2.0
VP-1	1/26/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 120	< 240	< 2.0	< 2.0
VP-1	6/16/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	140	250	2.2	< 2.0
VP-1	9/22/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 95.2	< 476	< 2.0	< 2.0
VP-1	12/6/2011	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 75.5	< 377	< 10.0	< 10.0
VP-1	3/8/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 82.5	< 412	< 10.0	< 10.0
VP-1	6/19/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 160	< 800	< 10.0	< 10.0
VP-1	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 80.8	< 404	10.9	< 10.0
VP-1	12/11/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 100	< 189	< 189	< 3.0	< 3.0
VP-2	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	8.2	--
VP-2	2/15/1995	--	--	--	--	--	--	--	--	< 250	--	--	--
VP-2	7/20/1995	--	--	--	--	--	--	--	--	< 250	--	--	--
VP-2	10/10/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
VP-2	3/16/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
VP-2	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
VP-2	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
VP-2	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	--	--
VP-2	6/6/2002	< 0.500	< 0.500	< 0.500	< 1.00	< 2.00	< 0.01	< 1.00	< 50.0	< 250	< 500	5.21	< 1.00
VP-2	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	22.9	--	--	< 50.0	< 250	< 500	9.19	< 1.00
VP-2	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
VP-2	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	< 250	< 500	1.35	< 1.00
VP-2	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 248	< 495	< 1.00	< 1.00
VP-2	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 245	< 490	< 1.00	< 1.00
VP-2	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	8.74	--	--	< 50.0	< 243	< 485	--	--
VP-2	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	7.59	--	--	< 50.0	< 236	< 472	--	--
VP-2	4/2/2008	< 0.500	0.79	< 0.500	< 3.00	3.89	--	--	< 50.0	< 236	< 472	--	--
VP-2	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
VP-2	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
VP-2	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
VP-2	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 240	< 481	20.5	< 1.00
BV-1	4/11/1995	1.4	< 0.5	< 0.5	3.8	--	--	--	57	--	--	--	--
BV-1	7/20/1995	2.7	< 0.5	1	9.5	--	--	--	96	320	--	--	--
BV-1	10/26/1995	94	30	26	160	--	--	--	2500	--	--	--	--
BV-1	1/23/1996	4.5	0.65	1.6	17	--	--	--	200	< 250	< 750	--	--
BV-1	10/10/1996	1.20	< 0.5	0.614	4.72	--	--	--	94.3	< 250	< 750	--	--

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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
BV-1	3/11/1997	2.77	0.509	1.16	10.4	--	--	--	86.5	--	--	--	--
BV-1	5/29/1997	3.81	0.656	1.95	19.1	--	--	--	204	< 250	< 750	--	--
BV-1	8/5/1997	1.24	< 0.5	0.588	4.42	--	--	--	85.1	< 250	< 750	--	--
BV-1	10/23/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
BV-1	3/11/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
BV-1	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
BV-3	3/3/1995	--	--	--	--	--	--	--	--	14000	--	--	--
BV-3	4/10/1995	5000	4500	690	3300	--	--	--	36000	--	--	--	--
BV-3	7/20/1995	6000	8100	1400	8500	--	--	--	62000	9800	--	--	--
BV-3	10/26/1995	6600	8800	1700	13000	--	--	--	82000	5100	2600	--	--
BV-3	10/10/1996	684	574	84.7	1940	--	--	--	13700	3730	< 750	--	--
BV-3	3/11/1997	2140	6610	989	7370	--	--	--	40700	5810	< 750	--	--
BV-3	5/29/1997	0.638	< 0.5	< 0.5	< 1.0	--	--	--	< 50	414	< 750	--	--
BV-3	8/5/1997	8.75	3.14	3.01	53.1	--	--	--	556	1440	< 750	--	--
BV-3	10/23/1997	< 0.5	< 0.5	< 0.5	1.63	--	--	--	< 50	661	< 750	--	--
BV-3	3/11/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
BV-3	9/25/1998	644	1180	638	4210	--	--	--	18300	524	< 750	--	--
BV-3	12/29/1998	0.997	< 0.5	< 0.5	10.2	--	--	--	181	< 250	< 750	--	--
BV-3	3/9/1999	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
BV-3	6/2/1999	206	178	235	926	--	--	--	5380	< 250	< 750	--	--
BV-3	9/27/1999	< 0.500	< 0.500	< 0.500	4.93	--	--	--	94.2	< 250	--	--	--
BV-3	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 282	--	--	--
BV-3	6/30/2000	77.6	5.21	10.9	148	--	--	--	1110	507	< 750	--	--
BV-3	9/27/2000	62.3	4.47	119	333	--	--	--	3170	863	< 750	--	--
BV-4	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
BV-4	12/29/1998	7.59	< 1.0	< 1.0	< 2.0	--	--	--	< 100	< 250	< 750	--	--
BV-4	9/27/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	--	--	--
BV-5	7/20/1995	3700	110	540	2200	--	--	--	26000	18000	30000	--	--
BV-5	10/26/1995	4000	520	440	2100	--	--	--	42000	8200	12000	--	--
BV-5	1/23/1996	4400	970	760	4400	--	--	--	1300000	7100	8500	--	--
BV-5	10/23/1997	1.57	< 0.5	3.31	3.34	--	--	--	771	1150	4130	--	--
BV-5	12/29/1998	79.1	< 1.25	41.8	8.45	--	--	--	848	< 250	< 750	--	--
BV-5	9/27/1999	68.7	< 1.00	25.1	< 2.00	--	--	--	809	3500	--	--	--
BV-5	12/20/1999	53.7	2.05	3.47	9.94	--	--	--	416	506	--	--	--
BV-5	3/16/2000	145	< 0.500	101	43.3	--	--	--	3900	13000	< 8250	--	--
BV-5	11/10/2000	242	993	242	876	--	--	--	9340	< 250	< 750	--	--
BV-5	3/19/2001	84.4	100	99.5	289	< 5.00	--	--	4540	781	< 750	--	--
BV-6	4/10/1995	160	4.4	0.61	8.9	--	--	--	120	--	--	--	--
BV-6	10/26/1995	98	2.4	< 0.5	3.3	--	--	--	< 50	--	--	--	--

Table 5
Groundwater Analytical Data
ARCO Facility 980
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
BV-7	5/29/1997	289	281	4.7	907	--	--	--	28300	28500	62700	--	--
BV-7	8/5/1997	686	441	< 12.5	751	--	--	--	12500	32700	75900	--	--
BV-7	10/23/1997	769	1350	15.2	1440	--	--	--	16200	42400	134000	--	--
BV-7	9/25/1998	6460	7020	750	11300	--	--	--	209000	53300	148000	--	--
BV-7	12/29/1998	7.33	14.9	< 4.0	< 160	--	--	--	14700	35700	78800	--	--
BV-7	3/9/1999	16.8	30.8	4.32	54.5	--	--	--	1490	53700	133000	--	--
BV-7	6/2/1999	4790	3510	91.8	1410	--	--	--	18100	57900	122000	--	--
BV-7	12/20/1999	29.3	2.01	1.34	78.8	--	--	--	580	< 250	--	--	--
BV-7	6/30/2000	1290	249	< 25.0	826	--	--	--	6130	122000	271000	--	--
BV-7	11/10/2000	1910	385	91.1	1220	--	--	--	24400	335000	377000	--	--
BV-7	3/19/2001	1880	524	103	2110	57.2	--	--	13100	3060	< 938	--	--
BV-7	6/27/2001	1250	515	89.1	2070	52.9	--	--	11900	2940	< 750	--	--
BV-7	9/26/2001	645	113	49.5	739	< 50.0	--	--	9090	23100	49000	--	--
SVE-1	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	61	--
SVE-1	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	380	< 750	--	--
SVE-1	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
SVE-1	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
SVE-1	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	309	< 847	--	--
SVE-1	6/27/2001	< 0.500	< 0.500	< 0.500	< 1.00	6.02	--	--	< 50.0	< 250	< 750	--	--
SVE-1	9/26/2001	< 0.500	< 0.500	< 0.500	< 1.00	14.7	--	--	< 50.0	< 250	< 750	--	--
SVE-1	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	25.5	--	--	< 50.0	< 250	< 500	--	--
SVE-1	6/6/2002	< 0.500	< 0.500	< 0.500	< 1.00	2.63	< 0.01	< 1.00	< 50.0	< 250	< 500	< 1.00	< 1.00
SVE-1	6/26/2003	< 0.500	< 0.500	< 0.500	< 1.00	< 5.00	--	< 1.00	< 50.0	< 287	< 575	3.55	< 1.00
SVE-1	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	21.2	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
SVE-1	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	17.7	--	--	< 80.0	< 250	< 500	< 1.00	< 1.00
SVE-1	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	6.1	--	--	< 50.0	< 243	< 485	< 1.00	< 1.00
SVE-1	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	--	< 538	< 1.00	< 1.00
SVE-1	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	--	--
SVE-1	12/31/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
SVE-1	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	1.61	--
SVE-1	4/2/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	--	--
SVE-1	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	< 1.00	--
SVE-1	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	2.68	--
SVE-1	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	< 1.00	--
SVE-1	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	< 1.00	--	--	< 50.0	< 243	< 485	12	< 1.00

Table 5
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
SVE-2	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	47	--
SVE-2	4/11/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	610	< 1000	--	--
SVE-2	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	360	< 750	--	--
SVE-2	10/25/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	420	< 750	--	--
SVE-2	1/23/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	310	< 750	--	--
SVE-2	4/17/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
SVE-2	7/8/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	356	< 750	--	--
SVE-2	6/30/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
SVE-2	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
SVE-3	11/10/2000	733	2850	456	1960	--	--	--	20300	1950	6950	--	--
SVE-3	6/27/2001	184	1120	180	995	< 10.0	--	--	10600	1560	1980	--	--
SVE-3	9/26/2001	82.6	492	99.4	961	< 20.0	--	--	6540	< 250	< 750	--	--
SVE-3	12/3/2001	72.3	549	67.6	600	< 50.0	--	--	3360	2410	10800	--	--
SVE-3	6/6/2002	50.7	31.0	86.8	168	< 2.00	--	< 1.00	1910	--	--	--	--
SVE-3	6/26/2003	90.6	169	238	981	< 2.50	--	--	7030	--	--	--	--
SVE-3	12/9/2003	34.4	44.8	82.9	220	< 2.50	--	--	3190	14000	59900	24.2	< 1.00
SVE-3	4/7/2004	11.60	12.5	37.3	70.9	< 1.00	--	--	3610	2180	8300	4.30	< 1.00
SVE-3	11/16/2004	4.35	0.650	9.44	17.5	< 2.00	--	--	614	6080	23200	3.36	< 1.00
SVE-3	3/29/2005	0.780	< 0.500	0.700	1.28	< 2.00	< 0.010	< 0.500	141	367	1610	26	--
SVE-3	6/22/2005	1.59	< 0.500	9.01	15.8	< 2.00	--	--	730	4210	16900	37	< 1.00
SVE-3	9/12/2005	31.6	724	344	1480	< 2.00	--	--	7190	13200	61000	40.9	< 1.00
SVE-3	12/6/2005	1.41	0.83	11.5	23.2	< 1.00	--	--	845	617	788	< 1.00	< 1.00
SVE-3	6/5/2006	< 0.500	< 0.500	5.66	20.6	< 1.00	--	--	9870	12300	45300	1.36	< 1.00
SVE-3	12/19/2006	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	--	--	--	--
SVE-3	9/24/2007	2.42	0.81	91.1	134	< 1.00	--	--	4830	1600	9260	--	--
SVE-3	1/30/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	175	< 238	< 476	--	--
SVE-3	5/25/2010	1.4	130	24	110	< 1.00	--	--	1700	1800	4300	3.8	< 2.00
SVE-3	12/7/2010	< 0.50	< 0.50	11	13	< 1.0	--	--	590	2700	20000	4.0	< 2.0
SVE-3	1/26/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	1100	8500	4.3	< 2.0
SVE-3	6/16/2011	< 0.50	< 0.50	9.3	6.9	< 1.0	--	--	320	2100	5400	7.7	< 2.0
SVE-3	6/19/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 160	< 800	< 10.0	< 10.0
AS-1	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	6100	7900	--	--
AS-2	2/15/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	12000	45000	430	--
AS-2	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	8400	6800	--	--
AS-3	10/5/1994	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	22	--
AS-3	7/20/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	1500	2600	--	--

Table 5
Groundwater Analytical Data
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
B1 (JPHC)	1/23/1996	1500	1200	1200	7900	--	--	--	3900000	7200	15000	--	--
B1 (JPHC)	3/11/1997	< 2.50	< 2.50	< 2.50	< 5.0	--	--	--	2600	16500	34300	--	--
B1 (JPHC)	5/29/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	934	14000	32400	--	--
B1 (JPHC)	8/5/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	238	7500	16100	--	--
B1 (JPHC)	10/23/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	240	75500	280000	--	--
B1 (JPHC)	3/11/1998	3.15	13.6	2.1	31.4	--	--	--	894	< 250	< 750	--	--
B1 (JPHC)	6/30/1998	203	< 10.0	< 10.0	< 60.0	--	--	--	23100	3540	--	--	--
B1 (JPHC)	12/29/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	1170	2730	--	--
B1 (JPHC)	3/9/1999	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	746	1830	--	--
B1 (JPHC)	6/2/1999	57.3	5.34	0.729	5.70	--	--	--	196	1050	1530	--	--
B1 (JPHC)	3/16/2000	538	119	42.6	142	--	--	--	2170	4580	1880	--	--
B1 (JPHC)	6/30/2000	1430	629	155	658	--	--	--	6510	4820	973	--	--
B1 (JPHC)	9/27/2000	1180	203	62.0	309	--	--	--	6780	6490	8870	--	--
B1 (JPHC)	11/10/2000	2260	456	159	621	--	--	--	8610	2230	5090	--	--
B1 (JPHC)	3/19/2001	1400	569	138	672	212	--	--	9680	1360	1450	--	--
B1 (JPHC)	6/27/2001	1360	2230	419	2060	< 125	--	--	47300	73900	132000	--	--
B1 (JPHC)	9/26/2001	1930	1370	1180	8990	40.4	--	--	4790000	197000	304000	--	--
B1 (JPHC)	12/3/2001	204	727	290	1790	48.7	--	--	40500	14300	28200	--	--
B1 (JPHC)	6/26/2003	2850	286	584	2570	19.1	--	--	31600	185000	263000	447	14.3
B1 (JPHC)	12/9/2003	454	10.7	34.8	354	< 5.00	--	--	4650	10700	20500	4.60	1.62
B1 (JPHC)	4/7/2004	2650	428	383	1730	< 100	--	--	24500	11200	20200	5.13	13.3
B1 (JPHC)	11/16/2004	3470	15	260	1190	< 40.0	--	--	45000	6730	3770	9.55	1.39
B1 (JPHC)	3/29/2005	3800	267	600	2330	< 40.0	< 0.010	< 10.0	19500	50400	18600	26.6	--
B1 (JPHC)	6/22/2005	594	80.8	326	1450	< 10.0	--	--	9760	13300	7820	24.5	1.73
B1 (JPHC)	9/12/2005	3890	64.4	986	4280	25.4	--	--	115000	4270	7990	69.4	11.5
B1 (JPHC)	12/6/2005	5400	99.0	625	2220	< 100	--	--	25400	6360	12700	4.1	1.51
B1 (JPHC)	6/5/2006	4440	75.0	316	885	< 100	--	--	16800	4750	--	21.5	1.56
B1 (JPHC)	12/19/2006	17.8	< 0.500	< 0.500	34.2	--	--	--	4140	--	--	--	--
B1 (JPHC)	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	4.44	--	--	486	252	671	4.39	--
B1 (JPHC)	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	2.82	--	--	5870	4260	10400	18.4	--
B1 (JPHC)	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	163	2270	7700	8.21	--
B1 (JPHC)	4/8/2009	< 0.500	< 0.500	< 0.500	1.13	1.12	--	--	185	< 245	< 490	5.36	5.19

Table 5
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CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
B1 (JPHC)	7/8/2009	24.6	< 0.500	< 0.500	< 1.00	< 2.00	--	--	152	< 240	< 481	6.81	5.74
B1 (JPHC)	10/6/2009	54	1.2	3.6	< 2.00	< 1.00	--	--	950	315	534	31	5.6
B1 (JPHC)	1/6/2010	110	2.2	9.5	10	< 1.00	--	--	1000	810	< 240	7.7	6.9
B1 (JPHC)	5/25/2010	250	11	26	64	< 1.00	--	--	1400	13000	720	13	6.5
B1 (JPHC)	8/19/2010	280	26	32	120	< 1.00	--	--	2000	11000	780	11	5.0
B1 (JPHC)	12/7/2010	150	42	39	160	< 1.0	--	--	2900	4700	650	6.6	4.8
B1 (JPHC)	1/26/2011	41	16	21	100	< 1.0	--	--	1200	3000	370	4.9	4.1
B1 (JPHC)	6/16/2011	140	8.2	52	340	< 1.0	--	--	4600	7700	1600	8.0	4.2
B1 (JPHC)	9/22/2011	3.3	< 0.50	2.7	9.2	1.5	--	--	520	304	< 476	3.3	< 2.0
B1 (JPHC)	12/6/2011	< 1.0	< 1.0	< 1.0	< 3.0	1.6	--	--	337	129	< 381	< 10.0	< 10.0
B1 (JPHC)	3/8/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	83.0	86.6	< 400	< 10.0	< 10.0
B1 (JPHC)	6/19/2012	16.9	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	697	< 800	< 10.0	< 10.0
B1 (JPHC)	9/21/2012	37.5	< 1.0	< 1.0	< 3.0	< 1.0	--	--	448	232	546	< 10.0	< 10.0
B1 (JPHC)	12/11/2012	9.4	< 1.0	< 1.0	< 3.0	< 1.0	--	--	359	989	464	< 3.0	< 3.0
B1 (JPHC)	6/26/2013	150	2.2	23	41	< 0.50	--	--	1000	140	250	11	11
B1 (JPHC)	9/26/2013	150	3.6	29	75	< 0.50	--	--	990	< 260	< 260	< 10.0	< 10.0
B1 (JPHC)	11/15/2013	200 D	4.4	31	89	< 0.50	--	--	1000 Y	< 260	< 260	< 10.0	< 10.0
B1 (JPHC)	2/13/2014	150	3.9	29	86	< 1.0	--	--	2100	4800 BY	670 BY	2.0	1.3 J
B1 (JPHC)	4/2/2014	110	3.4 J	23	70	< 0.74	--	--	1800	4500 BY	410 BY	1.4 J	0.93 J
B1 (JPHC)	7/11/2014	140	3.9	32	100	< 0.17	--	--	1600 B	5400 BY	600 Y	1.4 J	1.0 J
B1 (JPHC)	10/22/2014	160	4.9	39	180 B	0.20 J	--	--	2500 B	2300 Y	30 J	1.4 JB	0.60 J
B1 (JPHC)	1/21/2015	130	2.4	21	88	< 0.17	--	--	1700	4600 H1BY^	300 H1Y^	0.51 J	0.39 J
B1 (JPHC)	12/16/2015	89	2	15	36	< 0.17	--	--	1600	2600	330	--	--
B1 (JPHC)	3/11/2016	80	0.99 J	7.9	22	0.27 J	--	--	950	4300	1000	0.27 J	< 0.17
B1 (JPHC)	6/1/2016	93	2.1	10	34	< 0.11	--	--	1400	4400	1000	1.6 J	0.32 J
B1 (JPHC)	8/29/2016	140	3.3	15	79	< 1.0*	--	--	1900	3300 B	410 B	0.39 J	0.39 J
B1 (JPHC)	11/21/2016	120	3.0	15	78	< 1.0	--	--	2100	4400	1300	< 2.0	< 2.0
B1 (JPHC)	2/15/2017	86	< 2.0	10	40	< 1.0	--	--	1600	3800	880	< 2.0	< 2.0
B1 (JPHC)	5/26/2017	67	< 2.0	6.3	24 F1	< 2.0	--	--	1100 F1	4200	1200	< 4.0	< 4.0
B1 (JPHC)	10/17/2017	97	2.0	7.7	48	< 2.0	--	--	1700	4600	1300	< 4.0	< 4.0
B1 (JPHC)	2/8/2018	88	< 2.0	6.6	39	< 2.0	--	--	1400	3700	1500	< 4.0	< 4.0
B1 (JPHC)	9/11/2018	130	< 2.0	6.0	38	< 1.0	--	--	1600	5100	2000	< 4.0	< 4.0
B1 (JPHC)	11/15/2018	130	2.4	6.3	51	< 1.0	--	--	2500	5300	3000	< 4.0	< 4.0
B1 (JPHC)	1/29/2019	57	< 2.0	3.7	34	< 1.0	--	--	1800	3600	2100	< 4.0	< 4.0
B1 (JPHC)	9/26/2019	80	3.2	3.1	39	< 2.0	--	--	1700	3900	2200	< 4.0	< 4.0

Table 5
Groundwater Analytical Data
ARCO Facility 980
10822 Roosevelt Way NE
Seattle, WA 98125

CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
B3 (JPHC)	2/15/1995	1.0	< 0.5	< 0.5	< 1.0	--	--	--	< 50	340	1200	10	--
B3 (JPHC)	4/11/1995	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	--	--	--	--
B3 (JPHC)	7/20/1995	< 0.5	0.90	< 0.5	2.6	--	--	--	91	370	< 750	--	--
B3 (JPHC)	10/25/1995	0.57	2.6	0.84	9.0	--	--	--	750	810	1600	--	--
B3 (JPHC)	1/23/1996	0.64	11	3.6	35.0	--	--	--	5400	810	1900	--	--
B3 (JPHC)	4/17/1996	< 0.5	1.0	< 0.5	< 1.0	--	--	--	80	330	< 750	--	--
B3 (JPHC)	7/8/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	415	< 750	--	--
B3 (JPHC)	10/10/1996	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
B3 (JPHC)	3/11/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	407	< 750	--	--
B3 (JPHC)	5/29/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	402	1180	--	--
B3 (JPHC)	8/5/1997	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	269	< 750	--	--
B3 (JPHC)	3/11/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 80	< 250	< 750	--	--
B3 (JPHC)	6/30/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	76.6	< 250	--	--	--
B3 (JPHC)	9/25/1998	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
B3 (JPHC)	12/29/1998	< 2.5	< 2.5	< 2.5	< 5.0	--	--	--	< 250	< 250	< 750	--	--
B3 (JPHC)	3/9/1999	< 0.5	< 0.5	< 0.5	< 1.0	--	--	--	< 50	< 250	< 750	--	--
B3 (JPHC)	6/2/1999	< 0.500	5.43	< 0.500	4.39	--	--	--	51.9	< 250	< 750	--	--
B3 (JPHC)	12/20/1999	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	98.2	< 250	--	--	--
B3 (JPHC)	9/27/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 50.0	< 250	< 750	--	--
B3 (JPHC)	11/10/2000	< 0.500	< 0.500	< 0.500	< 1.00	--	--	--	< 80.0	< 250	< 750	--	--
B3 (JPHC)	3/19/2001	< 0.500	< 0.500	< 0.500	< 1.00	204	--	--	< 50.0	1180	2750	--	--
B3 (JPHC)	6/27/2001	< 0.500	< 0.500	< 0.500	< 1.00	9.44	--	--	< 50.0	< 250	< 750	--	--
B3 (JPHC)	9/26/2001	< 0.500	< 0.500	< 0.500	< 1.00	8.06	--	--	< 50.0	< 250	< 750	--	--
B3 (JPHC)	12/3/2001	< 0.500	< 0.500	< 0.500	< 1.00	49.3	--	--	< 50.0	< 250	< 500	--	--
B3 (JPHC)	6/6/2002	< 0.500	1.05	< 0.500	< 1.00	5.03	< 0.01	< 1.00	< 50.0	< 250	< 500	23.5	< 1.00
B3 (JPHC)	6/26/2003	< 0.500	< 0.500	1.30	7.36	< 1.00	--	--	296	289	< 500	11.3	< 1.00
B3 (JPHC)	12/9/2003	< 0.500	< 0.500	< 0.500	< 1.00	1.61	--	--	< 50.0	< 250	< 500	< 1.00	< 1.00
B3 (JPHC)	11/16/2004	< 0.200	< 0.500	< 0.500	< 1.00	3.76	--	--	< 80.0	< 250	< 500	2.28	< 1.00
B3 (JPHC)	3/29/2005	< 0.200	< 0.500	< 0.500	< 1.00	2.58	< 0.010	< 0.500	< 80.0	< 250	< 500	2.09	--
B3 (JPHC)	6/22/2005	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	291	< 500	18.9	< 1.00
B3 (JPHC)	9/12/2005	< 0.500	< 0.500	< 0.500	< 1.00	3.82	--	--	< 50.0	< 250	< 500	4.12	< 1.00
B3 (JPHC)	12/6/2005	< 0.500	< 0.500	< 0.500	< 1.00	4.49	--	--	74.3	253	< 485	3.25	< 1.00
B3 (JPHC)	6/5/2006	< 0.500	< 0.500	< 0.500	< 1.00	1.17	--	--	< 50.0	< 278	< 556	1.95	< 1.00
B3 (JPHC)	9/24/2007	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 245	< 490	--	--
B3 (JPHC)	1/29/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 238	< 476	1.59	--
B3 (JPHC)	7/1/2008	< 0.500	< 0.500	< 0.500	< 3.00	< 1.00	--	--	< 50.0	< 236	< 472	< 1.00	--
B3 (JPHC)	10/3/2008	< 0.500	< 0.500	< 0.500	< 3.00	23.5	--	--	< 50.0	< 236	< 472	16.9	--
B3 (JPHC)	1/6/2009	< 0.500	< 0.500	< 0.500	< 3.00	24.1	--	--	< 50.0	< 236	< 472	7.6	--
B3 (JPHC)	4/8/2009	< 0.500	< 0.500	< 0.500	< 1.00	5.94	--	--	< 50.0	< 240	< 481	1.62	< 1.00
B3 (JPHC)	7/8/2009	< 0.200	< 0.500	< 0.500	< 1.00	< 2.00	--	--	< 80.0	842	< 472	< 1.00	< 1.00
B3 (JPHC)	10/6/2009	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	130	< 236	< 472	7.6	< 2.00
B3 (JPHC)	1/6/2010	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	--	--	< 50.0	< 120	< 240	< 2.00	< 2.00
B3 (JPHC)	5/25/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	< 50.0	< 120	< 240	< 2.00	< 2.00
B3 (JPHC)	8/19/2010	< 0.50	< 0.50	< 0.50	< 1.00	< 1.00	--	--	< 50.0	340	420	6.1	< 2.00
B3 (JPHC)	12/7/2010	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 120	< 240	6.1	< 2.0
B3 (JPHC)	1/26/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 120	< 240	< 2.0	< 2.0
B3 (JPHC)	6/16/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	260	450	2.3	< 2.0
B3 (JPHC)	9/22/2011	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	--	--	< 50	< 95.2	< 476	< 2.0	< 2.0

Table 5
Groundwater Analytical Data
ARCO Facility 980
10822 Roosevelt Way NE
Seattle, WA 98125

CONSTITUENT		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	TPH-G	TPH-D	TPH-O	Total Lead	Dissolved Lead
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	1000/800¹	500	500	15	--
B3 (JPHC)	12/6/2011	< 1.0	< 1.0	< 1.0	< 3.0	2.2	--	--	< 50.0	< 80.0	< 400	< 10.0	< 10.0
B3 (JPHC)	3/8/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 78.4	< 392	< 10.0	< 10.0
B3 (JPHC)	6/19/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 160	< 800	< 10.0	< 10.0
B3 (JPHC)	9/21/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 50.0	< 80.8	< 404	< 10.0	< 10.0
B3 (JPHC)	12/11/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	< 100	< 182	444	< 3.0	< 3.0
B3 (JPHC)	6/26/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 250	22	< 10	< 10
B3 (JPHC)	9/26/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
B3 (JPHC)	11/15/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 50	< 260	< 260	< 10.0	< 10.0
B3 (JPHC)	2/13/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	--	--	16 J	44	46	< 2.0	< 2.0
B3 (JPHC)	4/2/2014	< 1.1	< 0.89	< 0.89	< 0.82	< 0.74	--	--	14 J	76 JB	80 JB	< 0.17	< 0.17
B3 (JPHC)	7/11/2014	< 0.14	< 0.16	< 0.13	0.13 J	< 0.17	--	--	15 JB	140 BY	130 J	0.22 J	0.77 J
B3 (JPHC)	10/22/2014	< 1.0	< 1.0	< 1.0	0.18 JB	0.72 J	--	--	< 50	210 Y	67 J	< 2.0	< 2.0
B3 (JPHC)	1/20/2015	< 0.14	< 0.16	< 0.13	< 0.12	< 0.17	--	--	31 J	210 H1BY^	170 J^H1	< 0.17	< 0.17
B3 (JPHC)	12/14/2015	< 0.42	< 0 *	< 0.51	< 0.50	0.19 J	--	--	< 27	57	< 30	--	--
B3 (JPHC)	3/11/2016	< 0.025	< 0.025	< 0.030	< 0.060	0.058 J	--	--	44 J	130	200 J	< 0.17	< 0.17
B3 (JPHC)	8/29/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50	51 JB	34 JB	< 2.0	< 2.0
B3 (JPHC)	11/21/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	110	< 250	< 2.0	< 2.0
B3 (JPHC)	2/15/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	140	< 250	< 2.0	< 2.0
B3 (JPHC)	5/26/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 500	150	< 260	< 4.0	< 4.0
B3 (JPHC)	10/17/2017	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	230	< 250	< 4.0	< 4.0
B3 (JPHC)	2/8/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	160	< 430	< 4.0	< 4.0
B3 (JPHC)	9/11/2018	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 250	5000	1900	< 4.0	< 4.0
B3 (JPHC)	9/26/2019	< 3.0	< 2.0	< 3.0	< 3.0	< 2.0	--	--	< 250	180	< 350	< 4.0	< 4.0
IW-1	11/17/2017	--	--	--	--	--	--	--	--	--	--	3.1	--
IW-1	12/7/2017	11	2.5	25	310	--	--	--	9800	--	--	--	--

Notes:

VOC's analyzed by EPA Method 8260C

MTBE = Methyl-tertiary-butyl ether by EPA Method 8260C

EDB = 1,2-Dibromo-ethane

EDC = 1,2-Dichloro-ethane

TPH-G = Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx

TPH-D = Total petroleum hydrocarbons as diesel by Northwest Method NWTPH-Dx

TPH-O = Total petroleum hydrocarbons as oil by Northwest Method NWTPH-Dx

1,000/800¹ ug/L if no detectable levels of Benzene in the sample - otherwise 800 ug/L

NE = Not evaluated

<1.0 = Concentrations were not detected above the laboratory method reporting limit.

ug/L = Micrograms per liter (ppb)

ND = Not detected

-- = No value given/Not analyzed/Not applicable

MTCA = Model Toxics Control Act

Results in **bold** indicate concentrations in excess of MTCA Method A Cleanup Levels

* = LCS or LCSD 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.

B = Compound was found in the blank and sample.

H = Sample was prepped or analyzed beyond the specific holding time

F1 = MS and/or MSD Recovery is outside acceptance limits.

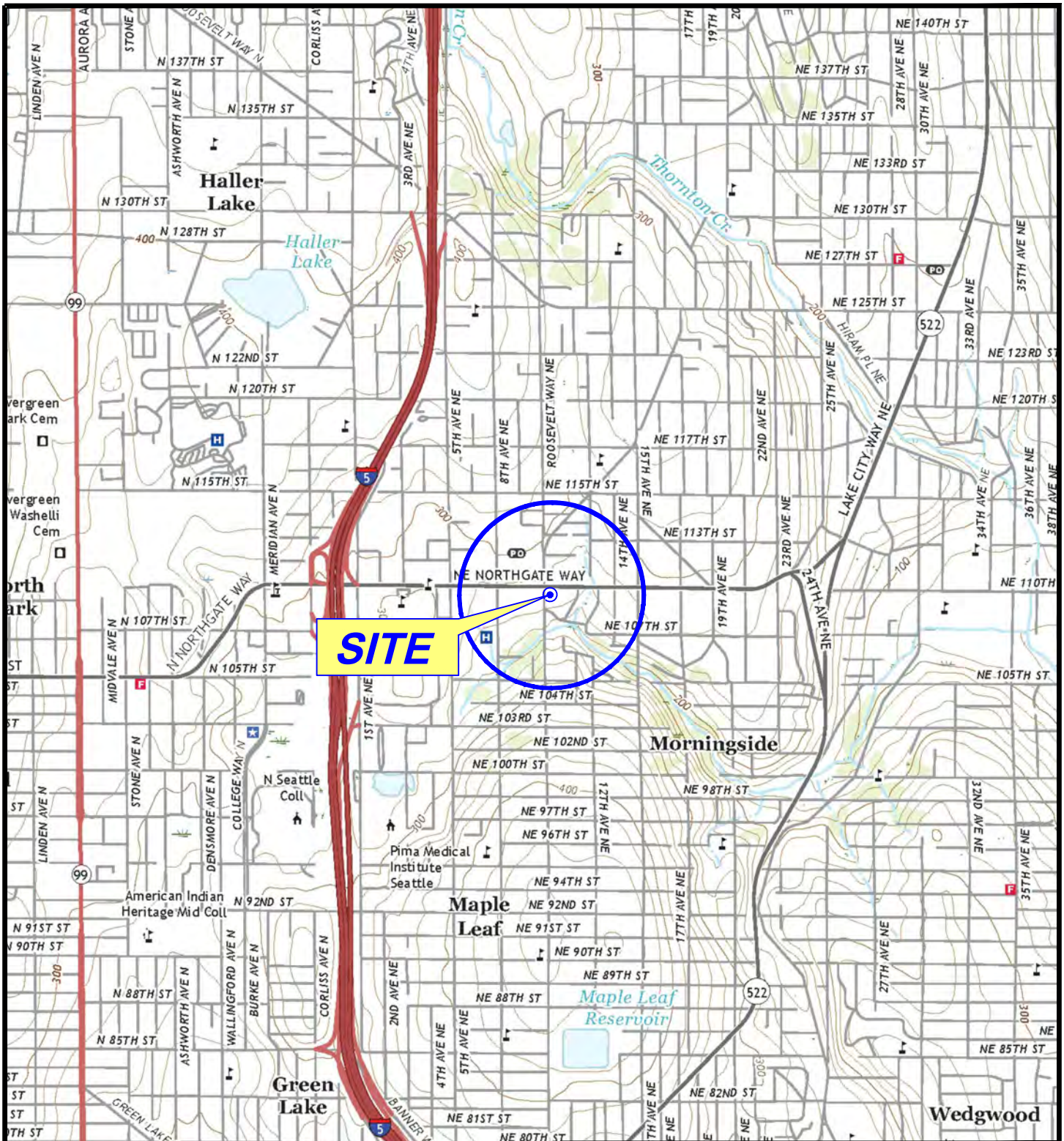
F2 = MS/MSD RPD exceeds control limits



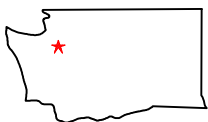
Figures

- Figure 1 Site Location Map
- Figure 2 Site Aerial Map
- Figure 3 Site Map
- Figure 4 Soil Analytical Data Map
- Figure 5 Groundwater Analytical and Elevation Contour Map





GENERAL NOTES:
 BASE MAP FROM TOPO!
 SEATTLE NORTH E., WA. QUADRANGLE
 7.5 MINUTE TOPOGRAPHIC MAP



QUADRANGLE LOCATION

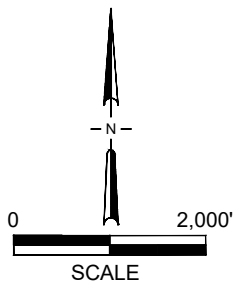


FIGURE 1
 SITE LOCATION MAP

ARCO FACILITY NO. 980
 10822 ROOSEVELT WAY NE
 SEATTLE, WASHINGTON

PROJECT NO. 00980SA191	DRAWN BY J. HIGHFILL
FILE NO. 0980-SLM18	PREPARED BY M. BERNARD
DATE 12 Dec 18	REV. 0
	REVIEWED BY





GENERAL NOTES:
BASE MAP FROM GOOGLE EARTH 2018

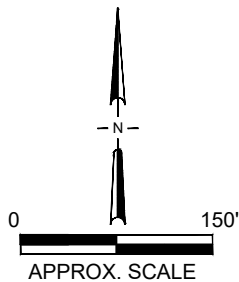


FIGURE 2 SITE AERIAL MAP

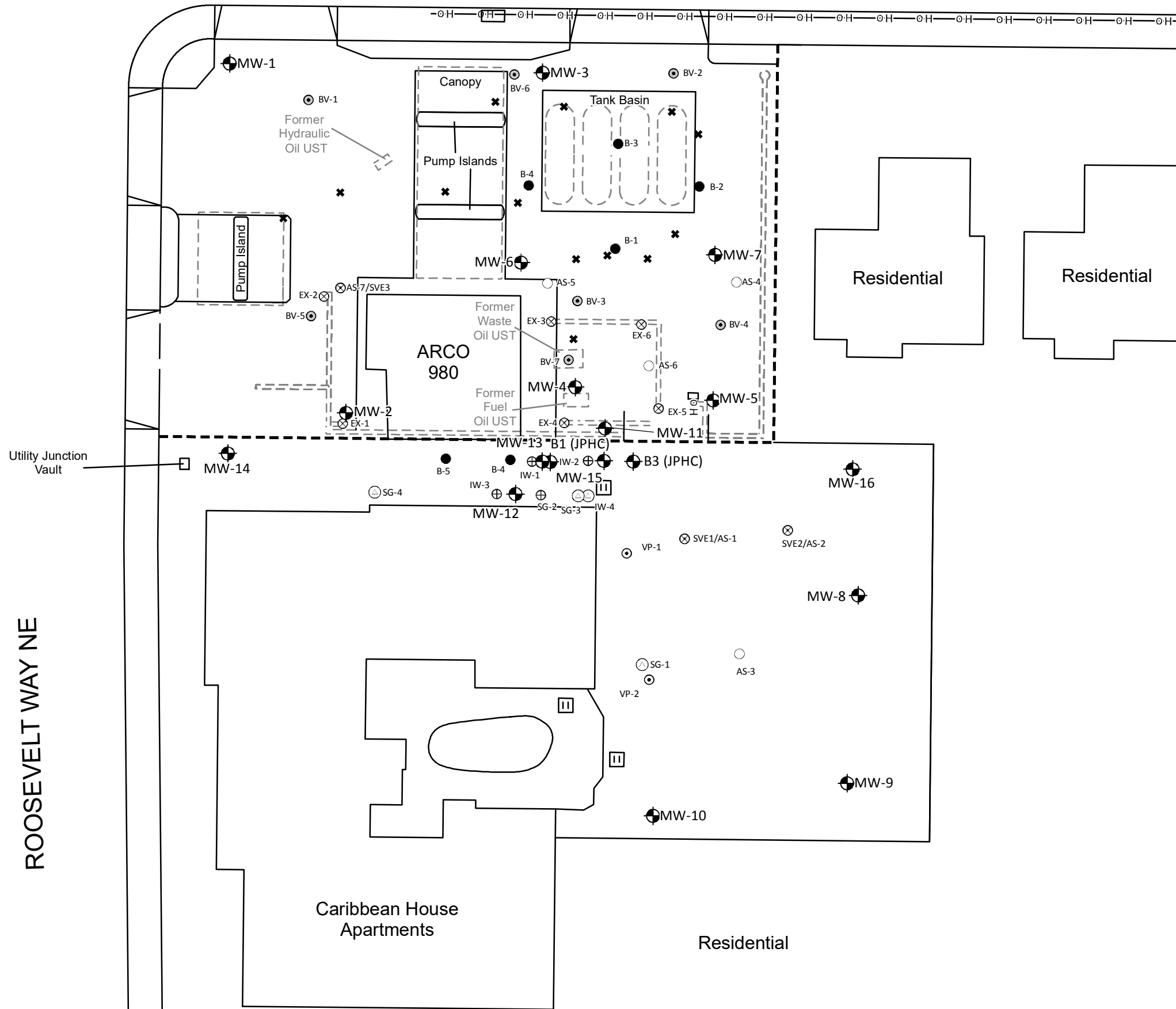
ARCO FACILITY NO. 0980
10822 ROOSEVELT WAY NE
SEATTLE, WASHINGTON

PROJECT NO. 00980SA191	DRAWN BY J. HIGHFILL
FILE NO. 980G-SAM18	PREPARED BY M. BERNARD
DATE 12 DEC 18	REV. 1
	REVIEWED BY



NE NORTHGATE WAY

ROOSEVELT WAY NE



LEGEND

- GROUNDWATER MONITORING WELL
- AIR SPARGING WELL LOCATION
- EXTRACTION WELL LOCATION
- SOIL VAPOR EXTRACTION WELL
- INJECTION WELL LOCATION INSTALLED BY INNOVEX
- SOIL VAPOR EXTRACTION / VACUUM PRESSURE MONITORING POINT
- BIOVENTING WELL LOCATION
- SOIL GAS PROBE LOCATION
- SOIL BORING LOCATION
- SOIL SAMPLING LOCATION
- PROPERTY BOUNDARY
- SITE FEATURES
- FORMER SITE FEATURES
- OVERHEAD UTILITY LINES
- CATCH BASIN

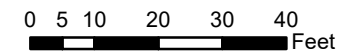


FIGURE 3

SITE MAP
 ARCO FACILITY NO. 980
 10822 ROOSEVELT WAY NE
 SEATTLE, WASHINGTON

PROJECT NO. 009805A191	PREPARED BY MB/ALR	REF SCALE 1:360	
DATE 11/1/2019	REVIEWED BY ES	MAP SCALE 1 inch = 30 feet	

NE NORTHGATE WAY

MW-14			
Date	9/9/2019	9/12/2019	9/12/2019
Depth	5	7.5	10
B	< 0.00082	< 0.00076	< 0.00072
T	0.00032 J	0.00035 J	< 0.00072
E	< 0.00082	< 0.00076	< 0.00072
X	< 0.00245	< 0.00228	< 0.00216
TPH-G	< 4.5	< 4.4	< 4.2
TPH-D	< 50	< 52	< 52
TPH-O	< 50	< 52	< 52

MW-16			
Date	9/9/2019	9/10/2019	9/10/2019
Depth	5	9	12
B	< 0.00092	< 0.00079	< 0.00075
T	0.00050 J	< 0.00079	< 0.00075
E	< 0.00092	< 0.00079	< 0.00075
X	< 0.00276	< 0.00237	< 0.00225
TPH-G	< 5.4	< 4.3	< 4.4
TPH-D	< 56	< 51	< 54
TPH-O	120	< 51	< 54

MW-13					
Date	9/9/2019	9/12/2019	9/12/2019	9/12/2019	9/12/2019
Depth	5	8	10	12.5	14
B	< 0.00097	< 0.00081	< 0.00076	0.00029 J	0.00121
T	0.00035 J	0.00146	0.00030 J	< 0.00081	0.00025 J
E	< 0.00097	0.00550	0.0193	0.00030 J	0.00111
X	0.00043 J	0.0125	0.0847	0.00131 J	0.00621
TPH-G	< 6.3	930	340	4.1	120
TPH-D	< 60	860	< 54	< 50	< 50
TPH-O	< 60	760	69	< 50	< 50

MW-15				
Date	9/9/2019	9/11/2019	9/11/2019	9/11/2019
Depth	5	10	12	14
B	< 0.00083	< 0.00079	< 0.00080	< 0.00078
T	0.00024 J	< 0.00079	0.00026 J	< 0.00078
E	< 0.00083	< 0.00079	< 0.00080	< 0.00078
X	0.00248	< 0.00236	< 0.00239	< 0.00235
TPH-G	9.1	< 4.4	< 4.4	17
TPH-D	< 54	< 50	< 51	< 56
TPH-O	320	< 50	65	< 56

LEGEND

- GROUNDWATER MONITORING WELL
- AIR SPARGING WELL LOCATION
- EXTRACTION WELL LOCATION
- SOIL VAPOR EXTRACTION WELL
- INJECTION WELL LOCATION INSTALLED BY INNOVEX
- SOIL VAPOR EXTRACTION / VACUUM PRESSURE MONITORING POINT
- BIOVENTING WELL LOCATION
- SOIL GAS PROBE LOCATION
- SOIL BORING LOCATION
- SOIL SAMPLING LOCATION
- PROPERTY BOUNDARY
- SITE FEATURES
- FORMER SITE FEATURES
- OVERHEAD UTILITY LINES
- CATCH BASIN

MW-13	Well ID
Date	Sample Date
Depth	Sample Depth
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylenes
TPH-G	Gasoline Range Organics
TPH-D	Diesel Range Organics
TPH-O	Oil Range Organics

Results in bold exceed applicable action limits
 All results given in milligrams per kilograms (mg/kg)
 < = Not detected at or above indicated laboratory reporting limit
 J = Estimated concentration value detected below the reporting limit

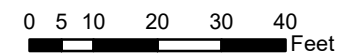


FIGURE 4

SOIL ANALYTICAL DATA MAP
 ARCO FACILITY NO. 980
 10822 ROOSEVELT WAY NE
 SEATTLE, WASHINGTON

PROJECT NO. 009805A191	PREPARED BY ALR	REF SCALE 1:360	
DATE 11/1/2019	REVIEWED BY BJ	MAP SCALE 1 inch = 30 feet	

MW-13	
Date	9/26/2019
B	140
T	3.2 F1
E	19 F1
X	140
MTBE	<2.0 F1F2
TPH-G	2,900
TPH-D	6,900
TPH-O	3,500 F1
Pb-T	<4.0
Pb-D	<4.0

MW-15	
Date	9/26/2019
B	<3.0
T	<2.0
E	<3.0
X	<3.0
MTBE	<2.0
TPH-G	<250
TPH-D	1,100
TPH-O	710
Pb-T	<4.0
Pb-D	<4.0

MW-14	
Date	9/26/2019
B	<3.0
T	2.1
E	<3.0
X	<3.0
MTBE	<2.0
TPH-G	<250
TPH-D	<110
TPH-O	<350
Pb-T	<4.0
Pb-D	<4.0

MW-16	
Date	9/26/2019
B	<3.0
T	<2.0
E	<3.0
X	<3.0
MTBE	<2.0
TPH-G	<250
TPH-D	540
TPH-O	350
Pb-T	<4.0
Pb-D	<4.0

LEGEND

- ⊕ GROUNDWATER MONITORING WELL
 - AIR SPARGING WELL LOCATION
 - ⊗ EXTRACTION WELL LOCATION
 - ⊗ SOIL VAPOR EXTRACTION WELL
 - ⊕ INJECTION WELL LOCATION INSTALLED BY INNOVEX
 - ⊙ SOIL VAPOR EXTRACTION / VACUUM PRESSURE MONITORING POINT
 - ⊙ BIOVENTING WELL LOCATION
 - ⊙ SOIL GAS PROBE LOCATION
 - SOIL BORING LOCATION
 - * SOIL SAMPLING LOCATION
 - GROUNDWATER ELEVATION CONTOURS (FT)
 - ➔ INFERRED GROUNDWATER FLOW DIRECTION SE (0.11 FT/LINEAR FT)
 - - - PROPERTY BOUNDARY
 - SITE FEATURES
 - - - FORMER SITE FEATURES
 - OVERHEAD UTILITY LINES
 - ▭ CATCH BASIN
- (243.12) Groundwater Elevation in Feet Referenced to the National Geodetic Vertical Datum (1929)

MW-13	Well ID
Date	Sample Date
B	Benzene
T	Toluene
E	Ethybenzene
X	Total Xylenes
MTBE	Methyl Tertiary Butyl Ether
TPH-G	Gasoline Range Organics
TPH-D	Diesel Range Organics
TPH-O	Oil Range Organics
Pb-T	Total Lead
Pb-D	Dissolved Lead

Results in bold exceed applicable action limits
 All results given in micrograms per liter (ug/L)
 < = Not detected at or above indicated laboratory reporting limit
 F1 = MS and/or MSD Recovery is outside acceptance limits
 F2 = MS/MSD RPD exceeds control limits

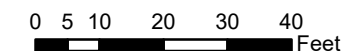


FIGURE 5
 GROUNDWATER ANALYTICAL AND ELEVATION CONTOUR MAP
 SEPTEMBER 26, 2019
 ARCO FACILITY NO. 980
 10822 ROOSEVELT WAY NE
 SEATTLE, WASHINGTON

PROJECT NO. 009805A191	PREPARED BY MB/MSS	REF SCALE 1:360	
DATE 11/8/2019	REVIEWED BY JS	MAP SCALE 1 inch = 30 feet	

Subsurface Investigation Report
ARCO Facility No. 980
10822 Roosevelt Way NE, Seattle, WA
Antea Group Project No. 00980SA191.20100
November 18, 2019



Appendix A

Summary of Field Procedures and Quality Assurance Plan



FIELD PROCEDURES

The boring locations were marked with white paint and the Utility Underground Location Center was contacted at least 72 hours before the Site walk was scheduled. A Site walk was conducted to visually inspect utility markers and indicators. Applied Professional Services, Inc. (APS) of North Bend, Washington was contracted to identify private subsurface utilities. APS swept a search zone of 15 feet in all directions surrounding the proposed boring locations. APS uses Metrotech 810 multi-frequency locators to identify conductive subsurface utilities. All utilities were marked in paint and recorded on a drawing/plot plan.

Prior to drilling, each boring location was cleared to a depth of at least 6.5 feet below ground surface (bgs) and 110 percent of the drilling tool diameter with an air-knife, vacuum truck, and/or hand auger. Following utility clearing, all borings were advanced using a limited access track mounted sonic drill rig operated by Cascade Drilling, Inc. (Cascade). Discrete soil samples were collected from each boring to characterize site soils with respect to petroleum hydrocarbon impacts.

For shallow soil samples collected during borehole pre-clearance, Cascade would cease air knife and vacuum truck operations 1.5 feet above the desired sample depth, and a hand auger would be used to extend the boring to the desired depth. The hand auger was decontaminated between each sample. After collecting the shallow sample(s), Cascade continued to widen and clear the boring to 6.5 feet bgs. Soil samples at depths greater than 6.5 feet bgs were collected from MW-14 and MW-16 using a 6-inch diameter core barrel and from MW-13 and MW-15 using a 10-inch diameter core barrel advanced ahead of the drill casing in order to continuously collect soils samples. Soil samples were transferred from the core barrel to clean, single-use plastic sleeves for observation and collection of laboratory samples.

Before laboratory sample collection, soil was field screened for the presence of volatile organic compounds with a photoionization detector (PID) to aid in the facilitation of selecting representative soil samples for chemical analysis. The PID was a RAE Systems MiniRAE 3000 PID equipped with a 10.6 electron volt (eV) ultraviolet (UV) lamp and calibrated to a 100-ppm isobutylene calibration gas for direct readings in parts per million (ppm). The operating range of the detector is from 0 to 15,000 parts per million with a minimum detection limit of 0.1 ppm. It should be noted that the PID measurements are considered semi-quantitative data since the instrument detects all organic compounds with ionization potentials less than 10.2 eV. Clear plastic bags were filled to one-third to half capacity and then sealed. Soils in the bags were gently agitated to facilitate the breakup of any lumps and allowed to sit for approximately 10 minutes prior to analyzing the air above the soil in the bag. The PID probe was inserted into an opening of the plastic bag and the maximum vapor concentration was recorded for each soil sample collected.

Laboratory soil samples were collected directly from the hand auger and sample sleeves using a single-use syringe sampler and placed into laboratory-supplied 40-milliliter (mL) VOA vials preserved with methanol in accordance with Environmental Protection Agency (EPA) Method 5035A. Additional soil was placed into 4 to 8-ounce laboratory-supplied glass soil jars. The samples were labeled and immediately placed on ice in a cooler pending submittal to the laboratory for analysis. The samples were transported to Test America Laboratories, Inc. (Test America) for quantitative chemical analysis following chain-of-custody documentation.

ANALYTICAL METHODS

SAMPLE IDENTIFICATION AND CHAIN-OF-CUSTODY PROCEDURES

Sample identification and chain-of-custody procedures ensure sample integrity and document sample possession from the time of collection to delivery to the laboratory. Each sample submitted for analysis was labeled and identified with the project number, date and time of sample collection, sampler and sample number unique to the sample. This information, in addition to any field measurements, noted names of on-site personnel, and any other pertinent field observations were recorded in the field notes.

Upon arrival at the laboratory, the sample control personnel at the laboratory verified sample integrity and confirmed that the sample was collected in the proper container, packaged correctly, and that there was adequate volume of sample for the required analyses. The laboratory assigned a unique log number for identification of each sample throughout analyses and reporting. The log number was recorded on the chain of custody form and in the legally required logbook maintained in the laboratory. The sample description, date received, client name, and any other relevant information was recorded.

ANALYTICAL METHODS

The analytical tests performed for this evaluation were chosen based upon standard requirements issued by the Washington State Department of Ecology. Select samples collected during this investigation were analyzed by the following methods:

- BTEX, methyl tert-butyl ether (MTBE), Dibromoethane (EDB), and Dichloroethane (EDC) by EPA Method 8260C;
- TPH-G by Northwest Method NWTPH-Gx;
- Total petroleum hydrocarbons as diesel (TPH-D) and as oil (TPH-O) by Northwest Method NWTPH-Dx;
- Total lead and dissolved by EPA Method 6020B; and
- Carcinogenic polycyclic aromatic hydrocarbons (PAHs) and naphthalene by EPA Method 8270 SIM;
- Polychlorinated biphenyls (PCBs) by EPA Method 8082A;
- One composite sample collected from soil cuttings was analyzed for the Resource Conservation and Recovery Act (RCRA) 8 Metals by EPA Method 6020A and EPA Method 7471A for waste characterization purposes.

Subsurface Investigation Report
ARCO Facility No. 980
10822 Roosevelt Way NE, Seattle, WA
Antea Group Project No. 00980SA191.20100
November 18, 2019



Appendix B

Boring Logs





WELL/BORING: MW-13		Unique Ecology Well ID: BLZ108	
INSTALLATION DATE: 9/9/2019 – 9/13/2019		DRILLING METHOD: Sonic	
PROJECT: ARCO 980		SAMPLING METHOD: Continuous Core	
CLIENT: BP		BORING DIAMETER: 10"	
LOCATION: 10822 Roosevelt Way NE		BORING DEPTH: 19'	
CITY: Seattle		WELL CASING: SCH 40 PVC 2"	
STATE: WA		WELL SCREEN: 7' – 19' (0.020")	
DRILLER: Cascade Drilling, Inc.		SAND PACK: 5' – 19' (2 x 12)	

WELL/BORING COMPLETION	FIRST ▽	STABILIZED ▼	MOISTURE	PID (ppm)	Temperature	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	258.01'	DTC:	5"
											SURVEY DATE:	10-10-19	DTW:	13.45'
DESCRIPTION/LOGGED BY: Marissa Bernard														
						1					Surface = Asphalt			
						2								
						3								
						4								
			DRY	0.2	-	5			ML		Sandy <u>SILT</u> with trace gravel; brown; 60% silt, 40% very fine to medium sand, trace gravel.			
						6			SM		@ 5.5': Silty <u>SAND</u> with gravel; brown; 30% silt, 60% very fine to medium sand, 10% gravel.			
			DRY	396.0	90.8	7					@ 6.5': Same as above; gray.			
						8					@ 7.5' to 10' : ODOR			
				1104	-	9								
			DRY	1370	92.0	10			SM		Silty <u>SAND</u> ; gray; 40% silt, 60% very fine sand.			
						11			SM		Silty <u>SAND</u> -with cobbles; gray; 20% silt, 80% very fine to medium sand, trace large cobbles and gravel.			
			MST	107.2	105.9	12			SP		<u>SAND</u> with trace gravel; gray; 100% fine to medium sand, trace gravel. ODOR.			
						13			SM		@ 13' – 13.5': Silty <u>SAND</u> ; gray; 40% silt, 60% very fine to fine sand, trace gravel. ODOR.			
						14			SP		@ 13.5': <u>SAND</u> with trace gravel; gray; 100% fine to medium sand, trace gravel. ODOR.			
			MST	104.8	118.9	15			SM		Silty <u>SAND</u> with gravel; gray; 15% silt, 75% very fine to medium sand, 10% gravel. ODOR.			
						16								
	▽	▼	WET	9.8	90.1	17					Same as above; increasing gravel. No odor.			
						18								
			WET	6.7	81.0	20					Same as above; decreasing gravel.			
						21					Boring completed at 19' bgs as monitoring well			
						22								



WELL/BORING: MW-14	Unique Ecology Well ID: BLZ109
INSTALLATION DATE: 9/9/2019 – 9/13/2019	DRILLING METHOD: Sonic
PROJECT: ARCO 980	SAMPLING METHOD: Continuous Core
CLIENT: BP	BORING DIAMETER: 6"
LOCATION: 10822 Roosevelt Way NE	BORING DEPTH: 14'
CITY: Seattle	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 4' – 14' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 2.5' – 14' (2 x 12)

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	Temperature	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	258.27'	DTC:	6"
											SURVEY DATE:	10-10-19	DTW:	6.20'
DESCRIPTION/LOGGED BY: Marissa Bernard														
						1					Surface = Asphalt			
						2								
						3								
						4								
			DRY	0.5	-	5			SM		Silty SAND with trace gravel; brown; 10% silt, 90% very fine to medium sand, trace gravel. @ 6': Same as above; gray.			
						6								
			MST	15.2	74.6	7			SP		SAND with trace gravel; gray/brown; 100% very fine to medium sand, trace gravel.			
						8					Same as above; very fine sand, no gravel.			
			WET	1.0	75.3	9			SW		Same as above; very fine to very coarse sand, trace gravel.			
						10					Same as above; very fine to medium sand.			
			WET	1.3	75.0	11					Same as above; very fine to very coarse sand, increase in gravel.			
						12								
			WET	1.0	74.2	13			SP		Same as above; gray with brown streaks; very fine to medium sand.			
						14								
			WET	1.7	70.5	15			SM		Silty SAND with gravel; gray; 10% silt, 80% very fine to medium sand, 10% gravel.			
						16								
			WET	1.4	68.4	17			SW		SAND; gray; 100% very fine to very coarse sand.			
						18					Boring completed at 14' bgs as monitoring well			
						19								
						20								
						21								
						22								



WELL/BORING: MW-15		Unique Ecology Well ID: BLZ110	
INSTALLATION DATE: 9/9/2019 – 9/13/2019		DRILLING METHOD: Sonic	
PROJECT: ARCO 980		SAMPLING METHOD: Continuous Core	
CLIENT: BP		BORING DIAMETER: 10"	
LOCATION: 10822 Roosevelt Way NE		BORING DEPTH: 25'	
CITY: Seattle		WELL CASING: SCH 40 PVC 2"	
STATE: WA		WELL SCREEN: 6' – 23' (0.020")	
DRILLER: Cascade Drilling, Inc.		SAND PACK: 4' – 23' (2 x 12)	

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	Temperature	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	258.25'	DTC:	5.5"
											SURVEY DATE:	10-10-19	DTW:	14.02'
DESCRIPTION/LOGGED BY: Marissa Bernard														
						1					Surface = Asphalt			
						2								
						3								
						4								
			DP	8.9	-	5			SM		Silty SAND trace gravel; dark gray and brown; 40% silt, 50% fine to medium sand, 10% gravel.			
			DRY	-	-	6								
			DRY	2.3	93.8	7			SM		Silty SAND with trace gravel; brownish gray; 40% silt, 60% fine to medium sand, trace gravel, trace large cobbles.			
						8								
			DRY	3.4	91.6	10			SM		Same as above.			
						11								
			MST	29.5	89.4	12			SM		Silty SAND; gray; 10% silt, 90% fine to medium sand, trace large cobbles.			
			WET	-	-	14			SP		SAND; brown; 100% fine to medium sand.			
			WET	2.9	96.0	15			SM		Silty SAND with gravel; brown; 30% silt, 60% very fine to coarse sand, 10% gravel.			
						16								
			WET	3.0	88.7	18			SM		Silty SAND with trace gravel; gray; 10% silt, 90% fine to very coarse sand, trace gravel. @ 18': Same as above; 30% silt, 70% fine to medium sand.			
			DRY	-	-	19			ML		Sandy SILT with cobbles; gray; 60% silt, 30% very fine to fine sand, 10% small to medium sub-angular cobbles.			
			MST	2.0	93.5	20			SP		SAND; gray; 100% fine to medium sand.			
						21								
						22								



WELL/BORING: MW-15	Unique Ecology Well ID: BLZ110
INSTALLATION DATE: 9/9/2019 – 9/13/2019	DRILLING METHOD: Sonic
PROJECT: ARCO 980	SAMPLING METHOD: Continuous Core
CLIENT: BP	BORING DIAMETER: 10"
LOCATION: 10822 Roosevelt Way NE	BORING DEPTH: 25'
CITY: Seattle	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 6' – 23' (0.020")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 4' – 23' (2 x 12)

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	Temperature	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	258.25'	DTC:	5.5"
	▽	▼	MST	1.5	79.7	23			SP		SURVEY DATE:	10-10-19	DTW:	14.02'
			MST	1.0	80.9	24			ML		DESCRIPTION/LOGGED BY: Marissa Bernard			
						25			SM		Same as above; very fine to fine sand.			
						26					Sandy <u>SILT</u> ; brown and gray; 80% silt, 20% very fine sand.			
						27					Silty <u>SAND</u> with gravel; gray; 30% silt, 60% very fine to medium sand, 10% gravel.			
						28					Boring completed at 25' bgs as monitoring well			
						29								
						30								
						31								
						32								
						33								
						34								
						35								
						36								
						37								
						38								
						39								
						40								
						41								
						42								
						43								
						44								

Sand



WELL/BORING: MW-16	Unique Ecology Well ID: BLZ111
INSTALLATION DATE: 9/9/2019 – 9/13/2019	DRILLING METHOD: Sonic
PROJECT: ARCO 980	SAMPLING METHOD: Continuous Core
CLIENT: BP	BORING DIAMETER: 6"
LOCATION: 10822 Roosevelt Way NE	BORING DEPTH: 20'
CITY: Seattle	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 8' – 20' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 6' – 20' (2 x 12)

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	Temperature	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	259.53'	DTC:	5"
	▽	▼									SURVEY DATE:	10-10-19		
											DTW:	16.47'		
DESCRIPTION/LOGGED BY: Marissa Bernard														
Concrete						1								
Bentonite						2								
			DRY	0.1	-	3								
						4								
						5			SM					
						6			ML					
			Slightly DP	1.0	71.3	7			SM					
						8								
			WET	2.6	83.0	9								
						10			SM					
						11								
			WET	4.0	83.2	12			SM					
						13								
			WET	2.5	71.5	14								
						15								
						16								
			MST/WET	2.5	70.2	17			SM					
						18								
						19								
			MST/WET	5.6	73.0	20			SM					
						21								
						22								

Subsurface Investigation Report
ARCO Facility No. 980
10822 Roosevelt Way NE, Seattle, WA
Antea Group Project No. 00980SA191.20100
November 18, 2019



Appendix C

Soil Laboratory Analytical Reports



ANALYTICAL REPORT

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

Laboratory Job ID: 580-89123-1
Client Project/Site: BP -ARCO 980

For:

Antea USA Inc.
4006 148th Ave NE
Redmond, Washington 98052

Attn: Megan Richard



Authorized for release by:
10/8/2019 2:39:20 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of Eurofins TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The signature on the cover page extends to the case narrative and all the data and forms in the package. The Chain of Custody is included and is an integral part of this report.



Elaine Walker
Project Manager II
10/8/2019 2:39:20 PM

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Definitions/Glossary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Job ID: 580-89123-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-89123-1

Receipt

Two samples were received on 9/11/2019 11:01 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

VOA Prep

Method(s) 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: MW-16-9-20190910 (580-89123-1) and MW-16-12-20190910 (580-89123-2). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g. The amount provided was above this range.

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

GC VOA

No analytical or quality issues were noted, other than those described 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.

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.

Subcontract non-Sister

The 8260C VOC analysis was subcontracted to Analytical Resources, Inc. and their data is included in this report. It should be noted that the BP Equis EDD is not able to be uploaded for this analysis.

Detection Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Client Sample ID: MW-16-9-20190910

Lab Sample ID: 580-89123-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	2.4		0.30		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: MW-16-12-20190910

Lab Sample ID: 580-89123-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.4		0.31		mg/Kg	10	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Seattle



Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Client Sample ID: MW-16-9-20190910

Lab Sample ID: 580-89123-1

Date Collected: 09/10/19 17:20

Matrix: Solid

Date Received: 09/11/19 11:01

Percent Solids: 92.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.3		mg/Kg	☼	09/17/19 16:36	09/18/19 04:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		50 - 150	09/17/19 16:36	09/18/19 04:51	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		51		mg/Kg	☼	09/20/19 10:17	09/21/19 13:44	1
Motor Oil (>C24-C36)	ND		51		mg/Kg	☼	09/20/19 10:17	09/21/19 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	09/20/19 10:17	09/21/19 13:44	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.4		0.30		mg/Kg	☼	09/17/19 10:55	09/19/19 10:33	10

Client Sample ID: MW-16-12-20190910

Lab Sample ID: 580-89123-2

Date Collected: 09/10/19 17:25

Matrix: Solid

Date Received: 09/11/19 11:01

Percent Solids: 92.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.4		mg/Kg	☼	09/17/19 16:36	09/18/19 05:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		50 - 150	09/17/19 16:36	09/18/19 05:15	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		54		mg/Kg	☼	09/20/19 10:17	09/21/19 14:06	1
Motor Oil (>C24-C36)	ND		54		mg/Kg	☼	09/20/19 10:17	09/21/19 14:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150	09/20/19 10:17	09/21/19 14:06	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.4		0.31		mg/Kg	☼	09/17/19 10:55	09/19/19 10:38	10

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB2 (50-150)	TFT2 (50-150)
580-89123-1	MW-16-9-20190910	91	
580-89123-2	MW-16-12-20190910	85	
LCS 580-311482/2-A	Lab Control Sample	91	96
LCSD 580-311482/3-A	Lab Control Sample Dup	94	102
MB 580-311482/1-A	Method Blank	84	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TFT = Trifluorotoluene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH
		(50-150)
580-89123-1	MW-16-9-20190910	86
580-89123-2	MW-16-12-20190910	90
LCS 580-311845/2-A	Lab Control Sample	107
LCSD 580-311845/3-A	Lab Control Sample Dup	101
MB 580-311845/1-A	Method Blank	85

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

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

Lab Sample ID: MB 580-311482/1-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/17/19 16:31	09/18/19 03:38	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		50 - 150				09/17/19 16:31	09/18/19 03:38	1
Trifluorotoluene (Surr)	104		50 - 150				09/17/19 16:31	09/18/19 03:38	1

Lab Sample ID: LCS 580-311482/2-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311482
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Gasoline	40.0	33.1		mg/Kg		83	80 - 120		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	91		50 - 150						
Trifluorotoluene (Surr)	96		50 - 150						

Lab Sample ID: LCSD 580-311482/3-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311482
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Gasoline	40.0	35.4		mg/Kg		88	80 - 120	7	10
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	94		50 - 150						
Trifluorotoluene (Surr)	102		50 - 150						

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

Lab Sample ID: MB 580-311845/1-A
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311845

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50		mg/Kg		09/20/19 10:17	09/21/19 12:12	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		09/20/19 10:17	09/21/19 12:12	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150				09/20/19 10:17	09/21/19 12:12	1

Lab Sample ID: LCS 580-311845/2-A
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311845
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
#2 Diesel (C10-C24)	500	464		mg/Kg		93	70 - 125		
Motor Oil (>C24-C36)	500	467		mg/Kg		93	70 - 129		

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	107		50 - 150

Lab Sample ID: LCSD 580-311845/3-A
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311845

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	428		mg/Kg		86	70 - 125	8	16
Motor Oil (>C24-C36)	500	427		mg/Kg		85	70 - 129	9	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	101		50 - 150

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-311426/22-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.50		mg/Kg		09/17/19 10:55	09/19/19 09:37	10

Lab Sample ID: LCS 580-311426/23-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	46.2		mg/Kg		92	80 - 120

Lab Sample ID: LCSD 580-311426/24-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311426

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	50.0	45.1		mg/Kg		90	80 - 120	2	20

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

GC VOA

Prep Batch: 311482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	5035	
580-89123-2	MW-16-12-20190910	Total/NA	Solid	5035	
MB 580-311482/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-311482/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-311482/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 311505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	NWTPH-Gx	311482
580-89123-2	MW-16-12-20190910	Total/NA	Solid	NWTPH-Gx	311482
MB 580-311482/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	311482
LCS 580-311482/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	311482
LCSD 580-311482/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	311482

GC Semi VOA

Prep Batch: 311845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	3546	
580-89123-2	MW-16-12-20190910	Total/NA	Solid	3546	
MB 580-311845/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-311845/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-311845/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 311921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	NWTPH-Dx	311845
580-89123-2	MW-16-12-20190910	Total/NA	Solid	NWTPH-Dx	311845
MB 580-311845/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	311845
LCS 580-311845/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	311845
LCSD 580-311845/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	311845

Metals

Prep Batch: 311426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	3050B	
580-89123-2	MW-16-12-20190910	Total/NA	Solid	3050B	
MB 580-311426/22-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-311426/23-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-311426/24-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 311850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	6020B	311426
580-89123-2	MW-16-12-20190910	Total/NA	Solid	6020B	311426
MB 580-311426/22-A	Method Blank	Total/NA	Solid	6020B	311426
LCS 580-311426/23-A	Lab Control Sample	Total/NA	Solid	6020B	311426
LCSD 580-311426/24-A	Lab Control Sample Dup	Total/NA	Solid	6020B	311426

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

General Chemistry

Analysis Batch: 311253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89123-1	MW-16-9-20190910	Total/NA	Solid	D 2216	
580-89123-2	MW-16-12-20190910	Total/NA	Solid	D 2216	

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Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Client Sample ID: MW-16-9-20190910

Lab Sample ID: 580-89123-1

Date Collected: 09/10/19 17:20

Matrix: Solid

Date Received: 09/11/19 11:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Client Sample ID: MW-16-9-20190910

Lab Sample ID: 580-89123-1

Date Collected: 09/10/19 17:20

Matrix: Solid

Date Received: 09/11/19 11:01

Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 04:51	DCV	TAL SEA
Total/NA	Prep	3546			311845	09/20/19 10:17	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	311921	09/21/19 13:44	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:33	FCW	TAL SEA

Client Sample ID: MW-16-12-20190910

Lab Sample ID: 580-89123-2

Date Collected: 09/10/19 17:25

Matrix: Solid

Date Received: 09/11/19 11:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Client Sample ID: MW-16-12-20190910

Lab Sample ID: 580-89123-2

Date Collected: 09/10/19 17:25

Matrix: Solid

Date Received: 09/11/19 11:01

Percent Solids: 92.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 05:15	DCV	TAL SEA
Total/NA	Prep	3546			311845	09/20/19 10:17	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	311921	09/21/19 14:06	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:38	FCW	TAL SEA

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

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Method Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Method	Method Description	Protocol	Laboratory
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL SEA
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SEA
6020B	Metals (ICP/MS)	SW846	TAL SEA
D 2216	Percent Moisture	ASTM	TAL SEA
Subcontract	8260C - BTEX, EDB, EDC, MTBE	None	SC0056
3050B	Preparation, Metals	SW846	TAL SEA
3546	Microwave Extraction	SW846	TAL SEA
5035	Closed System Purge and Trap	SW846	TAL SEA

Protocol References:

ASTM = ASTM International

None = None

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89123-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89123-1	MW-16-9-20190910	Solid	09/10/19 17:20	09/11/19 11:01	
580-89123-2	MW-16-12-20190910	Solid	09/10/19 17:25	09/11/19 11:01	

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04 October 2019

Kristine Allen
Test America
5755 8th Street East
Tacoma, WA 98424

RE: BP-ARCO 980

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19I0333	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-16-9-20190910 (580-89123-1)	19I0333-06	Solid	10-Sep-2019 17:20	20-Sep-2019 09:52
MW-16-12-20190910 (580-89123-2)	19I0333-07	Solid	10-Sep-2019 17:25	20-Sep-2019 09:52

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Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:46

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received September 20, 2019 under ARI work order 19I0333. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.





Cooler Receipt Form

ARI Client: Eurofins Test America

Project Name: BP-ARCO 954

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 1910333

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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 0952 -6.7°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JSW Date: 09/20/19 Time: 0952

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 Ge Ice Packs Baggies Foam Block Paper Other: Dry Ice

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

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

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 09/20/19 Time: 1038 Labels checked by: JSW

**** 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:

Samples stored with Dry Ice. Trip Blanks were not made at ARI.

By: JSW Date: 09/20/19



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:46
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MW-16-9-20190910 (580-89123-1)
19I0333-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/10/2019 17:20
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 19:16
Sample Preparation: Preparation Method: No Prep - Volatiles	Extract ID: 19I0333-06 A
Preparation Batch: BHI0615	Sample Size: 6.873 g (wet)
Prepared: 20-Sep-2019	Final Volume: 5 g
	Dry Weight: 6.32 g
	% Solids: 92.00

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.79	ND	ug/kg	U
Benzene	71-43-2	1	0.23	0.79	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.79	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.14	0.79	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.79	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.31	1.58	ND	ug/kg	U
o-Xylene	95-47-6	1	0.18	0.79	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.79	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	93.6	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.2	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.1	%	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:46
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MW-16-12-20190910 (580-89123-2)
19I0333-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C Sampled: 09/10/2019 17:25
Instrument: NT5 Analyst: PB Analyzed: 09/20/2019 19:38
Sample Preparation: Preparation Method: No Prep - Volatiles Extract ID: 19I0333-07 A
Preparation Batch: BHI0615 Sample Size: 7.244 g (wet)
Prepared: 20-Sep-2019 Final Volume: 5 g Dry Weight: 6.69 g
% Solids: 92.30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.14	0.75	ND	ug/kg	U
Benzene	71-43-2	1	0.22	0.75	ND	ug/kg	U
Toluene	108-88-3	1	0.11	0.75	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.13	0.75	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.15	0.75	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.29	1.50	ND	ug/kg	U
o-Xylene	95-47-6	1	0.17	0.75	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.17	0.75	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	93.5	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	96.5	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.7	%	



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
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Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHI0615-BLK1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:56						
1,2-Dichloroethane	ND	0.19	1.00	ug/kg							U
Benzene	ND	0.30	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U
1,2-Dibromoethane	ND	0.18	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	0.23	1.00	ug/kg							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.9			ug/kg	50.0		87.8	80-149			
<i>Surrogate: Toluene-d8</i>	48.2			ug/kg	50.0		96.4	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.8	80-120			
LCS (BHI0615-BS1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 12:32						
1,2-Dichloroethane	45.7			ug/kg	50.0		91.4	76-120			
Benzene	48.6			ug/kg	50.0		97.1	80-120			
Toluene	48.5			ug/kg	50.0		97.0	75-120			
1,2-Dibromoethane	47.9			ug/kg	50.0		95.9	80-120			
Ethylbenzene	50.5			ug/kg	50.0		101	80-125			
m,p-Xylene	102			ug/kg	100		102	76-121			
o-Xylene	51.8			ug/kg	50.0		104	67-132			
Methyl tert-butyl Ether	41.3			ug/kg	50.0		82.6	79-127			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.4			ug/kg	50.0		86.8	80-149			
<i>Surrogate: Toluene-d8</i>	49.1			ug/kg	50.0		98.2	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.7	80-120			
LCS Dup (BHI0615-BSD1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:34						
1,2-Dichloroethane	45.4			ug/kg	50.0		90.7	76-120	0.75	30	
Benzene	48.6			ug/kg	50.0		97.1	80-120	0.02	30	
Toluene	48.7			ug/kg	50.0		97.4	75-120	0.44	30	
1,2-Dibromoethane	46.7			ug/kg	50.0		93.4	80-120	2.59	30	
Ethylbenzene	52.0			ug/kg	50.0		104	80-125	3.06	30	
m,p-Xylene	105			ug/kg	100		105	76-121	2.91	30	
o-Xylene	52.3			ug/kg	50.0		105	67-132	0.86	30	
Methyl tert-butyl Ether	40.8			ug/kg	50.0		81.7	79-127	1.17	30	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:46
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Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHI0615-BSD1)					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:34						
Surrogate: 1,2-Dichloroethane-d4	43.9			ug/kg	50.0	87.7		80-149			
Surrogate: Toluene-d8	48.6			ug/kg	50.0	97.2		77-120			
Surrogate: 4-Bromofluorobenzene	50.5			ug/kg	50.0	101		80-120			





Test America
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Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichlorofluoromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrolein	WADOE, DoD-ELAP, NELAP, CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acetone	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromoethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Iodomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Methylene Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrylonitrile	WADOE, DoD-ELAP, NELAP, CALAP
Carbon Disulfide	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
trans-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Acetate	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Butanone	WADOE, DoD-ELAP, NELAP, CALAP
2,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroform	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromochloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1,1-Trichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Carbon tetrachloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Benzene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromodichloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Dibromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Chloroethyl vinyl ether	WADOE, DoD-ELAP, NELAP
4-Methyl-2-Pentanone	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,3-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Toluene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC



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trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:46
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2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America
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Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
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Notes and Definitions

- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-89123-1

Login Number: 89123
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Seattle

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 (excluding tests with immediate HTs)	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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89123-1

SDG No.: _____

Batch Number: 311482 Batch Start Date: 09/17/19 16:31 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 16:48

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	MeOHSubtraction	MeOHVol	InitialAmount	FinalAmount
MB 580-311482/1		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCS 580-311482/2		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCSD 580-311482/3		5035, NWTPH-Gx					10 mL	10 g	10 mL
580-89123-D-1	MW-16-9-20190910	5035, NWTPH-Gx	T	031.202 g	45.25 g	No	10 mL	14.048 g	10 mL
580-89123-D-2	MW-16-12-20190910	5035, NWTPH-Gx	T	032.117 g	45.79 g	No	10 mL	13.673 g	10 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	GRO_LCS 00056	Methanol 1L 00032	V2.4TFT-EX 00040	VoaSand 00066	AnalysisComment
MB 580-311482/1		5035, NWTPH-Gx				10 mL	10 g	
LCS 580-311482/2		5035, NWTPH-Gx		200 uL		10 mL	10 g	
LCSD 580-311482/3		5035, NWTPH-Gx		200 uL		10 mL	10 g	
580-89123-D-1	MW-16-9-20190910	5035, NWTPH-Gx	T		10 mL			over weight
580-89123-D-2	MW-16-12-20190910	5035, NWTPH-Gx	T		10 mL			over weight

Batch Notes	
Balance ID	SEA239
Batch Comment	sint vial 2467520
Blank Matrix ID	2343681
Pipette/Syringe/Dispenser ID	BT1
Vial Lot Number	0103701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89123-1

SDG No.: _____

Batch Number: 311845 Batch Start Date: 09/20/19 10:16 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/20/19 17:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TPH Spike_RZ 00102	TPH_SURR 00045		
MB 580-311845/1		3546, NWTPH-Dx		10 g	10 mL		100 uL		
LCS 580-311845/2		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
LCSD 580-311845/3		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
580-89123-A-1	MW-16-9-20190910	3546, NWTPH-Dx	T	10.567 g	10 mL		100 uL		
580-89123-A-2	MW-16-12-20190910	3546, NWTPH-Dx	T	10.073 g	10 mL		100 uL		

Batch Notes

Balance ID	SEA229 No Unit
Batch Comment	Vialed by: MT Hydromatrix:2386660
Blank Matrix ID	2470160
Analyst ID - Concentration	MT
Concentration 1 Corrected Temperature	69.8-74.8 Degrees C
Equipment ID - Concentration 1	Steam Bath 2
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/ AK102_103 & NWTPH_Dx
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP3
Prep Solvent ID	DCM 2450659
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	661200
Concentration 1 Uncorrected Temperature	70-75 Degrees C
Vial Lot Number	19136161

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89123-1

SDG No.: _____

Batch Number: 311845 Batch Start Date: 09/20/19 10:16 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/20/19 17:25

Basis	Basis Description
T	Total/NA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89123-1

SDG No.: _____

Batch Number: 311426 Batch Start Date: 09/17/19 10:55 Batch Analyst: Pimentel, Joy C

Batch Method: 3050B Batch End Date: 09/17/19 13:54

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP CAL 1 00005	ICP CAL 2 00005	MET Spike 3C 00013	
580-89123-A-1	MW-16-9-20190910	3050B, 6020B	T	1.7840 g	50 mL				
580-89123-A-2	MW-16-12-20190910	3050B, 6020B	T	1.7707 g	50 mL				
MB 580-311426/22		3050B, 6020B		1.0 g	50 mL				
ICS 580-311426/23		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	
LCSD 580-311426/24		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	

Batch Notes	
Balance ID	SEA 228
Blank Soil Lot Number	2062632
Temperature - Corrected - End	92.7 Degrees C
Temperature - Corrected - Start	92.7 Degrees C
Digestion End Time	09/17/2019 13:54
Digestion Start Time	09/17/2019 12:54
Digestion Unit ID	41291
Digestion Tube/Cup ID	2420489
Hydrogen Peroxide ID	2470213
Hydrochloric Acid ID	2377437
Nitric Acid ID	2461133
Nominal Amount Used	1.0 g
Pipette/Syringe/Dispenser ID	METALS-PREP-2
Analyst ID - Spike Analyst	see above
Sufficient Volume for Batch QC	yes
Thermometer ID	1108438
Temperature - Uncorrected - End	93 Degrees C
Temperature - Uncorrected - Start	93 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89123-1

SDG No.: _____

Batch Number: 311253 Batch Start Date: 09/16/19 09:33 Batch Analyst: Muchiri, Janet W

Batch Method: D 2216 Batch End Date: 09/17/19 09:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
580-89123-A-2	MW-16-12-20190910	D 2216	T	0.688 g	10.269 g	9.530 g			
580-89123-A-1	MW-16-9-20190910	D 2216	T	0.664 g	8.946 g	8.285 g			

Batch Notes	
Balance ID	SEA230
Batch Comment	Weighed by JWM
Date samples were placed in the oven	09/16/2019
Oven Temp In	112.5 Degrees C
Time samples were place in the oven	10:20
Date samples were removed from oven	09/17/2019
Oven Temp Out	112.5 Degrees C
Time Samples were removed from oven	09:27
Oven ID	Oven 2
Thermometer ID	DIGITAL
Temperature - Start - Uncorrected	110.0 Degrees C
Temperature - End - Uncorrected	110.0 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

ANALYTICAL REPORT

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

Laboratory Job ID: 580-89142-1
Client Project/Site: BP -ARCO 980

For:

Antea USA Inc.
4006 148th Ave NE
Redmond, Washington 98052

Attn: Megan Richard



Authorized for release by:
10/8/2019 2:06:45 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of Eurofins TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The signature on the cover page extends to the case narrative and all the data and forms in the package. The Chain of Custody is included and is an integral part of this report.



Elaine Walker
Project Manager II
10/8/2019 2:06:45 PM

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Definitions/Glossary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds 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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Job ID: 580-89142-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-89142-1

Receipt

Five samples were received on 9/10/2019 10:36 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

GC/MS Semi VOA

Method(s) 8270D SIM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 580-311521 and analytical batch 580-311673 was outside control limits for Chrysene. Sample matrix interference and/or non-homogeneity are suspected because the MS/MSD recoveries and 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.

VOA Prep

Method(s) 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: MW-15-5_20190909 (580-89142-2), MW-13-5_20190909 (580-89142-3) and MW-14-5_20190909 (580-89142-4). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g. The amount provided was above this range.

GC VOA

Method(s) NWTPH-Gx: The Gasoline Range Organics (GRO) concentration reported for the following sample is due to the presence of discrete peaks: MW-15-5_20190909 (580-89142-2).

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: The following samples 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: MW-16-5_20190909 (580-89142-1) and MW-15-5_20190909 (580-89142-2).

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.

Subcontract non-Sister

The 8260C VOC analysis was subcontracted to Analytical Resources, Inc. Their data is included in this report. It should be noted that the BP Equis EDD is not able to be uploaded for this analysis.

Detection Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-16-5_20190909

Lab Sample ID: 580-89142-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Motor Oil (>C24-C36)	120		56		mg/Kg	1	☼	NWTPH-Dx	Total/NA
Lead	33		0.39		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: MW-15-5_20190909

Lab Sample ID: 580-89142-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.042		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
2-Methylnaphthalene	0.090		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
1-Methylnaphthalene	0.038		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Fluorene	0.014		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Phenanthrene	0.069		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Anthracene	0.012		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Fluoranthene	0.047		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Pyrene	0.053		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Benzo[a]anthracene	0.031		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Chrysene	0.041	F2	0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.039		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.012		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.020		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.028		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.027		0.0057		mg/Kg	1	☼	8270D SIM	Total/NA
Gasoline	9.1		5.0		mg/Kg	1	☼	NWTPH-Gx	Total/NA
Motor Oil (>C24-C36)	320		54		mg/Kg	1	☼	NWTPH-Dx	Total/NA
Lead	81		0.30		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: MW-13-5_20190909

Lab Sample ID: 580-89142-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3.9		0.40		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: MW-14-5_20190909

Lab Sample ID: 580-89142-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.6		0.35		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: TripBlank_20190909

Lab Sample ID: 580-89142-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-16-5_20190909

Lab Sample ID: 580-89142-1

Date Collected: 09/09/19 10:45

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 89.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.4		mg/Kg	☼	09/17/19 16:36	09/18/19 17:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		50 - 150				09/17/19 16:36	09/18/19 17:16	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		56		mg/Kg	☼	09/20/19 10:17	09/21/19 14:29	1
Motor Oil (>C24-C36)	120		56		mg/Kg	☼	09/20/19 10:17	09/21/19 14:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				09/20/19 10:17	09/21/19 14:29	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	33		0.39		mg/Kg	☼	09/16/19 11:21	09/17/19 14:14	10

Client Sample ID: MW-15-5_20190909

Lab Sample ID: 580-89142-2

Date Collected: 09/09/19 12:45

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 85.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.042		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
2-Methylnaphthalene	0.090		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
1-Methylnaphthalene	0.038		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Acenaphthylene	ND		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Acenaphthene	ND		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Fluorene	0.014		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Phenanthrene	0.069		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Anthracene	0.012		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Fluoranthene	0.047		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Pyrene	0.053		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Benzo[a]anthracene	0.031		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Chrysene	0.041	F2	0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Benzo[b]fluoranthene	0.039		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Benzo[k]fluoranthene	0.012		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Benzo[a]pyrene	0.020		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Indeno[1,2,3-cd]pyrene	0.028		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Dibenz(a,h)anthracene	ND		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Benzo[g,h,i]perylene	0.027		0.0057		mg/Kg	☼	09/18/19 09:14	09/19/19 12:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	90		57 - 120				09/18/19 09:14	09/19/19 12:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	9.1		5.0		mg/Kg	☼	09/17/19 16:36	09/18/19 17:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		50 - 150				09/17/19 16:36	09/18/19 17:40	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-15-5_20190909

Lab Sample ID: 580-89142-2

Date Collected: 09/09/19 12:45

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 85.8

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1
PCB-1221	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1
PCB-1232	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1
PCB-1242	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1
PCB-1248	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1
PCB-1254	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1
PCB-1260	ND		0.023		mg/Kg	☼	09/23/19 10:03	10/03/19 14:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	91		39 - 142	09/23/19 10:03	10/03/19 14:02	1
Tetrachloro-m-xylene	78		35 - 129	09/23/19 10:03	10/03/19 14:02	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		54		mg/Kg	☼	09/20/19 10:17	09/21/19 14:52	1
Motor Oil (>C24-C36)	320		54		mg/Kg	☼	09/20/19 10:17	09/21/19 14:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	09/20/19 10:17	09/21/19 14:52	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	81		0.30		mg/Kg	☼	09/16/19 11:21	09/17/19 14:18	10

Client Sample ID: MW-13-5_20190909

Lab Sample ID: 580-89142-3

Date Collected: 09/09/19 14:10

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 79.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
2-Methylnaphthalene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
1-Methylnaphthalene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Acenaphthylene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Acenaphthene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Fluorene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Phenanthrene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Anthracene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Fluoranthene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Pyrene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Benzo[a]anthracene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Chrysene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Benzo[b]fluoranthene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Benzo[k]fluoranthene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Benzo[a]pyrene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Indeno[1,2,3-cd]pyrene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Dibenz(a,h)anthracene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1
Benzo[g,h,i]perylene	ND		0.0061		mg/Kg	☼	09/18/19 09:14	09/19/19 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	96		57 - 120	09/18/19 09:14	09/19/19 13:16	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-13-5_20190909

Lab Sample ID: 580-89142-3

Date Collected: 09/09/19 14:10

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 79.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.3		mg/Kg	☼	09/17/19 16:36	09/18/19 18:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		50 - 150				09/17/19 16:36	09/18/19 18:05	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
PCB-1221	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
PCB-1232	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
PCB-1242	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
PCB-1248	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
PCB-1254	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
PCB-1260	ND		0.025		mg/Kg	☼	09/23/19 10:03	10/03/19 14:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	89		39 - 142				09/23/19 10:03	10/03/19 14:19	1
Tetrachloro-m-xylene	79		35 - 129				09/23/19 10:03	10/03/19 14:19	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		60		mg/Kg	☼	09/20/19 10:17	09/21/19 15:15	1
Motor Oil (>C24-C36)	ND		60		mg/Kg	☼	09/20/19 10:17	09/21/19 15:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				09/20/19 10:17	09/21/19 15:15	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.9		0.40		mg/Kg	☼	09/16/19 11:21	09/17/19 14:22	10

Client Sample ID: MW-14-5_20190909

Lab Sample ID: 580-89142-4

Date Collected: 09/09/19 15:40

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 93.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.5		mg/Kg	☼	09/17/19 16:36	09/18/19 18:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		50 - 150				09/17/19 16:36	09/18/19 18:29	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		50		mg/Kg	☼	09/20/19 10:17	09/21/19 15:38	1
Motor Oil (>C24-C36)	ND		50		mg/Kg	☼	09/20/19 10:17	09/21/19 15:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				09/20/19 10:17	09/21/19 15:38	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-14-5_20190909

Lab Sample ID: 580-89142-4

Date Collected: 09/09/19 15:40

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 93.3

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.6		0.35		mg/Kg	☼	09/16/19 11:21	09/17/19 14:26	10

Client Sample ID: TripBlank_20190909

Lab Sample ID: 580-89142-5

Date Collected: 09/09/19 00:00

Matrix: Solid

Date Received: 09/10/19 10:36

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/17/19 16:36	09/18/19 04:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		50 - 150	09/17/19 16:36	09/18/19 04:26	1

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (57-120)
580-89142-2	MW-15-5_20190909	90
580-89142-2 MS	MW-15-5_20190909	84
580-89142-2 MSD	MW-15-5_20190909	92
580-89142-3	MW-13-5_20190909	96
LCS 580-311521/2-A	Lab Control Sample	98
MB 580-311521/1-A	Method Blank	98

Surrogate Legend

TPHL = Terphenyl-d14

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (50-150)	TFT2 (50-150)
580-89142-1	MW-16-5_20190909	88	
580-89142-2	MW-15-5_20190909	92	
580-89142-3	MW-13-5_20190909	89	
580-89142-4	MW-14-5_20190909	89	
580-89142-5	TripBlank_20190909	87	
LCS 580-311482/2-A	Lab Control Sample	91	96
LCSD 580-311482/3-A	Lab Control Sample Dup	94	102
MB 580-311482/1-A	Method Blank	84	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TFT = Trifluorotoluene (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP2 (39-142)	TCX2 (35-129)
580-89142-2	MW-15-5_20190909	91	78
580-89142-3	MW-13-5_20190909	89	79
LCS 580-312007/2-A	Lab Control Sample	104	88
MB 580-312007/1-A	Method Blank	93	87

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (50-150)
580-89142-1	MW-16-5_20190909	86
580-89142-2	MW-15-5_20190909	87

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Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (50-150)
580-89142-3	MW-13-5_20190909	86
580-89142-4	MW-14-5_20190909	86
580-89142-4 DU	MW-14-5_20190909	85
LCS 580-311845/2-A	Lab Control Sample	107
LCSD 580-311845/3-A	Lab Control Sample Dup	101
MB 580-311845/1-A	Method Blank	85

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-311521/1-A
Matrix: Solid
Analysis Batch: 311673

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311521

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Naphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
2-Methylnaphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
1-Methylnaphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Acenaphthylene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Acenaphthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Fluorene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Phenanthrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[a]anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Chrysene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[b]fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[k]fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[a]pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Indeno[1,2,3-cd]pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Dibenz(a,h)anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[g,h,i]perylene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Terphenyl-d14	98		57 - 120				09/18/19 09:14	09/19/19 11:13	1

Lab Sample ID: LCS 580-311521/2-A
Matrix: Solid
Analysis Batch: 311673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311521

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits	
		Result	Qualifier					
Naphthalene	1.00	0.965		mg/Kg		97	70 - 120	
2-Methylnaphthalene	1.00	1.05		mg/Kg		105	68 - 120	
1-Methylnaphthalene	1.00	0.983		mg/Kg		98	71 - 120	
Acenaphthylene	1.00	1.04		mg/Kg		104	68 - 120	
Acenaphthene	1.00	0.982		mg/Kg		98	68 - 120	
Fluorene	1.00	1.02		mg/Kg		102	73 - 120	
Phenanthrene	1.00	1.03		mg/Kg		103	66 - 120	
Anthracene	1.00	1.02		mg/Kg		102	73 - 125	
Fluoranthene	1.00	0.998		mg/Kg		100	74 - 125	
Pyrene	1.00	0.953		mg/Kg		95	70 - 120	
Benzo[a]anthracene	1.00	0.971		mg/Kg		97	66 - 120	
Chrysene	1.00	0.963		mg/Kg		96	63 - 120	
Benzo[b]fluoranthene	1.00	1.00		mg/Kg		100	63 - 132	
Benzo[k]fluoranthene	1.00	0.938		mg/Kg		94	63 - 131	
Benzo[a]pyrene	1.00	0.926		mg/Kg		93	72 - 124	
Indeno[1,2,3-cd]pyrene	1.00	1.07		mg/Kg		107	65 - 132	
Dibenz(a,h)anthracene	1.00	1.10		mg/Kg		110	70 - 133	
Benzo[g,h,i]perylene	1.00	1.03		mg/Kg		103	63 - 128	
Surrogate	LCS	LCS	Limits			D	%Rec	Limits
	%Recovery	Qualifier						
Terphenyl-d14	98		57 - 120					

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: 580-89142-2 MS

Matrix: Solid

Analysis Batch: 311673

Client Sample ID: MW-15-5_20190909

Prep Type: Total/NA

Prep Batch: 311521

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Naphthalene	0.042		1.10	1.03		mg/Kg	☼	90	70 - 120
2-Methylnaphthalene	0.090		1.10	1.16		mg/Kg	☼	97	68 - 120
1-Methylnaphthalene	0.038		1.10	1.05		mg/Kg	☼	92	71 - 120
Acenaphthylene	ND		1.10	1.05		mg/Kg	☼	95	68 - 120
Acenaphthene	ND		1.10	1.01		mg/Kg	☼	91	68 - 120
Fluorene	0.014		1.10	1.04		mg/Kg	☼	93	73 - 120
Phenanthrene	0.069		1.10	1.08		mg/Kg	☼	92	66 - 120
Anthracene	0.012		1.10	1.02		mg/Kg	☼	92	73 - 125
Fluoranthene	0.047		1.10	1.01		mg/Kg	☼	87	74 - 125
Pyrene	0.053		1.10	0.995		mg/Kg	☼	85	70 - 120
Benzo[a]anthracene	0.031		1.10	1.00		mg/Kg	☼	88	66 - 120
Chrysene	0.041	F2	1.10	0.971		mg/Kg	☼	84	63 - 120
Benzo[b]fluoranthene	0.039		1.10	1.00		mg/Kg	☼	87	63 - 132
Benzo[k]fluoranthene	0.012		1.10	0.854		mg/Kg	☼	76	63 - 131
Benzo[a]pyrene	0.020		1.10	0.894		mg/Kg	☼	79	72 - 124
Indeno[1,2,3-cd]pyrene	0.028		1.10	1.09		mg/Kg	☼	96	65 - 132
Dibenz(a,h)anthracene	ND		1.10	1.07		mg/Kg	☼	97	70 - 133
Benzo[g,h,i]perylene	0.027		1.10	1.03		mg/Kg	☼	91	63 - 128

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	84		57 - 120

Lab Sample ID: 580-89142-2 MSD

Matrix: Solid

Analysis Batch: 311673

Client Sample ID: MW-15-5_20190909

Prep Type: Total/NA

Prep Batch: 311521

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Naphthalene	0.042		1.12	1.12		mg/Kg	☼	96	70 - 120	8	12
2-Methylnaphthalene	0.090		1.12	1.26		mg/Kg	☼	105	68 - 120	8	12
1-Methylnaphthalene	0.038		1.12	1.15		mg/Kg	☼	99	71 - 120	8	21
Acenaphthylene	ND		1.12	1.09		mg/Kg	☼	98	68 - 120	4	22
Acenaphthene	ND		1.12	1.06		mg/Kg	☼	95	68 - 120	5	12
Fluorene	0.014		1.12	1.11		mg/Kg	☼	98	73 - 120	7	13
Phenanthrene	0.069		1.12	1.18		mg/Kg	☼	100	66 - 120	9	11
Anthracene	0.012		1.12	1.14		mg/Kg	☼	101	73 - 125	11	12
Fluoranthene	0.047		1.12	1.12		mg/Kg	☼	96	74 - 125	11	19
Pyrene	0.053		1.12	1.12		mg/Kg	☼	96	70 - 120	12	12
Benzo[a]anthracene	0.031		1.12	1.14		mg/Kg	☼	100	66 - 120	13	14
Chrysene	0.041	F2	1.12	1.08	F2	mg/Kg	☼	93	63 - 120	11	10
Benzo[b]fluoranthene	0.039		1.12	1.09		mg/Kg	☼	94	63 - 132	8	25
Benzo[k]fluoranthene	0.012		1.12	0.919		mg/Kg	☼	81	63 - 131	7	15
Benzo[a]pyrene	0.020		1.12	0.967		mg/Kg	☼	85	72 - 124	8	19
Indeno[1,2,3-cd]pyrene	0.028		1.12	1.22		mg/Kg	☼	107	65 - 132	11	15
Dibenz(a,h)anthracene	ND		1.12	1.14		mg/Kg	☼	102	70 - 133	6	13
Benzo[g,h,i]perylene	0.027		1.12	1.09		mg/Kg	☼	95	63 - 128	5	14

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Terphenyl-d14	92		57 - 120

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

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

Lab Sample ID: MB 580-311482/1-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/17/19 16:31	09/18/19 03:38	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		50 - 150				09/17/19 16:31	09/18/19 03:38	1
Trifluorotoluene (Surr)	104		50 - 150				09/17/19 16:31	09/18/19 03:38	1

Lab Sample ID: LCS 580-311482/2-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Gasoline	40.0	33.1		mg/Kg		83	80 - 120		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	91		50 - 150						
Trifluorotoluene (Surr)	96		50 - 150						

Lab Sample ID: LCSD 580-311482/3-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311482

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Gasoline	40.0	35.4		mg/Kg		88	80 - 120	7	10
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	94		50 - 150						
Trifluorotoluene (Surr)	102		50 - 150						

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-312007/1-A
Matrix: Solid
Analysis Batch: 313152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1221	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1232	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1242	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1248	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1254	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1260	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	93		39 - 142				09/23/19 10:03	10/03/19 12:52	1
Tetrachloro-m-xylene	87		35 - 129				09/23/19 10:03	10/03/19 12:52	1

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-312007/2-A
Matrix: Solid
Analysis Batch: 313152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312007
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	0.100	0.0953		mg/Kg		95	41 - 138
PCB-1260	0.100	0.111		mg/Kg		111	47 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	104		39 - 142
Tetrachloro-m-xylene	88		35 - 129

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

Lab Sample ID: MB 580-311845/1-A
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311845

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50		mg/Kg		09/20/19 10:17	09/21/19 12:12	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		09/20/19 10:17	09/21/19 12:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	09/20/19 10:17	09/21/19 12:12	1

Lab Sample ID: LCS 580-311845/2-A
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311845
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	500	464		mg/Kg		93	70 - 125
Motor Oil (>C24-C36)	500	467		mg/Kg		93	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	107		50 - 150

Lab Sample ID: LCSD 580-311845/3-A
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311845
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	500	428		mg/Kg		86	70 - 125	8	16
Motor Oil (>C24-C36)	500	427		mg/Kg		85	70 - 129	9	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	101		50 - 150

Lab Sample ID: 580-89142-4 DU
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: MW-14-5_20190909
Prep Type: Total/NA
Prep Batch: 311845

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
#2 Diesel (C10-C24)	ND		ND		mg/Kg	☼	NC	35

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

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

Lab Sample ID: 580-89142-4 DU
Matrix: Solid
Analysis Batch: 311921

Client Sample ID: MW-14-5_20190909
Prep Type: Total/NA
Prep Batch: 311845

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Motor Oil (>C24-C36)	ND		ND		mg/Kg	☒	NC	35
Surrogate	%Recovery	DU Qualifier	DU	Limits				
<i>o-Terphenyl</i>	85			50 - 150				

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-311307/24-A
Matrix: Solid
Analysis Batch: 311569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.25		mg/Kg		09/16/19 11:21	09/17/19 12:29	5

Lab Sample ID: LCS 580-311307/25-A
Matrix: Solid
Analysis Batch: 311569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	48.2		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 580-311307/26-A
Matrix: Solid
Analysis Batch: 311569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311307

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	50.0	47.5		mg/Kg		95	80 - 120	1	20

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

GC/MS Semi VOA

Prep Batch: 311521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-2	MW-15-5_20190909	Total/NA	Solid	3546	
580-89142-3	MW-13-5_20190909	Total/NA	Solid	3546	
MB 580-311521/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-311521/2-A	Lab Control Sample	Total/NA	Solid	3546	
580-89142-2 MS	MW-15-5_20190909	Total/NA	Solid	3546	
580-89142-2 MSD	MW-15-5_20190909	Total/NA	Solid	3546	

Analysis Batch: 311673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-2	MW-15-5_20190909	Total/NA	Solid	8270D SIM	311521
580-89142-3	MW-13-5_20190909	Total/NA	Solid	8270D SIM	311521
MB 580-311521/1-A	Method Blank	Total/NA	Solid	8270D SIM	311521
LCS 580-311521/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	311521
580-89142-2 MS	MW-15-5_20190909	Total/NA	Solid	8270D SIM	311521
580-89142-2 MSD	MW-15-5_20190909	Total/NA	Solid	8270D SIM	311521

GC VOA

Prep Batch: 311482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	5035	
580-89142-2	MW-15-5_20190909	Total/NA	Solid	5035	
580-89142-3	MW-13-5_20190909	Total/NA	Solid	5035	
580-89142-4	MW-14-5_20190909	Total/NA	Solid	5035	
580-89142-5	TripBlank_20190909	Total/NA	Solid	5035	
MB 580-311482/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-311482/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-311482/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 311505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-5	TripBlank_20190909	Total/NA	Solid	NWTPH-Gx	311482
MB 580-311482/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	311482
LCS 580-311482/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	311482
LCSD 580-311482/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	311482

Analysis Batch: 311528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	NWTPH-Gx	311482
580-89142-2	MW-15-5_20190909	Total/NA	Solid	NWTPH-Gx	311482
580-89142-3	MW-13-5_20190909	Total/NA	Solid	NWTPH-Gx	311482
580-89142-4	MW-14-5_20190909	Total/NA	Solid	NWTPH-Gx	311482

GC Semi VOA

Prep Batch: 311845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	3546	
580-89142-2	MW-15-5_20190909	Total/NA	Solid	3546	
580-89142-3	MW-13-5_20190909	Total/NA	Solid	3546	
580-89142-4	MW-14-5_20190909	Total/NA	Solid	3546	
MB 580-311845/1-A	Method Blank	Total/NA	Solid	3546	

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

GC Semi VOA (Continued)

Prep Batch: 311845 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-311845/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-311845/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
580-89142-4 DU	MW-14-5_20190909	Total/NA	Solid	3546	

Analysis Batch: 311921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	NWTPH-Dx	311845
580-89142-2	MW-15-5_20190909	Total/NA	Solid	NWTPH-Dx	311845
580-89142-3	MW-13-5_20190909	Total/NA	Solid	NWTPH-Dx	311845
580-89142-4	MW-14-5_20190909	Total/NA	Solid	NWTPH-Dx	311845
MB 580-311845/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	311845
LCS 580-311845/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	311845
LCSD 580-311845/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	311845
580-89142-4 DU	MW-14-5_20190909	Total/NA	Solid	NWTPH-Dx	311845

Prep Batch: 312007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-2	MW-15-5_20190909	Total/NA	Solid	3546	
580-89142-3	MW-13-5_20190909	Total/NA	Solid	3546	
MB 580-312007/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-312007/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 313152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-2	MW-15-5_20190909	Total/NA	Solid	8082A	312007
580-89142-3	MW-13-5_20190909	Total/NA	Solid	8082A	312007
MB 580-312007/1-A	Method Blank	Total/NA	Solid	8082A	312007
LCS 580-312007/2-A	Lab Control Sample	Total/NA	Solid	8082A	312007

Metals

Prep Batch: 311307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	3050B	
580-89142-2	MW-15-5_20190909	Total/NA	Solid	3050B	
580-89142-3	MW-13-5_20190909	Total/NA	Solid	3050B	
580-89142-4	MW-14-5_20190909	Total/NA	Solid	3050B	
MB 580-311307/24-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-311307/25-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-311307/26-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 311569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	6020B	311307
580-89142-2	MW-15-5_20190909	Total/NA	Solid	6020B	311307
580-89142-3	MW-13-5_20190909	Total/NA	Solid	6020B	311307
580-89142-4	MW-14-5_20190909	Total/NA	Solid	6020B	311307
MB 580-311307/24-A	Method Blank	Total/NA	Solid	6020B	311307
LCS 580-311307/25-A	Lab Control Sample	Total/NA	Solid	6020B	311307
LCSD 580-311307/26-A	Lab Control Sample Dup	Total/NA	Solid	6020B	311307

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

General Chemistry

Analysis Batch: 311253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89142-1	MW-16-5_20190909	Total/NA	Solid	D 2216	
580-89142-2	MW-15-5_20190909	Total/NA	Solid	D 2216	
580-89142-3	MW-13-5_20190909	Total/NA	Solid	D 2216	
580-89142-4	MW-14-5_20190909	Total/NA	Solid	D 2216	
580-89142-4 DU	MW-14-5_20190909	Total/NA	Solid	D 2216	

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Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-16-5_20190909

Lab Sample ID: 580-89142-1

Date Collected: 09/09/19 10:45

Matrix: Solid

Date Received: 09/10/19 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Client Sample ID: MW-16-5_20190909

Lab Sample ID: 580-89142-1

Date Collected: 09/09/19 10:45

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311528	09/18/19 17:16	DCV	TAL SEA
Total/NA	Prep	3546			311845	09/20/19 10:17	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	311921	09/21/19 14:29	W1T	TAL SEA
Total/NA	Prep	3050B			311307	09/16/19 11:21	A1B	TAL SEA
Total/NA	Analysis	6020B		10	311569	09/17/19 14:14	FCW	TAL SEA

Client Sample ID: MW-15-5_20190909

Lab Sample ID: 580-89142-2

Date Collected: 09/09/19 12:45

Matrix: Solid

Date Received: 09/10/19 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Client Sample ID: MW-15-5_20190909

Lab Sample ID: 580-89142-2

Date Collected: 09/09/19 12:45

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 85.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 12:02	W1T	TAL SEA
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311528	09/18/19 17:40	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313152	10/03/19 14:02	CJB	TAL SEA
Total/NA	Prep	3546			311845	09/20/19 10:17	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	311921	09/21/19 14:52	W1T	TAL SEA
Total/NA	Prep	3050B			311307	09/16/19 11:21	A1B	TAL SEA
Total/NA	Analysis	6020B		10	311569	09/17/19 14:18	FCW	TAL SEA

Client Sample ID: MW-13-5_20190909

Lab Sample ID: 580-89142-3

Date Collected: 09/09/19 14:10

Matrix: Solid

Date Received: 09/10/19 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Client Sample ID: MW-13-5_20190909

Lab Sample ID: 580-89142-3

Date Collected: 09/09/19 14:10

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 13:16	W1T	TAL SEA
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311528	09/18/19 18:05	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313152	10/03/19 14:19	CJB	TAL SEA
Total/NA	Prep	3546			311845	09/20/19 10:17	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	311921	09/21/19 15:15	W1T	TAL SEA
Total/NA	Prep	3050B			311307	09/16/19 11:21	A1B	TAL SEA
Total/NA	Analysis	6020B		10	311569	09/17/19 14:22	FCW	TAL SEA

Client Sample ID: MW-14-5_20190909

Lab Sample ID: 580-89142-4

Date Collected: 09/09/19 15:40

Matrix: Solid

Date Received: 09/10/19 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Client Sample ID: MW-14-5_20190909

Lab Sample ID: 580-89142-4

Date Collected: 09/09/19 15:40

Matrix: Solid

Date Received: 09/10/19 10:36

Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311528	09/18/19 18:29	DCV	TAL SEA
Total/NA	Prep	3546			311845	09/20/19 10:17	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	311921	09/21/19 15:38	W1T	TAL SEA
Total/NA	Prep	3050B			311307	09/16/19 11:21	A1B	TAL SEA
Total/NA	Analysis	6020B		10	311569	09/17/19 14:26	FCW	TAL SEA

Client Sample ID: TripBlank_20190909

Lab Sample ID: 580-89142-5

Date Collected: 09/09/19 00:00

Matrix: Solid

Date Received: 09/10/19 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 04:26	DCV	TAL SEA

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

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Method Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SEA
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL SEA
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL SEA
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SEA
6020B	Metals (ICP/MS)	SW846	TAL SEA
D 2216	Percent Moisture	ASTM	TAL SEA
Subcontract	8260C - BTEX, EDB, EDC, MTBE - to week MTCA	None	SC0056
3050B	Preparation, Metals	SW846	TAL SEA
3546	Microwave Extraction	SW846	TAL SEA
3665A	Sulfuric Acid/Permanganate Cleanup	SW846	TAL SEA
5035	Closed System Purge and Trap	SW846	TAL SEA

Protocol References:

ASTM = ASTM International

None = None

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89142-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89142-1	MW-16-5_20190909	Solid	09/09/19 10:45	09/10/19 10:36	
580-89142-2	MW-15-5_20190909	Solid	09/09/19 12:45	09/10/19 10:36	
580-89142-3	MW-13-5_20190909	Solid	09/09/19 14:10	09/10/19 10:36	
580-89142-4	MW-14-5_20190909	Solid	09/09/19 15:40	09/10/19 10:36	
580-89142-5	TripBlank_20190909	Solid	09/09/19 00:00	09/10/19 10:36	

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04 October 2019

Kristine Allen
Test America
5755 8th Street East
Tacoma, WA 98424

RE: BP-ARCO 980

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

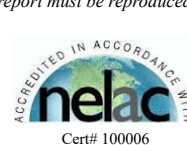
<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19I0333	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Eurofins TestAmerica, Seattle

5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax: 253-922-5047

1970333

Chain of Custody Record



Environment Testline
TestAmerica

Client Information (Sub Contract Lab)		Lab P/M: Walker, Elaine M	Carrier Tracking No(s): 580-70227.1
Client Contact: Shipping/Receiving		State of Origin: Washington	COC No: 580-70227.1
Company: Analytical Resources, Inc		E-Mail: elaine.walker@testamericainc.com	Page: Page 1 of 1
Address: 4611 South 134th Place, Suite 100,		Accreditations Required (See note): State Program - Washington	Job #: 580-89142-1
City: Tukwila	Due Date Requested: 9/20/2019	Analysis Requested	
State, Zip: WA, 98168	TAT Requested (days):	M - Hexane N - None O - AsNaO2 C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Z - other (specify)	
Phone: 206-695-6200(Tel)	PO #:	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Z - other (specify)	
Email:	WO #:	Other:	
Project Name: BP - ARCO 980	Project #: 58010261	Total Number of containers	
Site: ARCO 980 Artea	SSO/W#:	Special Instructions/Note:	
Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)
MW-16-5_20190909	9/9/19	10:45 Pacific	Preservation Code:
MW-15-5_20190909	9/9/19	12:45 Pacific	(w=water, s=solid, o=waste/oli, br=trace, A=At)
MW-13-5_20190909	9/9/19	14:10 Pacific	Matrix
MW-14-5_20190909	9/9/19	15:40 Pacific	Sample Type
TripBlank_20190909	9/9/19	Pacific	Sample Time
			Field Filtered Sample (Yes or No)
			Perform MS/MSD (Yes or No)
			Sub (260C - BTEX, EDB, EDC, MTBE - 10 week MTC)
			Special Instructions/Note:
			L2, RL reporting, Equ_EOedd if possible, LCSD req'd
			L2, RL reporting, Equ_EOedd if possible, LCSD req'd
			L2, RL reporting, Equ_EOedd if possible, LCSD req'd
			L2, RL reporting, Equ_EOedd if possible, LCSD req'd
			L2, RL reporting, Equ_EOedd if possible, LCSD req'd
			L2, RL reporting, Equ_EOedd if possible, LCSD req'd

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Empty Kit Relinquished by: _____ Date: _____
Relinquished by: *B. Low* Date/Time: 9-20-19 09:52 Company: SRM
Relinquished by: _____ Date/Time: _____ Company: _____
Relinquished by: _____ Date/Time: _____ Company: _____
Custody Seals Intact: _____ Custody Seal No.: _____
Cooler Temperature(s) °C and Other Remarks: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
Special Instructions/QC Requirements:





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:44
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-16-5_20190909 (580-89142-1)	19I0333-01	Solid	09-Sep-2019 10:45	20-Sep-2019 09:52
MW-15-5_20190909 (580-89142-2)	19I0333-02	Solid	09-Sep-2019 12:45	20-Sep-2019 09:52
MW-13-5_20190909 (580-89142-3)	19I0333-03	Solid	09-Sep-2019 14:10	20-Sep-2019 09:52
MW-14-5_20190909 (580-89142-4)	19I0333-04	Solid	09-Sep-2019 15:40	20-Sep-2019 09:52
TripBlank_20190909	19I0333-05	Solid	09-Sep-2019 10:45	20-Sep-2019 09:52





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received September 20, 2019 under ARI work order 19I0333. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.





Cooler Receipt Form

ARI Client: Eurofins Test America

Project Name: BP-ARCO 954

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 1910333

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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 0952 -6.7°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JSW Date: 09/20/19 Time: 0952

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 GeI Packs Baggies Foam Block Paper Other: Dry Ice

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped

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

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 09/20/19 Time: 1038 Labels checked by: JSW

**** 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:

Samples stored with Dry Ice. Trip Blanks were not made at ARI.

By: JSW Date: 09/20/19



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

MW-16-5_20190909 (580-89142-1)
19I0333-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C Sampled: 09/09/2019 10:45
Instrument: NT5 Analyst: PB Analyzed: 09/20/2019 17:46
Sample Preparation: Preparation Method: No Prep - Volatiles Extract ID: 19I0333-01 B
Preparation Batch: BHI0615 Sample Size: 6.064 g (wet)
Prepared: 20-Sep-2019 Final Volume: 5 g Dry Weight: 5.42 g
% Solids: 89.40

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.18	0.92	ND	ug/kg	U
Benzene	71-43-2	1	0.27	0.92	ND	ug/kg	U
Toluene	108-88-3	1	0.14	0.92	0.50	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.16	0.92	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.19	0.92	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.36	1.84	ND	ug/kg	U
o-Xylene	95-47-6	1	0.21	0.92	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.21	0.92	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	93.6	%
<i>Surrogate: Toluene-d8</i>					77-120 %	96.3	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	94.4	%



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

MW-15-5_20190909 (580-89142-2)
19I0333-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C Sampled: 09/09/2019 12:45
Instrument: NT5 Analyst: PB Analyzed: 09/20/2019 18:09
Sample Preparation: Preparation Method: No Prep - Volatiles Extract ID: 19I0333-02 B
Preparation Batch: BHI0615 Sample Size: 7.055 g (wet)
Prepared: 20-Sep-2019 Final Volume: 5 g Dry Weight: 6.05 g
% Solids: 85.80

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.16	0.83	ND	ug/kg	U
Benzene	71-43-2	1	0.24	0.83	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.83	0.24	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.15	0.83	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.17	0.83	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.32	1.65	ND	ug/kg	U
o-Xylene	95-47-6	1	0.19	0.83	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.19	0.83	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.8	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	95.8	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	96.4	%	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:44
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MW-13-5_20190909 (580-89142-3)
19I0333-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/09/2019 14:10
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 18:31
Sample Preparation: Preparation Method: No Prep - Volatiles	Extract ID: 19I0333-03 B
Preparation Batch: BHI0615	Sample Size: 6.445 g (wet)
Prepared: 20-Sep-2019	Final Volume: 5 g
	Dry Weight: 5.13 g
	% Solids: 79.60

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.19	0.97	ND	ug/kg	U
Benzene	71-43-2	1	0.29	0.97	ND	ug/kg	U
Toluene	108-88-3	1	0.15	0.97	0.35	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.17	0.97	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.20	0.97	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.38	1.95	0.43	ug/kg	J
o-Xylene	95-47-6	1	0.22	0.97	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.23	0.97	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	93.9	%
<i>Surrogate: Toluene-d8</i>					77-120 %	97.6	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	99.0	%



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:44
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**MW-14-5_20190909 (580-89142-4)
19I0333-04 (Solid)**

Volatile Organic Compounds

Method: EPA 8260C				Sampled: 09/09/2019 15:40
Instrument: NT5 Analyst: PB				Analyzed: 09/20/2019 18:54
Sample Preparation:	Preparation Method: No Prep - Volatiles	Sample Size: 6.568 g (wet)	Extract ID: 19I0333-04 B	
	Preparation Batch: BHI0615	Final Volume: 5 g	Dry Weight: 6.13 g	
	Prepared: 20-Sep-2019		% Solids: 93.30	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.16	0.82	ND	ug/kg	U
Benzene	71-43-2	1	0.24	0.82	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.82	0.32	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.14	0.82	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.82	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.32	1.63	ND	ug/kg	U
o-Xylene	95-47-6	1	0.18	0.82	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.19	0.82	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.2	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	96.7	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	101	%	



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

TripBlank_20190909
19I0333-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C Sampled: 09/09/2019 10:45
Instrument: NT5 Analyst: PB Analyzed: 09/20/2019 16:38
Sample Preparation: Preparation Method: No Prep - Volatiles Extract ID: 19I0333-05 A
Preparation Batch: BHI0615 Sample Size: 5.745 g (wet)
Prepared: 20-Sep-2019 Final Volume: 5 g Dry Weight: 5.74 g
% Solids: 100.00

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.17	0.87	ND	ug/kg	U
Benzene	71-43-2	1	0.26	0.87	ND	ug/kg	U
Toluene	108-88-3	1	0.13	0.87	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.15	0.87	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.18	0.87	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.34	1.74	ND	ug/kg	U
o-Xylene	95-47-6	1	0.19	0.87	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.20	0.87	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.2	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	96.7	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.6	%	



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHI0615-BLK1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:56						
1,2-Dichloroethane	ND	0.19	1.00	ug/kg							U
Benzene	ND	0.30	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U
1,2-Dibromoethane	ND	0.18	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	0.23	1.00	ug/kg							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.9			ug/kg	50.0		87.8	80-149			
<i>Surrogate: Toluene-d8</i>	48.2			ug/kg	50.0		96.4	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.8	80-120			
LCS (BHI0615-BS1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 12:32						
1,2-Dichloroethane	45.7			ug/kg	50.0		91.4	76-120			
Benzene	48.6			ug/kg	50.0		97.1	80-120			
Toluene	48.5			ug/kg	50.0		97.0	75-120			
1,2-Dibromoethane	47.9			ug/kg	50.0		95.9	80-120			
Ethylbenzene	50.5			ug/kg	50.0		101	80-125			
m,p-Xylene	102			ug/kg	100		102	76-121			
o-Xylene	51.8			ug/kg	50.0		104	67-132			
Methyl tert-butyl Ether	41.3			ug/kg	50.0		82.6	79-127			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.4			ug/kg	50.0		86.8	80-149			
<i>Surrogate: Toluene-d8</i>	49.1			ug/kg	50.0		98.2	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.7	80-120			
LCS Dup (BHI0615-BSD1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:34						
1,2-Dichloroethane	45.4			ug/kg	50.0		90.7	76-120	0.75	30	
Benzene	48.6			ug/kg	50.0		97.1	80-120	0.02	30	
Toluene	48.7			ug/kg	50.0		97.4	75-120	0.44	30	
1,2-Dibromoethane	46.7			ug/kg	50.0		93.4	80-120	2.59	30	
Ethylbenzene	52.0			ug/kg	50.0		104	80-125	3.06	30	
m,p-Xylene	105			ug/kg	100		105	76-121	2.91	30	
o-Xylene	52.3			ug/kg	50.0		105	67-132	0.86	30	
Methyl tert-butyl Ether	40.8			ug/kg	50.0		81.7	79-127	1.17	30	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:44
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Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHI0615-BSD1)					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:34						
Surrogate: 1,2-Dichloroethane-d4	43.9			ug/kg	50.0	87.7		80-149			
Surrogate: Toluene-d8	48.6			ug/kg	50.0	97.2		77-120			
Surrogate: 4-Bromofluorobenzene	50.5			ug/kg	50.0	101		80-120			





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichlorofluoromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrolein	WADOE, DoD-ELAP, NELAP, CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acetone	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromoethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Iodomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Methylene Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrylonitrile	WADOE, DoD-ELAP, NELAP, CALAP
Carbon Disulfide	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
trans-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Acetate	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Butanone	WADOE, DoD-ELAP, NELAP, CALAP
2,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroform	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromochloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1,1-Trichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Carbon tetrachloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Benzene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromodichloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Dibromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Chloroethyl vinyl ether	WADOE, DoD-ELAP, NELAP
4-Methyl-2-Pentanone	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,3-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Toluene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:44
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2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:44

Notes and Definitions

- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

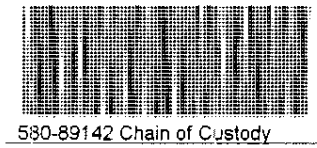




Laboratory Management Program (LaMP) Chain of Custody Record
Soil, Sediment and Groundwater Samples

BP Site Node Path: ARCO 980 Req Due Date (mm/dd/yy): Standard TAT Rush TAT Yes No
 BP/RM Facility No: ARCO Facility No. 00980 Lab Work Order Number: _____

Lab Name: Test America		BP/ARC Facility Address: 10822 Roosevelt Way NE		Consultant/Contractor: Antea Group																			
Lab Address: 5755 8th Street East, Tacoma, WA 98424		City, State, ZIP Code: Seattle, WA		Consultant/Contractor Project No: 00980SA191.20100																			
Lab PM: 00980SA191.20100.BJ		WR329961/009VH-0006 Washington State Department of Ecology		Address: 4006 148th Ave NE, Redmond, WA 98052																			
Lab Phone: 253.248.4972		California Global ID No.: NA		Consultant/Contractor PM: Brad Jackson																			
Lab Shipping Acct: NA		Enfos Proposal No: WR329961/009VH-0010		Phone: 503-863-2114 Email: Brad.Jackson@anteagroup.com																			
Lab Bottle Order No: NA		Accounting Mode: Provision <input checked="" type="checkbox"/> OOC-BU <input type="checkbox"/> OOC-RM <input type="checkbox"/>		Send/Submit EDD to: Brad.Jackson@anteagroup.com																			
Other Info: elaine.walker@testamericainc.com		Stage <u>2_Select (20)</u> Activity <u>Additional Data Collection (100)</u>		Invoice To: BP-RM <input type="checkbox"/> BP/ARC <input checked="" type="checkbox"/>																			
BP/RM PM: Wade Melton		Sample Details		Requested Analyses																			
PM Phone: 360-594-7978																							
PM Email: wade.melton@bp.com																							
Lab No.	Sample Description	Date	Time	Field Matrix	Start Depth	End Depth	Depth Unit	Grab (G) or Composite (C)	Total Number of Containers	Analysis	Filt	Pres	BTEX by EPA 8260B	MTBE by EPA 8260B	EDB and EDC by EPA 8260B	NWTPH-Gx	NWTPH-Dx	Pb-T by EPA 6000/7000 Series	PAHs and Naphthalene by EPA 8270 SIM	PCBs by EPA 8082	EPH and VPH by Northwest Method EPH/VPH	SCRA 8 Metals by EPA 200.8	Comments
	MW-16-5-20190909	9-9-19	1045	S				G		X X X X X X			X	X	X	X	X	X	X	X			
	MW-15-5-20190909	9-9-19	1245	S				G		X X X X X X			X	X	X	X	X	X	X	X			
	MW-13-5-20190909	9-9-19	1410	S				G		X X X X X X			X	X	X	X	X	X	X	X			
	MW-14-5-20190909	9-9-19	1540	S				G		X X X X X X			X	X	X	X	X	X	X	X			
	Trip Blank-20190909	9-9-19	0000							X X X X													
Sampler's Name: <u>Marissa Bernard / Katelyn Younger</u>		Relinquished By / Affiliation		Date		Time		Accepted By / Affiliation		Date		Time											
Sampler's Company: Antea Group		<u>[Signature]</u> / Antea		9-10-19		1036		<u>[Signature]</u> / SEA NA		9-10-19		1036											
Ship Method:		Ship Date:																					
Shipment Tracking No:																							
Special Instructions: <u>Str bars frozen on 9-9-19 @ 1745.</u>																							



THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Therm. ID: N2 Cor: 30 ° Unc: 3.3 °
 Cooler Dsc: Targe Blue
 Packing: Bubble FedEx: _____
 Cust. Seal: Yes No UPS: _____
 Blue Ice: Dry, None Lab Cour: X
 Other: 10/8/2019



Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-89142-1

Login Number: 89142
List Number: 1
Creator: Torres, Terri L

List Source: Eurofins TestAmerica, Seattle

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.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311521 Batch Start Date: 09/18/19 09:14 Batch Analyst: Guerra, Fernando CBatch Method: 3546 Batch End Date: 09/18/19 16:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	8270flspk 00254	8270Surr_Phen 00011		
MB 580-311521/1		3546, 8270D SIM		10 g	10 mL		100 uL		
LCS 580-311521/2		3546, 8270D SIM		10 g	10 mL	500 uL	100 uL		
580-89142-A-2	MW-15-5_20190909	3546, 8270D SIM	T	10.169 g	10 mL		100 uL		
580-89142-A-2 MS	MW-15-5_20190909	3546, 8270D SIM	T	10.551 g	10 mL	500 uL	100 uL		
580-89142-A-2 MSD	MW-15-5_20190909	3546, 8270D SIM	T	10.436 g	10 mL	500 uL	100 uL		
580-89142-E-3	MW-13-5_20190909	3546, 8270D SIM	T	10.323 g	10 mL		100 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D SIM

Page 1 of 2

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311521 Batch Start Date: 09/18/19 09:14 Batch Analyst: Guerra, Fernando C

Batch Method: 3546 Batch End Date: 09/18/19 16:00

Batch Notes	
Balance ID	SEA232 No Unit
Batch Comment	Vialed by: JWM Hydromatrix:2386660
Blank Matrix ID	2470160
Analyst ID - Concentration	JWM
Concentration 1 Corrected Temperature	75-80 Degrees C
Equipment ID - Concentration 1	Steam Bath 1
Analyst ID - Extraction	FCG
Filter ID	09-795F
Method/Fraction	3546/ 8270_SIM
Microwave Oven ID	MARS1
Microwave Program ID	FUELS1 from 1430-1500
Na2SO4 ID	2454064
Pipette/Syringe/Dispenser ID	MP2/E6
Prep Solvent ID	2467106
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	75-80 Degrees C
Vial Lot Number	19136161

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D SIM



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311482 Batch Start Date: 09/17/19 16:31 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 16:48

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	MeOHSubtraction	MeOHVol	InitialAmount	FinalAmount
MB 580-311482/1		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCS 580-311482/2		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCS 580-311482/3		5035, NWTPH-Gx					10 mL	10 g	10 mL
580-89142-D-1	MW-16-5_20190909	5035, NWTPH-Gx	T	032.047 g	43.73 g	No	10 mL	11.683 g	10 mL
580-89142-D-2	MW-15-5_20190909	5035, NWTPH-Gx	T	031.659 g	45.61 g	No	10 mL	13.951 g	10 mL
580-89142-D-3	MW-13-5_20190909	5035, NWTPH-Gx	T	031.384 g	43.92 g	No	10 mL	12.536 g	10 mL
580-89142-D-4	MW-14-5_20190909	5035, NWTPH-Gx	T	032.026 g	45.04 g	No	10 mL	13.014 g	10 mL
580-89142-A-5	TripBlank_20190909	5035, NWTPH-Gx	T				10 mL	10 g	10 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	GRO_LCS 00056	Methanol 1L 00032	V2.4TFT-EX 00040	VoaSand 00066	AnalysisComment	
MB 580-311482/1		5035, NWTPH-Gx				10 mL	10 g		
LCS 580-311482/2		5035, NWTPH-Gx		200 uL		10 mL	10 g		
LCS 580-311482/3		5035, NWTPH-Gx		200 uL		10 mL	10 g		
580-89142-D-1	MW-16-5_20190909	5035, NWTPH-Gx	T		10 mL				
580-89142-D-2	MW-15-5_20190909	5035, NWTPH-Gx	T		10 mL			over weight	
580-89142-D-3	MW-13-5_20190909	5035, NWTPH-Gx	T		10 mL			over weight	
580-89142-D-4	MW-14-5_20190909	5035, NWTPH-Gx	T		10 mL			over weight	
580-89142-A-5	TripBlank_20190909	5035, NWTPH-Gx	T		10 mL			TB	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311482 Batch Start Date: 09/17/19 16:31 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 16:48

Batch Notes	
Balance ID	SEA239
Batch Comment	sint vial 2467520
Blank Matrix ID	2343681
Pipette/Syringe/Dispenser ID	BT1
Vial Lot Number	0103701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 312007 Batch Start Date: 09/23/19 10:03 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 10/01/19 19:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	PCB_MS 00009	Pest/PCB Surr 00075		
MB 580-312007/1		3546, 8082A		10 g	10 mL		100 uL		
LCS 580-312007/2		3546, 8082A		10 g	10 mL	100 uL	100 uL		
580-89142-A-2	MW-15-5_20190909	3546, 8082A	T	10.117 g	10 mL		100 uL		
580-89142-A-3	MW-13-5_20190909	3546, 8082A	T	10.053 g	10 mL		100 uL		

Batch Notes	
Acid used for Clean Up ID	2402719
Balance ID	SEA229 No Unit
Batch Comment	Vialed by: MT Hydromatrix:2386660
Blank Matrix ID	2487153
Analyst ID - Concentration	WMM
Concentration 1 Corrected Temperature	90+ Degrees C
Analyst ID - Clean Up	MT
Equipment ID - Concentration 1	Steam Bath 1
Exchange Solvent ID	Hexane 2440392
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/ 8082A & 8082A_DOD5
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP2
Prep Solvent ID	DCM Acetone 2467105
Analyst ID - Spike Analyst	MT
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	90+ Degrees C
Vial Lot Number	5-3-3

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 312007 Batch Start Date: 09/23/19 10:03 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 10/01/19 19:27

Basis	Basis Description
T	Total/NA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311845 Batch Start Date: 09/20/19 10:16 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/20/19 17:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TPH Spike_RZ 00102	TPH_SURR 00045		
MB 580-311845/1		3546, NWTPH-Dx		10 g	10 mL		100 uL		
LCS 580-311845/2		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
LCSD 580-311845/3		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
580-89142-A-1	MW-16-5_20190909	3546, NWTPH-Dx	T	10.046 g	10 mL		100 uL		
580-89142-E-2	MW-15-5_20190909	3546, NWTPH-Dx	T	10.747 g	10 mL		100 uL		
580-89142-A-3	MW-13-5_20190909	3546, NWTPH-Dx	T	10.508 g	10 mL		100 uL		
580-89142-A-4	MW-14-5_20190909	3546, NWTPH-Dx	T	10.781 g	10 mL		100 uL		
580-89142-A-4 DU	MW-14-5_20190909	3546, NWTPH-Dx	T	10.260 g	10 mL		100 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311845 Batch Start Date: 09/20/19 10:16 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/20/19 17:25

Batch Notes	
Balance ID	SEA229 No Unit
Batch Comment	Vialed by: MT Hydromatrix:2386660
Blank Matrix ID	2470160
Analyst ID - Concentration	MT
Concentration 1 Corrected Temperature	69.8-74.8 Degrees C
Equipment ID - Concentration 1	Steam Bath 2
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/ AK102_103 & NWTPH_Dx
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP3
Prep Solvent ID	DCM 2450659
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	661200
Concentration 1 Uncorrected Temperature	70-75 Degrees C
Vial Lot Number	19136161

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx



METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311307 Batch Start Date: 09/16/19 11:21 Batch Analyst: Boyer, Alec 1

Batch Method: 3050B Batch End Date: 09/16/19 13:37

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP CAL 1 00005	ICP CAL 2 00005	MET Spike 3C 00013	
580-89142-A-1	MW-16-5_20190909	3050B, 6020B	T	1.4257 g	50 mL				
580-89142-A-2	MW-15-5_20190909	3050B, 6020B	T	1.9302 g	50 mL				
580-89142-A-3	MW-13-5_20190909	3050B, 6020B	T	1.5635 g	50 mL				
580-89142-A-4	MW-14-5_20190909	3050B, 6020B	T	1.5251 g	50 mL				
MB 580-311307/24		3050B, 6020B		1.0 g	50 mL				
LCS 580-311307/25		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	
LCSD 580-311307/26		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	

Batch Notes	
Balance ID	SEA 204
Blank Soil Lot Number	2062632
Temperature - Corrected - End	94.5 Degrees C
Temperature - Corrected - Start	94.5 Degrees C
Digestion End Time	09/16/2019 13:37
Digestion Start Time	09/16/2019 12:37
Digestion Unit ID	38009
Digestion Tube/Cup ID	2420489
Hydrogen Peroxide ID	2470213
Hydrochloric Acid ID	2377437
Nitric Acid ID	2461130
Nominal Amount Used	1.0 g
Pipette/Syringe/Dispenser ID	METALS-PREP-2
Analyst ID - Spike Analyst	see above
Sufficient Volume for Batch QC	yes
Thermometer ID	58877
Temperature - Uncorrected - End	94 Degrees C
Temperature - Uncorrected - Start	94 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311307 Batch Start Date: 09/16/19 11:21 Batch Analyst: Boyer, Alec 1

Batch Method: 3050B Batch End Date: 09/16/19 13:37

Basis	Basis Description
T	Total/NA

- 1
- 2
- 3
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The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89142-1

SDG No.: _____

Batch Number: 311253 Batch Start Date: 09/16/19 09:33 Batch Analyst: Muchiri, Janet W

Batch Method: D 2216 Batch End Date: 09/17/19 09:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
580-89142-A-4	MW-14-5_20190909	D 2216	T	0.696 g	12.217 g	11.448 g			
580-89142-A-4 DU	MW-14-5_20190909	D 2216	T	0.689 g	11.291 g	10.533 g			
580-89142-A-3	MW-13-5_20190909	D 2216	T	0.684 g	11.362 g	9.189 g			
580-89142-A-2	MW-15-5_20190909	D 2216	T	0.685 g	11.768 g	10.199 g			
580-89142-A-1	MW-16-5_20190909	D 2216	T	0.708 g	7.593 g	6.860 g			

Batch Notes

Balance ID	SEA230
Batch Comment	Weighed by JWM
Date samples were placed in the oven	09/16/2019
Oven Temp In	112.5 Degrees C
Time samples were place in the oven	10:20
Date samples were removed from oven	09/17/2019
Oven Temp Out	112.5 Degrees C
Time Samples were removed from oven	09:27
Oven ID	Oven 2
Thermometer ID	DIGITAL
Temperature - Start - Uncorrected	110.0 Degrees C
Temperature - End - Uncorrected	110.0 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

ANALYTICAL REPORT

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

Laboratory Job ID: 580-89147-1
Client Project/Site: BP -ARCO 980
Sampling Event: Antea ARCO 980

For:
Antea USA Inc.
4006 148th Ave NE
Redmond, Washington 98052

Attn: Megan Richard

M. Elaine Walker

Authorized for release by:
10/8/2019 2:26:26 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

LINKS

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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.

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of Eurofins TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The signature on the cover page extends to the case narrative and all the data and forms in the package. The Chain of Custody is included and is an integral part of this report.



Elaine Walker
Project Manager II
10/8/2019 2:26:26 PM

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Definitions/Glossary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Job ID: 580-89147-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-89147-1

Receipt

Four samples were received on 9/12/2019 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

GC/MS Semi VOA

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

VOA Prep

Method(s) 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: MW-15-10-20190911 (580-89147-5), MW-15-12-20190911 (580-89147-6) and MW-15-14-20190911 (580-89147-7). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g. The amount provided was above this range.

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

GC VOA

Method(s) NWTPH-Gx: The Gasoline Range Organics (GRO) concentration reported for the following sample is due to the presence of discrete peaks: MW-15-14-20190911 (580-89147-7). Gasoline

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: The following samples 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: MW-15-12-20190911 (580-89147-6).

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.

Subcontract Work

Method 8260C - BTEX, EDB, EDC, MTBE: This method was subcontracted to Analytical Resources, Inc. and their data is included in this report. It should be noted that the BP Equis EDD is not able to be uploaded for this analysis..

Detection Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-10-20190911

Lab Sample ID: 580-89147-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.1		0.30		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: MW-15-12-20190911

Lab Sample ID: 580-89147-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Motor Oil (>C24-C36)	65		51		mg/Kg	1	☼	NWTPH-Dx	Total/NA
Lead	1.4		0.31		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: MW-15-14-20190911

Lab Sample ID: 580-89147-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	17		4.4		mg/Kg	1	☼	NWTPH-Gx	Total/NA
Lead	1.1		0.32		mg/Kg	10	☼	6020B	Total/NA

Client Sample ID: Tripblank-20190911

Lab Sample ID: 580-89147-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-10-20190911

Lab Sample ID: 580-89147-5

Date Collected: 09/11/19 12:50

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 93.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
2-Methylnaphthalene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
1-Methylnaphthalene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Acenaphthylene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Acenaphthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Fluorene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Phenanthrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Anthracene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Fluoranthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Pyrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Benzo[a]anthracene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Chrysene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Benzo[b]fluoranthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Benzo[k]fluoranthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Benzo[a]pyrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Indeno[1,2,3-cd]pyrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Dibenz(a,h)anthracene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1
Benzo[g,h,i]perylene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		57 - 120	09/18/19 09:14	09/19/19 13:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.4		mg/Kg	☼	09/17/19 16:36	09/18/19 05:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		50 - 150	09/17/19 16:36	09/18/19 05:39	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1
PCB-1221	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1
PCB-1232	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1
PCB-1242	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1
PCB-1248	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1
PCB-1254	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1
PCB-1260	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 14:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		39 - 142	09/23/19 10:03	10/03/19 14:37	1
Tetrachloro-m-xylene	82		35 - 129	09/23/19 10:03	10/03/19 14:37	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		50		mg/Kg	☼	09/24/19 10:04	09/27/19 14:09	1
Motor Oil (>C24-C36)	ND		50		mg/Kg	☼	09/24/19 10:04	09/27/19 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	104		50 - 150	09/24/19 10:04	09/27/19 14:09	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-10-20190911

Lab Sample ID: 580-89147-5

Date Collected: 09/11/19 12:50

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 93.9

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.1		0.30		mg/Kg	☼	09/17/19 10:55	09/19/19 10:42	10

Client Sample ID: MW-15-12-20190911

Lab Sample ID: 580-89147-6

Date Collected: 09/11/19 12:45

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 90.3

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
2-Methylnaphthalene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
1-Methylnaphthalene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Acenaphthylene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Acenaphthene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Fluorene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Phenanthrene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Anthracene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Fluoranthene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Pyrene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Benzo[a]anthracene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Chrysene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Benzo[b]fluoranthene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Benzo[k]fluoranthene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Benzo[a]pyrene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Indeno[1,2,3-cd]pyrene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Dibenz(a,h)anthracene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1
Benzo[g,h,i]perylene	ND		0.0040		mg/Kg	☼	09/18/19 09:14	09/19/19 14:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	87		57 - 120	09/18/19 09:14	09/19/19 14:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.4		mg/Kg	☼	09/17/19 16:36	09/18/19 06:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		50 - 150	09/17/19 16:36	09/18/19 06:03	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1
PCB-1221	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1
PCB-1232	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1
PCB-1242	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1
PCB-1248	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1
PCB-1254	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1
PCB-1260	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		39 - 142	09/23/19 10:03	10/03/19 14:54	1
Tetrachloro-m-xylene	83		35 - 129	09/23/19 10:03	10/03/19 14:54	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-12-20190911

Lab Sample ID: 580-89147-6

Date Collected: 09/11/19 12:45

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 90.3

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		51		mg/Kg	☼	09/24/19 10:04	09/27/19 14:29	1
Motor Oil (>C24-C36)	65		51		mg/Kg	☼	09/24/19 10:04	09/27/19 14:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	107		50 - 150				09/24/19 10:04	09/27/19 14:29	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.4		0.31		mg/Kg	☼	09/17/19 10:55	09/19/19 10:46	10

Client Sample ID: MW-15-14-20190911

Lab Sample ID: 580-89147-7

Date Collected: 09/11/19 13:00

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 89.2

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
2-Methylnaphthalene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
1-Methylnaphthalene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Acenaphthylene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Acenaphthene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Fluorene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Phenanthrene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Anthracene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Fluoranthene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Pyrene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Benzo[a]anthracene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Chrysene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Benzo[b]fluoranthene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Benzo[k]fluoranthene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Benzo[a]pyrene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Indeno[1,2,3-cd]pyrene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Dibenz(a,h)anthracene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Benzo[g,h,i]perylene	ND		0.0041		mg/Kg	☼	09/18/19 09:14	09/19/19 14:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Terphenyl-d14</i>	73		57 - 120				09/18/19 09:14	09/19/19 14:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	17		4.4		mg/Kg	☼	09/17/19 16:36	09/18/19 06:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>4-Bromofluorobenzene (Surr)</i>	93		50 - 150				09/17/19 16:36	09/18/19 06:28	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1
PCB-1221	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1
PCB-1232	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1
PCB-1242	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-14-20190911

Lab Sample ID: 580-89147-7

Date Collected: 09/11/19 13:00

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 89.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1248	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1
PCB-1254	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1
PCB-1260	ND		0.022		mg/Kg	☼	09/23/19 10:03	10/03/19 15:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		39 - 142				09/23/19 10:03	10/03/19 15:12	1
Tetrachloro-m-xylene	90		35 - 129				09/23/19 10:03	10/03/19 15:12	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		56		mg/Kg	☼	09/24/19 10:04	09/27/19 15:09	1
Motor Oil (>C24-C36)	ND		56		mg/Kg	☼	09/24/19 10:04	09/27/19 15:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	112		50 - 150				09/24/19 10:04	09/27/19 15:09	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.1		0.32		mg/Kg	☼	09/17/19 10:55	09/19/19 10:51	10

Client Sample ID: Tripblank-20190911

Lab Sample ID: 580-89147-8

Date Collected: 09/11/19 00:00

Matrix: Solid

Date Received: 09/12/19 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg	—	09/17/19 16:36	09/18/19 04:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		50 - 150				09/17/19 16:36	09/18/19 04:02	1

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (57-120)
580-89147-5	MW-15-10-20190911	92
580-89147-6	MW-15-12-20190911	87
580-89147-7	MW-15-14-20190911	73
LCS 580-311521/2-A	Lab Control Sample	98
MB 580-311521/1-A	Method Blank	98

Surrogate Legend

TPHL = Terphenyl-d14

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (50-150)	TFT2 (50-150)
580-89147-5	MW-15-10-20190911	92	
580-89147-6	MW-15-12-20190911	88	
580-89147-7	MW-15-14-20190911	93	
580-89147-8	Tripblank-20190911	92	
LCS 580-311482/2-A	Lab Control Sample	91	96
LCSD 580-311482/3-A	Lab Control Sample Dup	94	102
MB 580-311482/1-A	Method Blank	84	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TFT = Trifluorotoluene (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP2 (39-142)	TCX2 (35-129)
580-89147-5	MW-15-10-20190911	87	82
580-89147-6	MW-15-12-20190911	87	83
580-89147-7	MW-15-14-20190911	102	90
LCS 580-312007/2-A	Lab Control Sample	104	88
MB 580-312007/1-A	Method Blank	93	87

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (50-150)
580-89147-5	MW-15-10-20190911	104
580-89147-6	MW-15-12-20190911	107
580-89147-7	MW-15-14-20190911	112

Eurofins TestAmerica, Seattle

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (50-150)
LCS 580-312126/2-A	Lab Control Sample	90
LCSD 580-312126/3-A	Lab Control Sample Dup	92
MB 580-312126/1-A	Method Blank	97

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-311521/1-A
Matrix: Solid
Analysis Batch: 311673

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311521

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Naphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
2-Methylnaphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
1-Methylnaphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Acenaphthylene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Acenaphthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Fluorene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Phenanthrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[a]anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Chrysene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[b]fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[k]fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[a]pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Indeno[1,2,3-cd]pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Dibenz(a,h)anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[g,h,i]perylene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Terphenyl-d14	98		57 - 120				09/18/19 09:14	09/19/19 11:13	1

Lab Sample ID: LCS 580-311521/2-A
Matrix: Solid
Analysis Batch: 311673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311521

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits	
		Result	Qualifier					
Naphthalene	1.00	0.965		mg/Kg		97	70 - 120	
2-Methylnaphthalene	1.00	1.05		mg/Kg		105	68 - 120	
1-Methylnaphthalene	1.00	0.983		mg/Kg		98	71 - 120	
Acenaphthylene	1.00	1.04		mg/Kg		104	68 - 120	
Acenaphthene	1.00	0.982		mg/Kg		98	68 - 120	
Fluorene	1.00	1.02		mg/Kg		102	73 - 120	
Phenanthrene	1.00	1.03		mg/Kg		103	66 - 120	
Anthracene	1.00	1.02		mg/Kg		102	73 - 125	
Fluoranthene	1.00	0.998		mg/Kg		100	74 - 125	
Pyrene	1.00	0.953		mg/Kg		95	70 - 120	
Benzo[a]anthracene	1.00	0.971		mg/Kg		97	66 - 120	
Chrysene	1.00	0.963		mg/Kg		96	63 - 120	
Benzo[b]fluoranthene	1.00	1.00		mg/Kg		100	63 - 132	
Benzo[k]fluoranthene	1.00	0.938		mg/Kg		94	63 - 131	
Benzo[a]pyrene	1.00	0.926		mg/Kg		93	72 - 124	
Indeno[1,2,3-cd]pyrene	1.00	1.07		mg/Kg		107	65 - 132	
Dibenz(a,h)anthracene	1.00	1.10		mg/Kg		110	70 - 133	
Benzo[g,h,i]perylene	1.00	1.03		mg/Kg		103	63 - 128	
Surrogate	LCS	LCS	Limits			D	%Rec	Limits
	%Recovery	Qualifier						
Terphenyl-d14	98		57 - 120					

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

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

Lab Sample ID: MB 580-311482/1-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/17/19 16:31	09/18/19 03:38	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		50 - 150				09/17/19 16:31	09/18/19 03:38	1
Trifluorotoluene (Surr)	104		50 - 150				09/17/19 16:31	09/18/19 03:38	1

Lab Sample ID: LCS 580-311482/2-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Gasoline	40.0	33.1		mg/Kg		83	80 - 120		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	91		50 - 150						
Trifluorotoluene (Surr)	96		50 - 150						

Lab Sample ID: LCSD 580-311482/3-A
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311482

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Gasoline	40.0	35.4		mg/Kg		88	80 - 120	7	10
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	94		50 - 150						
Trifluorotoluene (Surr)	102		50 - 150						

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-312007/1-A
Matrix: Solid
Analysis Batch: 313152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1221	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1232	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1242	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1248	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1254	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1260	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	93		39 - 142				09/23/19 10:03	10/03/19 12:52	1
Tetrachloro-m-xylene	87		35 - 129				09/23/19 10:03	10/03/19 12:52	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-312007/2-A
Matrix: Solid
Analysis Batch: 313152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	0.100	0.0953		mg/Kg		95	41 - 138
PCB-1260	0.100	0.111		mg/Kg		111	47 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	104		39 - 142
Tetrachloro-m-xylene	88		35 - 129

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

Lab Sample ID: MB 580-312126/1-A
Matrix: Solid
Analysis Batch: 312526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312126

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50		mg/Kg		09/24/19 10:04	09/27/19 12:28	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		09/24/19 10:04	09/27/19 12:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97		50 - 150	09/24/19 10:04	09/27/19 12:28	1

Lab Sample ID: LCS 580-312126/2-A
Matrix: Solid
Analysis Batch: 312526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312126

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	500	451		mg/Kg		90	70 - 125
Motor Oil (>C24-C36)	500	473		mg/Kg		95	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	90		50 - 150

Lab Sample ID: LCSD 580-312126/3-A
Matrix: Solid
Analysis Batch: 312526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 312126

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	500	491		mg/Kg		98	70 - 125	9	16
Motor Oil (>C24-C36)	500	522		mg/Kg		104	70 - 129	10	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	92		50 - 150

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-311426/22-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.50		mg/Kg		09/17/19 10:55	09/19/19 09:37	10

Lab Sample ID: LCS 580-311426/23-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	50.0	46.2		mg/Kg		92	80 - 120

Lab Sample ID: LCSD 580-311426/24-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311426

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	50.0	45.1		mg/Kg		90	80 - 120	2	20

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

GC/MS Semi VOA

Prep Batch: 311521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	3546	
580-89147-6	MW-15-12-20190911	Total/NA	Solid	3546	
580-89147-7	MW-15-14-20190911	Total/NA	Solid	3546	
MB 580-311521/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-311521/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 311673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	8270D SIM	311521
580-89147-6	MW-15-12-20190911	Total/NA	Solid	8270D SIM	311521
580-89147-7	MW-15-14-20190911	Total/NA	Solid	8270D SIM	311521
MB 580-311521/1-A	Method Blank	Total/NA	Solid	8270D SIM	311521
LCS 580-311521/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	311521

GC VOA

Prep Batch: 311482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	5035	
580-89147-6	MW-15-12-20190911	Total/NA	Solid	5035	
580-89147-7	MW-15-14-20190911	Total/NA	Solid	5035	
580-89147-8	Tripblank-20190911	Total/NA	Solid	5035	
MB 580-311482/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-311482/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-311482/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 311505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	NWTPH-Gx	311482
580-89147-6	MW-15-12-20190911	Total/NA	Solid	NWTPH-Gx	311482
580-89147-7	MW-15-14-20190911	Total/NA	Solid	NWTPH-Gx	311482
580-89147-8	Tripblank-20190911	Total/NA	Solid	NWTPH-Gx	311482
MB 580-311482/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	311482
LCS 580-311482/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	311482
LCSD 580-311482/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	311482

GC Semi VOA

Prep Batch: 312007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	3546	
580-89147-6	MW-15-12-20190911	Total/NA	Solid	3546	
580-89147-7	MW-15-14-20190911	Total/NA	Solid	3546	
MB 580-312007/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-312007/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 312126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	3546	
580-89147-6	MW-15-12-20190911	Total/NA	Solid	3546	
580-89147-7	MW-15-14-20190911	Total/NA	Solid	3546	
MB 580-312126/1-A	Method Blank	Total/NA	Solid	3546	

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

GC Semi VOA (Continued)

Prep Batch: 312126 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-312126/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-312126/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 312526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	NWTPH-Dx	312126
580-89147-6	MW-15-12-20190911	Total/NA	Solid	NWTPH-Dx	312126
580-89147-7	MW-15-14-20190911	Total/NA	Solid	NWTPH-Dx	312126
MB 580-312126/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	312126
LCS 580-312126/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	312126
LCSD 580-312126/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	312126

Analysis Batch: 313152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	8082A	312007
580-89147-6	MW-15-12-20190911	Total/NA	Solid	8082A	312007
580-89147-7	MW-15-14-20190911	Total/NA	Solid	8082A	312007
MB 580-312007/1-A	Method Blank	Total/NA	Solid	8082A	312007
LCS 580-312007/2-A	Lab Control Sample	Total/NA	Solid	8082A	312007

Metals

Prep Batch: 311426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	3050B	
580-89147-6	MW-15-12-20190911	Total/NA	Solid	3050B	
580-89147-7	MW-15-14-20190911	Total/NA	Solid	3050B	
MB 580-311426/22-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-311426/23-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-311426/24-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 311850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	6020B	311426
580-89147-6	MW-15-12-20190911	Total/NA	Solid	6020B	311426
580-89147-7	MW-15-14-20190911	Total/NA	Solid	6020B	311426
MB 580-311426/22-A	Method Blank	Total/NA	Solid	6020B	311426
LCS 580-311426/23-A	Lab Control Sample	Total/NA	Solid	6020B	311426
LCSD 580-311426/24-A	Lab Control Sample Dup	Total/NA	Solid	6020B	311426

General Chemistry

Analysis Batch: 311253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-5	MW-15-10-20190911	Total/NA	Solid	D 2216	

Analysis Batch: 311537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89147-6	MW-15-12-20190911	Total/NA	Solid	D 2216	
580-89147-7	MW-15-14-20190911	Total/NA	Solid	D 2216	
580-89147-6 DU	MW-15-12-20190911	Total/NA	Solid	D 2216	

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-10-20190911

Lab Sample ID: 580-89147-5

Date Collected: 09/11/19 12:50

Matrix: Solid

Date Received: 09/12/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311253	09/16/19 09:33	JWM	TAL SEA

Client Sample ID: MW-15-10-20190911

Lab Sample ID: 580-89147-5

Date Collected: 09/11/19 12:50

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 13:41	W1T	TAL SEA
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 05:39	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313152	10/03/19 14:37	CJB	TAL SEA
Total/NA	Prep	3546			312126	09/24/19 10:04	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312526	09/27/19 14:09	CJ	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:42	FCW	TAL SEA

Client Sample ID: MW-15-12-20190911

Lab Sample ID: 580-89147-6

Date Collected: 09/11/19 12:45

Matrix: Solid

Date Received: 09/12/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311537	09/18/19 10:02	JWM	TAL SEA

Client Sample ID: MW-15-12-20190911

Lab Sample ID: 580-89147-6

Date Collected: 09/11/19 12:45

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 14:06	W1T	TAL SEA
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 06:03	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313152	10/03/19 14:54	CJB	TAL SEA
Total/NA	Prep	3546			312126	09/24/19 10:04	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312526	09/27/19 14:29	CJ	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:46	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Client Sample ID: MW-15-14-20190911

Lab Sample ID: 580-89147-7

Date Collected: 09/11/19 13:00

Matrix: Solid

Date Received: 09/12/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311537	09/18/19 10:02	JWM	TAL SEA

Client Sample ID: MW-15-14-20190911

Lab Sample ID: 580-89147-7

Date Collected: 09/11/19 13:00

Matrix: Solid

Date Received: 09/12/19 11:30

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 14:30	W1T	TAL SEA
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 06:28	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313152	10/03/19 15:12	CJB	TAL SEA
Total/NA	Prep	3546			312126	09/24/19 10:04	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312526	09/27/19 15:09	CJ	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:51	FCW	TAL SEA

Client Sample ID: Tripblank-20190911

Lab Sample ID: 580-89147-8

Date Collected: 09/11/19 00:00

Matrix: Solid

Date Received: 09/12/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311482	09/17/19 16:36	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311505	09/18/19 04:02	DCV	TAL SEA

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Method Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SEA
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL SEA
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL SEA
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SEA
6020B	Metals (ICP/MS)	SW846	TAL SEA
D 2216	Percent Moisture	ASTM	TAL SEA
Subcontract	8260C - BTEX, EDB, EDC, MTBE - to week MTCA	None	SC0056
3050B	Preparation, Metals	SW846	TAL SEA
3546	Microwave Extraction	SW846	TAL SEA
3665A	Sulfuric Acid/Permanganate Cleanup	SW846	TAL SEA
5035	Closed System Purge and Trap	SW846	TAL SEA

Protocol References:

ASTM = ASTM International

None = None

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89147-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89147-5	MW-15-10-20190911	Solid	09/11/19 12:50	09/12/19 11:30	
580-89147-6	MW-15-12-20190911	Solid	09/11/19 12:45	09/12/19 11:30	
580-89147-7	MW-15-14-20190911	Solid	09/11/19 13:00	09/12/19 11:30	
580-89147-8	Tripblank-20190911	Solid	09/11/19 00:00	09/12/19 11:30	

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04 October 2019

Kristine Allen
Test America
5755 8th Street East
Tacoma, WA 98424

RE: BP-ARCO 980

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19I0333	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

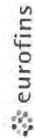
Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Eurofins TestAmerica, Seattle
 5755 8th Street East
 Tacoma, WA 98424
 Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record



Environment Testing
 TestAmerica



1970333

Client Information (Sub Contract Lab)		Lab PM: Walker, Elaine M	Carrier Tracking No(s): 580-70227.1
Client Contact: Shipping/Receiving		E-Mail: elaine.walker@testamericainc.com	State of Origin: Washington
Company: Analytical Resources, Inc		Page: Page 1 of 1	
Address: 4611 South 134th Place, Suite 100, Tukwila, WA, 98168		Job #: 580-89147-1	
Phone: 206-695-6200 (Tel)		Preservation Codes:	
Email:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NH4SO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: BP - ARCO 980		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Site: ARCO 980 Antlea		SSOW#:	
Sample Identification - Client ID		Analysis Requested	
Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)
MW-15-10-20190911	9/11/19	12:50 Pacific	Solid
MW-15-12-20190911	9/11/19	12:45 Pacific	Solid
MW-15-14-20190911	9/11/19	13:00 Pacific	Solid
Tripblank-20190911	9/11/19	Pacific	Solid
Special Instructions/Note:		Total Number of Containers	
L2, RL reporting, Equ_EQcedd if possible, LCSD reqd		2	
L2, RL reporting, Equ_EQcedd if possible, LCSD reqd		2	
L2, RL reporting, Equ_EQcedd if possible, LCSD reqd		2	
L2, RL reporting, Equ_EQcedd if possible, LCSD reqd		2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/res/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *Shu* Date: 7.20.19 0952
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No

Received by: *Jacob Walker* Date/Time: 09/16/19 0952
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____

Special Instructions/QC Requirements:
 Return To Client Dispose By Lab Archive For _____ Months
 Method of Shipment: _____





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:49
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-15-10-20190911 (580-89147-5)	19I0333-08	Solid	11-Sep-2019 12:50	20-Sep-2019 09:52
MW-15-12-20190911 (580-89147-6)	19I0333-09	Solid	11-Sep-2019 12:45	20-Sep-2019 09:52
MW-15-14-20190911 (580-89147-7)	19I0333-10	Solid	11-Sep-2019 13:00	20-Sep-2019 09:52
Tripblank-20190911	19I0333-11	Solid	11-Sep-2019 12:45	20-Sep-2019 09:52

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Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:49

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received September 20, 2019 under ARI work order 19I0333. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.





Cooler Receipt Form

ARI Client: Eurofins Test America

Project Name: BP-ARCO 954

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 1910333

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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 0952 -6.7°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JSW Date: 09/20/19 Time: 0952

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 GeI Packs Baggies Foam Block Paper Other: Dry Ice

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

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

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 09/20/19 Time: 1038 Labels checked by: JSW

**** 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:

Samples stored with Dry Ice. Trip Blanks were not made at ARI.

By: JSW Date: 09/20/19



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:49
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MW-15-10-20190911 (580-89147-5)
19I0333-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C				Sampled: 09/11/2019 12:50
Instrument: NT5 Analyst: PB				Analyzed: 09/20/2019 20:00
Sample Preparation:	Preparation Method: No Prep - Volatiles	Sample Size: 6.781 g (wet)	Extract ID: 19I0333-08 A	
	Preparation Batch: BHI0615	Final Volume: 5 g	Dry Weight: 6.37 g	
	Prepared: 20-Sep-2019		% Solids: 93.90	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.79	ND	ug/kg	U
Benzene	71-43-2	1	0.23	0.79	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.79	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.14	0.79	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.79	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.31	1.57	ND	ug/kg	U
o-Xylene	95-47-6	1	0.18	0.79	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.79	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.5	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.4	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	97.9	%	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:49
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MW-15-12-20190911 (580-89147-6)
19I0333-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/11/2019 12:45		
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 20:22		
Sample Preparation:	Preparation Method: No Prep - Volatiles	Sample Size: 6.955 g (wet)	Extract ID: 19I0333-09 A
	Preparation Batch: BHI0615	Final Volume: 5 g	Dry Weight: 6.28 g
	Prepared: 20-Sep-2019		% Solids: 90.30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.80	ND	ug/kg	U
Benzene	71-43-2	1	0.24	0.80	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.80	0.26	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.14	0.80	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.80	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.31	1.59	ND	ug/kg	U
o-Xylene	95-47-6	1	0.18	0.80	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.80	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.0	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.4	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.1	%	



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:49

MW-15-14-20190911 (580-89147-7)

19I0333-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 09/11/2019 13:00

Instrument: NT5 Analyst: PB

Analyzed: 09/20/2019 20:44

Sample Preparation:

Preparation Method: No Prep - Volatiles

Extract ID: 19I0333-10 A

Preparation Batch: BHI0615

Sample Size: 7.16 g (wet)

Dry Weight: 6.39 g

Prepared: 20-Sep-2019

Final Volume: 5 g

% Solids: 89.20

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.78	ND	ug/kg	U
Benzene	71-43-2	1	0.23	0.78	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.78	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.14	0.78	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.78	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.31	1.57	ND	ug/kg	U
o-Xylene	95-47-6	1	0.18	0.78	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.78	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.5	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.0	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.5	%	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:49
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Tripblank-20190911
19I0333-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/11/2019 12:45	
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 17:01	
Sample Preparation:	Preparation Method: No Prep - Volatiles	Extract ID: 19I0333-11 A
	Preparation Batch: BHI0615	Sample Size: 5.87 g (wet)
	Prepared: 20-Sep-2019	Final Volume: 5 g
		Dry Weight: 5.87 g
		% Solids: 100.00

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.16	0.85	ND	ug/kg	U
Benzene	71-43-2	1	0.25	0.85	ND	ug/kg	U
Toluene	108-88-3	1	0.13	0.85	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.15	0.85	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.17	0.85	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.33	1.70	ND	ug/kg	U
o-Xylene	95-47-6	1	0.19	0.85	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.20	0.85	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	92.5	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.6	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.9	%	



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:49

Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHI0615-BLK1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:56						
1,2-Dichloroethane	ND	0.19	1.00	ug/kg							U
Benzene	ND	0.30	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U
1,2-Dibromoethane	ND	0.18	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	0.23	1.00	ug/kg							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.9			ug/kg	50.0		87.8	80-149			
<i>Surrogate: Toluene-d8</i>	48.2			ug/kg	50.0		96.4	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.8	80-120			
LCS (BHI0615-BS1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 12:32						
1,2-Dichloroethane	45.7			ug/kg	50.0		91.4	76-120			
Benzene	48.6			ug/kg	50.0		97.1	80-120			
Toluene	48.5			ug/kg	50.0		97.0	75-120			
1,2-Dibromoethane	47.9			ug/kg	50.0		95.9	80-120			
Ethylbenzene	50.5			ug/kg	50.0		101	80-125			
m,p-Xylene	102			ug/kg	100		102	76-121			
o-Xylene	51.8			ug/kg	50.0		104	67-132			
Methyl tert-butyl Ether	41.3			ug/kg	50.0		82.6	79-127			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.4			ug/kg	50.0		86.8	80-149			
<i>Surrogate: Toluene-d8</i>	49.1			ug/kg	50.0		98.2	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.7	80-120			
LCS Dup (BHI0615-BSD1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:34						
1,2-Dichloroethane	45.4			ug/kg	50.0		90.7	76-120	0.75	30	
Benzene	48.6			ug/kg	50.0		97.1	80-120	0.02	30	
Toluene	48.7			ug/kg	50.0		97.4	75-120	0.44	30	
1,2-Dibromoethane	46.7			ug/kg	50.0		93.4	80-120	2.59	30	
Ethylbenzene	52.0			ug/kg	50.0		104	80-125	3.06	30	
m,p-Xylene	105			ug/kg	100		105	76-121	2.91	30	
o-Xylene	52.3			ug/kg	50.0		105	67-132	0.86	30	
Methyl tert-butyl Ether	40.8			ug/kg	50.0		81.7	79-127	1.17	30	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:49
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Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHI0615-BSD1)					Prepared: 20-Sep-2019		Analyzed: 20-Sep-2019 13:34				
Surrogate: 1,2-Dichloroethane-d4	43.9			ug/kg	50.0	87.7		80-149			
Surrogate: Toluene-d8	48.6			ug/kg	50.0	97.2		77-120			
Surrogate: 4-Bromofluorobenzene	50.5			ug/kg	50.0	101		80-120			





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:49

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichlorofluoromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrolein	WADOE, DoD-ELAP, NELAP, CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acetone	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromoethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Iodomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Methylene Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrylonitrile	WADOE, DoD-ELAP, NELAP, CALAP
Carbon Disulfide	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
trans-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Acetate	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Butanone	WADOE, DoD-ELAP, NELAP, CALAP
2,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroform	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromochloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1,1-Trichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Carbon tetrachloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Benzene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromodichloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Dibromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Chloroethyl vinyl ether	WADOE, DoD-ELAP, NELAP
4-Methyl-2-Pentanone	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,3-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Toluene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:49

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:49
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2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:49

Notes and Definitions

- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-89147-1

Login Number: 89147
List Number: 1
Creator: Torres, Terri L

List Source: Eurofins TestAmerica, Seattle

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 (excluding tests with immediate HTs)	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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311521 Batch Start Date: 09/18/19 09:14 Batch Analyst: Guerra, Fernando C

Batch Method: 3546 Batch End Date: 09/18/19 16:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	8270flspk 00254	8270Surr_Phen 00011		
MB 580-311521/1		3546, 8270D SIM		10 g	10 mL		100 uL		
LCS 580-311521/2		3546, 8270D SIM		10 g	10 mL	500 uL	100 uL		
580-89147-A-5	MW-15-10-2019091 1	3546, 8270D SIM	T	10.657 g	10 mL		100 uL		
580-89147-B-6	MW-15-12-2019091 1	3546, 8270D SIM	T	13.699 g	10 mL		100 uL		
580-89147-A-7	MW-15-14-2019091 1	3546, 8270D SIM	T	13.600 g	10 mL		100 uL		

Batch Notes

Balance ID	SEA232 No Unit
Batch Comment	Vialed by: JWM Hydromatrix:2386660
Blank Matrix ID	2470160
Analyst ID - Concentration	JWM
Concentration 1 Corrected Temperature	75-80 Degrees C
Equipment ID - Concentration 1	Steam Bath 1
Analyst ID - Extraction	FCG
Filter ID	09-795F
Method/Fraction	3546/ 8270_SIM
Microwave Oven ID	MARS1
Microwave Program ID	FUELS1 from 1430-1500
Na2SO4 ID	2454064
Pipette/Syringe/Dispenser ID	MP2/E6
Prep Solvent ID	2467106
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	75-80 Degrees C
Vial Lot Number	19136161

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D SIM

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311521 Batch Start Date: 09/18/19 09:14 Batch Analyst: Guerra, Fernando C

Batch Method: 3546 Batch End Date: 09/18/19 16:00

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D SIM

Page 2 of 2



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311482 Batch Start Date: 09/17/19 16:31 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 16:48

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	MeOHSubtraction	MeOHVol	InitialAmount	FinalAmount
MB 580-311482/1		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCS 580-311482/2		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCSD 580-311482/3		5035, NWTPH-Gx					10 mL	10 g	10 mL
580-89147-E-5	MW-15-10-2019091 1	5035, NWTPH-Gx	T	031.848 g	44.93 g	No	10 mL	13.082 g	10 mL
580-89147-E-6	MW-15-12-2019091 1	5035, NWTPH-Gx	T	031.692 g	45.94 g	No	10 mL	14.248 g	10 mL
580-89147-E-7	MW-15-14-2019091 1	5035, NWTPH-Gx	T	032.068 g	46.67 g	No	10 mL	14.602 g	10 mL
580-89147-C-8	Tripblank-201909 11	5035, NWTPH-Gx	T				10 mL	10 g	10 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	GRO_LCS 00056	Methanol 1L 00032	V2.4TFT-EX 00040	VoaSand 00066	AnalysisComment
MB 580-311482/1		5035, NWTPH-Gx				10 mL	10 g	
LCS 580-311482/2		5035, NWTPH-Gx		200 uL		10 mL	10 g	
LCSD 580-311482/3		5035, NWTPH-Gx		200 uL		10 mL	10 g	
580-89147-E-5	MW-15-10-2019091 1	5035, NWTPH-Gx	T		10 mL			over weight
580-89147-E-6	MW-15-12-2019091 1	5035, NWTPH-Gx	T		10 mL			over weight
580-89147-E-7	MW-15-14-2019091 1	5035, NWTPH-Gx	T		10 mL			over weight
580-89147-C-8	Tripblank-201909 11	5035, NWTPH-Gx	T		10 mL			TB

Batch Notes	
Balance ID	SEA239
Batch Comment	sint vial 2467520
Blank Matrix ID	2343681
Pipette/Syringe/Dispenser ID	BT1
Vial Lot Number	0103701E

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311482 Batch Start Date: 09/17/19 16:31 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 16:48

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 312007 Batch Start Date: 09/23/19 10:03 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 10/01/19 19:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	PCB_MS 00009	Pest/PCB Surr 00075		
MB 580-312007/1		3546, 8082A		10 g	10 mL		100 uL		
LCS 580-312007/2		3546, 8082A		10 g	10 mL	100 uL	100 uL		
580-89147-A-5	MW-15-10-2019091 1	3546, 8082A	T	10.008 g	10 mL		100 uL		
580-89147-A-6	MW-15-12-2019091 1	3546, 8082A	T	10.054 g	10 mL		100 uL		
580-89147-A-7	MW-15-14-2019091 1	3546, 8082A	T	10.006 g	10 mL		100 uL		

Batch Notes	
Acid used for Clean Up ID	2402719
Balance ID	SEA229 No Unit
Batch Comment	Vialed by: MT Hydromatrix:2386660
Blank Matrix ID	2487153
Analyst ID - Concentration	WMM
Concentration 1 Corrected Temperature	90+ Degrees C
Analyst ID - Clean Up	MT
Equipment ID - Concentration 1	Steam Bath 1
Exchange Solvent ID	Hexane 2440392
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/ 8082A & 8082A_DOD5
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP2
Prep Solvent ID	DCM Acetone 2467105
Analyst ID - Spike Analyst	MT
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	90+ Degrees C
Vial Lot Number	5-3-3

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 312007 Batch Start Date: 09/23/19 10:03 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 10/01/19 19:27

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A



GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 312126 Batch Start Date: 09/24/19 10:04 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/26/19 15:16

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TPH Spike_RZ 00102	TPH_SURR 00045		
MB 580-312126/1		3546, NWTPH-Dx		10 g	10 mL		100 uL		
LCS 580-312126/2		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
LCSD 580-312126/3		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
580-89147-A-5	MW-15-10-2019091 1	3546, NWTPH-Dx	T	10.712 g	10 mL		100 uL		
580-89147-B-6	MW-15-12-2019091 1	3546, NWTPH-Dx	T	10.757 g	10 mL		100 uL		
580-89147-B-7	MW-15-14-2019091 1	3546, NWTPH-Dx	T	10.082 g	10 mL		100 uL		

Batch Notes	
Balance ID	SEA229 No Unit
Batch Comment	Vialed by: MT Hydromatrix:2386660
Blank Matrix ID	2470160
Analyst ID - Concentration	MT
Concentration 1 Corrected Temperature	70-75 Degrees C
Equipment ID - Concentration 1	Steam Bath 1
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/NWTPH_Dx & AK102_103
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP3
Prep Solvent ID	DCM 2450659
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	70-75 Degrees C
Vial Lot Number	19136161

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 312126 Batch Start Date: 09/24/19 10:04 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/26/19 15:16

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311426 Batch Start Date: 09/17/19 10:55 Batch Analyst: Pimentel, Joy C

Batch Method: 3050B Batch End Date: 09/17/19 13:54

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP CAL 1 00005	ICP CAL 2 00005	MET Spike 3C 00013	
580-89147-A-5	MW-15-10-2019091 1	3050B, 6020B	T	1.7729 g	50 mL				
580-89147-B-6	MW-15-12-2019091 1	3050B, 6020B	T	1.7816 g	50 mL				
580-89147-A-7	MW-15-14-2019091 1	3050B, 6020B	T	1.7563 g	50 mL				
MB 580-311426/22		3050B, 6020B		1.0 g	50 mL				
LCS 580-311426/23		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	
LCSD 580-311426/24		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	

Batch Notes	
Balance ID	SEA 228
Blank Soil Lot Number	2062632
Temperature - Corrected - End	92.7 Degrees C
Temperature - Corrected - Start	92.7 Degrees C
Digestion End Time	09/17/2019 13:54
Digestion Start Time	09/17/2019 12:54
Digestion Unit ID	41291
Digestion Tube/Cup ID	2420489
Hydrogen Peroxide ID	2470213
Hydrochloric Acid ID	2377437
Nitric Acid ID	2461133
Nominal Amount Used	1.0 g
Pipette/Syringe/Dispenser ID	METALS-PREP-2
Analyst ID - Spike Analyst	see above
Sufficient Volume for Batch QC	yes
Thermometer ID	1108438
Temperature - Uncorrected - End	93 Degrees C
Temperature - Uncorrected - Start	93 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311426 Batch Start Date: 09/17/19 10:55 Batch Analyst: Pimentel, Joy C

Batch Method: 3050B Batch End Date: 09/17/19 13:54

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B



GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311253 Batch Start Date: 09/16/19 09:33 Batch Analyst: Muchiri, Janet W

Batch Method: D 2216 Batch End Date: 09/17/19 09:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
580-89147-A-5	MW-15-10-2019091 1	D 2216	T	0.691 g	9.667 g	9.119 g			

Batch Notes	
Balance ID	SEA230
Batch Comment	Weighed by JWM
Date samples were placed in the oven	09/16/2019
Oven Temp In	112.5 Degrees C
Time samples were place in the oven	10:20
Date samples were removed from oven	09/17/2019
Oven Temp Out	112.5 Degrees C
Time Samples were removed from oven	09:27
Oven ID	Oven 2
Thermometer ID	DIGITAL
Temperature - Start - Uncorrected	110.0 Degrees C
Temperature - End - Uncorrected	110.0 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89147-1

SDG No.: _____

Batch Number: 311537 Batch Start Date: 09/18/19 10:02 Batch Analyst: Muchiri, Janet W

Batch Method: D 2216 Batch End Date: 09/18/19 15:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
580-89147-A-6	MW-15-12-2019091 1	D 2216	T	0.715 g	9.329 g	8.493 g			
580-89147-A-6 DU	MW-15-12-2019091 1	D 2216	T	0.731 g	9.398 g	8.646 g			
580-89147-B-7	MW-15-14-2019091 1	D 2216	T	0.725 g	12.690 g	11.392 g			

Batch Notes	
Balance ID	SEA230
Batch Comment	Weighed by JWM/FCG
Date samples were placed in the oven	09/18/2019
Oven Temp In	112.5 Degrees C
Time samples were place in the oven	10:29
Date samples were removed from oven	09/18/2019
Oven Temp Out	112.5 Degrees C
Time Samples were removed from oven	15:49
Oven ID	Oven 2
Thermometer ID	DIGITAL
Temperature - Start - Uncorrected	110.0 Degrees C
Temperature - End - Uncorrected	110.0 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

ANALYTICAL REPORT

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

Laboratory Job ID: 580-89186-1
Client Project/Site: BP -ARCO 980

For:

Antea USA Inc.
4006 148th Ave NE
Redmond, Washington 98052

Attn: Megan Richard

M. Elaine Walker

Authorized for release by:
10/10/2019 2:41:05 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@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.

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of Eurofins TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The signature on the cover page extends to the case narrative and all the data and forms in the package. The Chain of Custody is included and is an integral part of this report.



Elaine Walker
Project Manager II
10/10/2019 2:41:05 PM

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Definitions/Glossary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Job ID: 580-89186-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-89186-1

Receipt

Seven samples were received on 9/13/2019 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7° C.

GC/MS Semi VOA

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

GC VOA

VOA Prep

Method(s) 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: MW-13-8-20190912 (580-89186-1), MW-13-10-20190912 (580-89186-2), MW-13-12.5-20190912 (580-89186-3), MW-13-14-20190912 (580-89186-4), MW-14-7.5-20190912 (580-89186-5) and MW-14-10-20190912 (580-89186-6). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g. The amount provided was above this range.

Method(s) NWTPH-Gx: Surrogate 4-Bromofluorobenzene (Surr) recovery for the following samples were outside control limits: MW-13-8-20190912 (580-89186-1), MW-13-10-20190912 (580-89186-2) and MW-13-14-20190912 (580-89186-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) NWTPH-Gx: The following samples were analyzed at reduced volume due to high concentrations of target analytes: MW-13-8-20190912 (580-89186-1) and MW-13-10-20190912 (580-89186-2). The calculation was done using an initial volume adjustment rather than a dilution factor. The reporting limits have been elevated by the appropriate factor.

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

GC Semi VOA

Method(s) 8082A: The %RPD between the primary and confirmation column exceeded 40% for PCB-1254 for the following sample: MW-13-8-20190912 (580-89186-1). The lower value(s) has been reported and qualified in accordance with the laboratory's SOP.

Method(s) NWTPH-Dx: The following samples 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: MW-13-8-20190912 (580-89186-1), MW-13-10-20190912 (580-89186-2) and MW-13-10-20190912 DU (580-89186-2 DU).

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.

Subcontract non-Sister

8260C VOCs were subcontracted to Analytical Resources, Inc. and their data is included in this report. It should be noted that the BP EQUIS EDD for this analysis is not able to be uploaded.

Detection Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-8-20190912

Lab Sample ID: 580-89186-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.0058		0.0053		mg/Kg	1	☒	8270D SIM	Total/NA
2-Methylnaphthalene	0.017		0.0053		mg/Kg	1	☒	8270D SIM	Total/NA
1-Methylnaphthalene	0.0095		0.0053		mg/Kg	1	☒	8270D SIM	Total/NA
Phenanthrene	0.014		0.0053		mg/Kg	1	☒	8270D SIM	Total/NA
Pyrene	0.013		0.0053		mg/Kg	1	☒	8270D SIM	Total/NA
Gasoline	930		23		mg/Kg	1	☒	NWTPH-Gx	Total/NA
PCB-1254	0.12	p	0.021		mg/Kg	1	☒	8082A	Total/NA
#2 Diesel (C10-C24)	860		51		mg/Kg	1	☒	NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	760		51		mg/Kg	1	☒	NWTPH-Dx	Total/NA
Lead	2.1		0.30		mg/Kg	10	☒	6020B	Total/NA

Client Sample ID: MW-13-10-20190912

Lab Sample ID: 580-89186-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.0098		0.0054		mg/Kg	1	☒	8270D SIM	Total/NA
2-Methylnaphthalene	0.012		0.0054		mg/Kg	1	☒	8270D SIM	Total/NA
1-Methylnaphthalene	0.0068		0.0054		mg/Kg	1	☒	8270D SIM	Total/NA
Gasoline	340		12		mg/Kg	1	☒	NWTPH-Gx	Total/NA
Motor Oil (>C24-C36)	69		54		mg/Kg	1	☒	NWTPH-Dx	Total/NA
Lead	1.1		0.31		mg/Kg	10	☒	6020B	Total/NA

Client Sample ID: MW-13-12.5-20190912

Lab Sample ID: 580-89186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.0049		0.0046		mg/Kg	1	☒	8270D SIM	Total/NA
Gasoline	4.1		4.1		mg/Kg	1	☒	NWTPH-Gx	Total/NA
Lead	0.90		0.30		mg/Kg	10	☒	6020B	Total/NA

Client Sample ID: MW-13-14-20190912

Lab Sample ID: 580-89186-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.0082		0.0050		mg/Kg	1	☒	8270D SIM	Total/NA
2-Methylnaphthalene	0.0082		0.0050		mg/Kg	1	☒	8270D SIM	Total/NA
Gasoline	120		4.5		mg/Kg	1	☒	NWTPH-Gx	Total/NA
PCB-1254	0.089		0.021		mg/Kg	1	☒	8082A	Total/NA
Lead	1.1		0.32		mg/Kg	10	☒	6020B	Total/NA

Client Sample ID: MW-14-7.5-20190912

Lab Sample ID: 580-89186-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.2		0.31		mg/Kg	10	☒	6020B	Total/NA

Client Sample ID: MW-14-10-20190912

Lab Sample ID: 580-89186-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.0		0.30		mg/Kg	10	☒	6020B	Total/NA

Client Sample ID: Tripblank-20190912

Lab Sample ID: 580-89186-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-8-20190912

Lab Sample ID: 580-89186-1

Date Collected: 09/12/19 10:50

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 93.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0058		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
2-Methylnaphthalene	0.017		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
1-Methylnaphthalene	0.0095		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Acenaphthylene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Acenaphthene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Fluorene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Phenanthrene	0.014		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Anthracene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Fluoranthene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Pyrene	0.013		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Benzo[a]anthracene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Chrysene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Benzo[b]fluoranthene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Benzo[k]fluoranthene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Benzo[a]pyrene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Indeno[1,2,3-cd]pyrene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Dibenz(a,h)anthracene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Benzo[g,h,i]perylene	ND		0.0053		mg/Kg	☼	09/18/19 09:14	09/19/19 14:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	87		57 - 120				09/18/19 09:14	09/19/19 14:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	930		23		mg/Kg	☼	09/17/19 15:44	09/19/19 19:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	218	X	50 - 150				09/17/19 15:44	09/19/19 19:42	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 20:45	1
PCB-1221	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 20:45	1
PCB-1232	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 20:45	1
PCB-1242	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 20:45	1
PCB-1248	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 20:45	1
PCB-1254	0.12	p	0.021		mg/Kg	☼	09/23/19 10:03	10/10/19 11:39	1
PCB-1260	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 20:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		39 - 142				09/23/19 10:03	10/03/19 20:45	1
DCB Decachlorobiphenyl	106		39 - 142				09/23/19 10:03	10/10/19 11:39	1
Tetrachloro-m-xylene	80		35 - 129				09/23/19 10:03	10/03/19 20:45	1
Tetrachloro-m-xylene	106		35 - 129				09/23/19 10:03	10/10/19 11:39	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)	860		51		mg/Kg	☼	09/25/19 11:13	09/28/19 22:33	1
Motor Oil (>C24-C36)	760		51		mg/Kg	☼	09/25/19 11:13	09/28/19 22:33	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-8-20190912

Lab Sample ID: 580-89186-1

Date Collected: 09/12/19 10:50

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 93.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150	09/25/19 11:13	09/28/19 22:33	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.1		0.30		mg/Kg	☼	09/17/19 10:55	09/19/19 10:55	10

Client Sample ID: MW-13-10-20190912

Lab Sample ID: 580-89186-2

Date Collected: 09/12/19 11:05

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 91.2

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0098		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
2-Methylnaphthalene	0.012		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
1-Methylnaphthalene	0.0068		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Acenaphthylene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Acenaphthene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Fluorene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Phenanthrene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Anthracene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Fluoranthene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Pyrene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Benzo[a]anthracene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Chrysene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Benzo[b]fluoranthene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Benzo[k]fluoranthene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Benzo[a]pyrene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Indeno[1,2,3-cd]pyrene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Dibenz(a,h)anthracene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1
Benzo[g,h,i]perylene	ND		0.0054		mg/Kg	☼	09/18/19 09:14	09/19/19 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Terphenyl-d14</i>	83		57 - 120	09/18/19 09:14	09/19/19 15:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	340		12		mg/Kg	☼	09/17/19 15:44	09/19/19 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>4</i> -Bromofluorobenzene (Surr)	184	X	50 - 150	09/17/19 15:44	09/19/19 18:49	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:02	1
PCB-1221	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:02	1
PCB-1232	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:02	1
PCB-1242	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:02	1
PCB-1248	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:02	1
PCB-1254	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/10/19 11:56	1
PCB-1260	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:02	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-10-20190912

Lab Sample ID: 580-89186-2

Date Collected: 09/12/19 11:05

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 91.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	92		39 - 142	09/23/19 10:03	10/03/19 21:02	1
DCB Decachlorobiphenyl	92		39 - 142	09/23/19 10:03	10/10/19 11:56	1
Tetrachloro-m-xylene	84		35 - 129	09/23/19 10:03	10/03/19 21:02	1
Tetrachloro-m-xylene	83		35 - 129	09/23/19 10:03	10/10/19 11:56	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		54		mg/Kg	☼	09/25/19 11:13	09/28/19 22:53	1
Motor Oil (>C24-C36)	69		54		mg/Kg	☼	09/25/19 11:13	09/28/19 22:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	106		50 - 150	09/25/19 11:13	09/28/19 22:53	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.1		0.31		mg/Kg	☼	09/17/19 10:55	09/19/19 10:59	10

Client Sample ID: MW-13-12.5-20190912

Lab Sample ID: 580-89186-3

Date Collected: 09/12/19 11:20

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 93.5

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
2-Methylnaphthalene	0.0049		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
1-Methylnaphthalene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Acenaphthylene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Acenaphthene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Fluorene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Phenanthrene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Anthracene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Fluoranthene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Pyrene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Benzo[a]anthracene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Chrysene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Benzo[b]fluoranthene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Benzo[k]fluoranthene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Benzo[a]pyrene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Indeno[1,2,3-cd]pyrene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Dibenz(a,h)anthracene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1
Benzo[g,h,i]perylene	ND		0.0046		mg/Kg	☼	09/18/19 09:14	09/19/19 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		57 - 120	09/18/19 09:14	09/19/19 15:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4.1		4.1		mg/Kg	☼	09/17/19 15:44	09/19/19 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		50 - 150	09/17/19 15:44	09/19/19 17:51	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-12.5-20190912

Lab Sample ID: 580-89186-3

Date Collected: 09/12/19 11:20

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 93.5

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1
PCB-1221	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1
PCB-1232	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1
PCB-1242	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1
PCB-1248	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1
PCB-1254	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1
PCB-1260	ND		0.021		mg/Kg	☼	09/23/19 10:03	10/03/19 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		39 - 142	09/23/19 10:03	10/03/19 21:20	1
Tetrachloro-m-xylene	90		35 - 129	09/23/19 10:03	10/03/19 21:20	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		50		mg/Kg	☼	09/25/19 11:13	09/28/19 23:34	1
Motor Oil (>C24-C36)	ND		50		mg/Kg	☼	09/25/19 11:13	09/28/19 23:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	107		50 - 150	09/25/19 11:13	09/28/19 23:34	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.90		0.30		mg/Kg	☼	09/17/19 10:55	09/19/19 11:04	10

Client Sample ID: MW-13-14-20190912

Lab Sample ID: 580-89186-4

Date Collected: 09/12/19 11:25

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 90.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0082		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
2-Methylnaphthalene	0.0082		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
1-Methylnaphthalene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Acenaphthylene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Acenaphthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Fluorene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Phenanthrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Anthracene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Fluoranthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Pyrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Benzo[a]anthracene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Chrysene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Benzo[b]fluoranthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Benzo[k]fluoranthene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Benzo[a]pyrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Indeno[1,2,3-cd]pyrene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Dibenz(a,h)anthracene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1
Benzo[g,h,i]perylene	ND		0.0050		mg/Kg	☼	09/18/19 09:14	09/19/19 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	79		57 - 120	09/18/19 09:14	09/19/19 16:09	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-14-20190912

Lab Sample ID: 580-89186-4

Date Collected: 09/12/19 11:25

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 90.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	120		4.5		mg/Kg	☼	09/17/19 15:44	09/19/19 18:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	199	X	50 - 150				09/17/19 15:44	09/19/19 18:21	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021		mg/Kg	☼	09/23/19 10:12	10/03/19 21:37	1
PCB-1221	ND		0.021		mg/Kg	☼	09/23/19 10:12	10/03/19 21:37	1
PCB-1232	ND		0.021		mg/Kg	☼	09/23/19 10:12	10/03/19 21:37	1
PCB-1242	ND		0.021		mg/Kg	☼	09/23/19 10:12	10/03/19 21:37	1
PCB-1248	ND		0.021		mg/Kg	☼	09/23/19 10:12	10/03/19 21:37	1
PCB-1254	0.089		0.021		mg/Kg	☼	09/23/19 10:12	10/10/19 12:14	1
PCB-1260	ND		0.021		mg/Kg	☼	09/23/19 10:12	10/03/19 21:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		39 - 142				09/23/19 10:12	10/03/19 21:37	1
Tetrachloro-m-xylene	94		35 - 129				09/23/19 10:12	10/03/19 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		50		mg/Kg	☼	09/25/19 11:13	09/29/19 00:14	1
Motor Oil (>C24-C36)	ND		50		mg/Kg	☼	09/25/19 11:13	09/29/19 00:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	109		50 - 150				09/25/19 11:13	09/29/19 00:14	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.1		0.32		mg/Kg	☼	09/17/19 10:55	09/19/19 11:08	10

Client Sample ID: MW-14-7.5-20190912

Lab Sample ID: 580-89186-5

Date Collected: 09/12/19 16:00

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 91.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.4		mg/Kg	☼	09/17/19 15:44	09/19/19 16:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		50 - 150				09/17/19 15:44	09/19/19 16:46	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		52		mg/Kg	☼	09/25/19 11:13	09/29/19 00:34	1
Motor Oil (>C24-C36)	ND		52		mg/Kg	☼	09/25/19 11:13	09/29/19 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	106		50 - 150				09/25/19 11:13	09/29/19 00:34	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-14-7.5-20190912

Lab Sample ID: 580-89186-5

Date Collected: 09/12/19 16:00

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 91.2

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.2		0.31		mg/Kg	☼	09/17/19 10:55	09/19/19 11:43	10

Client Sample ID: MW-14-10-20190912

Lab Sample ID: 580-89186-6

Date Collected: 09/12/19 16:10

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 94.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.2		mg/Kg	☼	09/17/19 15:44	09/19/19 17:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150	09/17/19 15:44	09/19/19 17:13	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		52		mg/Kg	☼	09/25/19 11:13	09/29/19 00:54	1
Motor Oil (>C24-C36)	ND		52		mg/Kg	☼	09/25/19 11:13	09/29/19 00:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	110		50 - 150	09/25/19 11:13	09/29/19 00:54	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.0		0.30		mg/Kg	☼	09/17/19 10:55	09/19/19 11:47	10

Client Sample ID: Tripblank-20190912

Lab Sample ID: 580-89186-7

Date Collected: 09/12/19 00:00

Matrix: Solid

Date Received: 09/13/19 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/19/19 13:20	09/20/19 01:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		50 - 150	09/19/19 13:20	09/20/19 01:08	1

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (57-120)
580-89186-1	MW-13-8-20190912	87
580-89186-2	MW-13-10-20190912	83
580-89186-3	MW-13-12.5-20190912	84
580-89186-4	MW-13-14-20190912	79
LCS 580-311521/2-A	Lab Control Sample	98
MB 580-311521/1-A	Method Blank	98

Surrogate Legend

TPHL = Terphenyl-d14

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (50-150)	TFT1 (50-150)
580-89186-1	MW-13-8-20190912	218 X	
580-89186-2	MW-13-10-20190912	184 X	
580-89186-3	MW-13-12.5-20190912	111	
580-89186-4	MW-13-14-20190912	199 X	
580-89186-5	MW-14-7.5-20190912	104	
580-89186-6	MW-14-10-20190912	103	
580-89186-7	Tripblank-20190912	87	
LCS 580-311475/2-A	Lab Control Sample	106	119
LCS 580-311720/2-A	Lab Control Sample	104	
LCSD 580-311475/3-A	Lab Control Sample Dup	107	109
LCSD 580-311720/3-A	Lab Control Sample Dup	105	
MB 580-311475/1-A	Method Blank	97	96
MB 580-311720/1-A	Method Blank	102	

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TFT = Trifluorotoluene (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP2 (39-142)	TCX2 (35-129)
580-89186-1	MW-13-8-20190912	87	80
580-89186-1	MW-13-8-20190912	106	106
580-89186-2	MW-13-10-20190912	92	84
580-89186-2	MW-13-10-20190912	92	83
580-89186-3	MW-13-12.5-20190912	96	90

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP1 (39-142)	TCX2 (35-129)
580-89186-4	MW-13-14-20190912	102	94

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP1 (39-142)	TCX1 (35-129)
LCS 580-312007/2-A	Lab Control Sample	105	103
MB 580-312007/1-A	Method Blank	98	101

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (50-150)
580-89186-1	MW-13-8-20190912	99
580-89186-2	MW-13-10-20190912	106
580-89186-2 DU	MW-13-10-20190912	110
580-89186-3	MW-13-12.5-20190912	107
580-89186-4	MW-13-14-20190912	109
580-89186-5	MW-14-7.5-20190912	106
580-89186-6	MW-14-10-20190912	110
LCS 580-312283/2-A	Lab Control Sample	93
LCSD 580-312283/3-A	Lab Control Sample Dup	89
MB 580-312283/1-A	Method Blank	95

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-311521/1-A
Matrix: Solid
Analysis Batch: 311673

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311521

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Naphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
2-Methylnaphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
1-Methylnaphthalene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Acenaphthylene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Acenaphthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Fluorene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Phenanthrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[a]anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Chrysene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[b]fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[k]fluoranthene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[a]pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Indeno[1,2,3-cd]pyrene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Dibenz(a,h)anthracene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1
Benzo[g,h,i]perylene	ND		0.0050		mg/Kg		09/18/19 09:14	09/19/19 11:13	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	98		57 - 120	09/18/19 09:14	09/19/19 11:13	1

Lab Sample ID: LCS 580-311521/2-A
Matrix: Solid
Analysis Batch: 311673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311521

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Naphthalene	1.00	0.965		mg/Kg		97	70 - 120
2-Methylnaphthalene	1.00	1.05		mg/Kg		105	68 - 120
1-Methylnaphthalene	1.00	0.983		mg/Kg		98	71 - 120
Acenaphthylene	1.00	1.04		mg/Kg		104	68 - 120
Acenaphthene	1.00	0.982		mg/Kg		98	68 - 120
Fluorene	1.00	1.02		mg/Kg		102	73 - 120
Phenanthrene	1.00	1.03		mg/Kg		103	66 - 120
Anthracene	1.00	1.02		mg/Kg		102	73 - 125
Fluoranthene	1.00	0.998		mg/Kg		100	74 - 125
Pyrene	1.00	0.953		mg/Kg		95	70 - 120
Benzo[a]anthracene	1.00	0.971		mg/Kg		97	66 - 120
Chrysene	1.00	0.963		mg/Kg		96	63 - 120
Benzo[b]fluoranthene	1.00	1.00		mg/Kg		100	63 - 132
Benzo[k]fluoranthene	1.00	0.938		mg/Kg		94	63 - 131
Benzo[a]pyrene	1.00	0.926		mg/Kg		93	72 - 124
Indeno[1,2,3-cd]pyrene	1.00	1.07		mg/Kg		107	65 - 132
Dibenz(a,h)anthracene	1.00	1.10		mg/Kg		110	70 - 133
Benzo[g,h,i]perylene	1.00	1.03		mg/Kg		103	63 - 128

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	98		57 - 120

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

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

Lab Sample ID: MB 580-311475/1-A
Matrix: Solid
Analysis Batch: 311500

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311475

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/17/19 15:10	09/17/19 16:10	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150				09/17/19 15:10	09/17/19 16:10	1
Trifluorotoluene (Surr)	96		50 - 150				09/17/19 15:10	09/17/19 16:10	1

Lab Sample ID: LCS 580-311475/2-A
Matrix: Solid
Analysis Batch: 311500

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311475

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Gasoline	40.0	42.5		mg/Kg		106	80 - 120		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	106		50 - 150						
Trifluorotoluene (Surr)	119		50 - 150						

Lab Sample ID: LCSD 580-311475/3-A
Matrix: Solid
Analysis Batch: 311500

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311475

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Gasoline	40.0	38.8		mg/Kg		97	80 - 120	9	10
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	107		50 - 150						
Trifluorotoluene (Surr)	109		50 - 150						

Lab Sample ID: MB 580-311720/1-A
Matrix: Solid
Analysis Batch: 311805

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0		mg/Kg		09/19/19 13:13	09/19/19 23:19	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150				09/19/19 13:13	09/19/19 23:19	1

Lab Sample ID: LCS 580-311720/2-A
Matrix: Solid
Analysis Batch: 311805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
Gasoline	40.0	36.4		mg/Kg		91	80 - 120		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	104		50 - 150						

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

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

Lab Sample ID: LCSD 580-311720/3-A
Matrix: Solid
Analysis Batch: 311805

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311720

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	37.2		mg/Kg		93	80 - 120	2	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		50 - 150

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-312007/1-A
Matrix: Solid
Analysis Batch: 313152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1221	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1232	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1242	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1248	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1254	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1
PCB-1260	ND		0.020		mg/Kg		09/23/19 10:03	10/03/19 12:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	98		39 - 142	09/23/19 10:03	10/03/19 12:52	1
Tetrachloro-m-xylene	101		35 - 129	09/23/19 10:03	10/03/19 12:52	1

Lab Sample ID: LCS 580-312007/2-A
Matrix: Solid
Analysis Batch: 313152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.100	0.108		mg/Kg		108	41 - 138
PCB-1260	0.100	0.120		mg/Kg		120	47 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	105		39 - 142
Tetrachloro-m-xylene	103		35 - 129

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

Lab Sample ID: MB 580-312283/1-A
Matrix: Solid
Analysis Batch: 312624

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312283

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50		mg/Kg		09/25/19 11:13	09/28/19 21:33	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		09/25/19 11:13	09/28/19 21:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150	09/25/19 11:13	09/28/19 21:33	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

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

Lab Sample ID: LCS 580-312283/2-A
Matrix: Solid
Analysis Batch: 312624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312283
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	500	463		mg/Kg		93	70 - 125
Motor Oil (>C24-C36)	500	476		mg/Kg		95	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	93		50 - 150

Lab Sample ID: LCSD 580-312283/3-A
Matrix: Solid
Analysis Batch: 312624

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 312283
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	500	483		mg/Kg		97	70 - 125	4	16
Motor Oil (>C24-C36)	500	490		mg/Kg		98	70 - 129	3	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	89		50 - 150

Lab Sample ID: 580-89186-2 DU
Matrix: Solid
Analysis Batch: 312624

Client Sample ID: MW-13-10-20190912
Prep Type: Total/NA
Prep Batch: 312283
%Rec.

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
#2 Diesel (C10-C24)	ND		ND		mg/Kg	☼	3	35
Motor Oil (>C24-C36)	69		72.7		mg/Kg	☼	6	35

Surrogate	DU %Recovery	DU Qualifier	Limits
<i>o</i> -Terphenyl	110		50 - 150

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-311426/22-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.50		mg/Kg		09/17/19 10:55	09/19/19 09:37	10

Lab Sample ID: LCS 580-311426/23-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311426
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	50.0	46.2		mg/Kg		92	80 - 120

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

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

Lab Sample ID: LCSD 580-311426/24-A
Matrix: Solid
Analysis Batch: 311850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311426

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	50.0	45.1		mg/Kg		90	80 - 120	2	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

GC/MS Semi VOA

Prep Batch: 311521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	3546	
580-89186-2	MW-13-10-20190912	Total/NA	Solid	3546	
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	3546	
580-89186-4	MW-13-14-20190912	Total/NA	Solid	3546	
MB 580-311521/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-311521/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 311673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	8270D SIM	311521
580-89186-2	MW-13-10-20190912	Total/NA	Solid	8270D SIM	311521
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	8270D SIM	311521
580-89186-4	MW-13-14-20190912	Total/NA	Solid	8270D SIM	311521
MB 580-311521/1-A	Method Blank	Total/NA	Solid	8270D SIM	311521
LCS 580-311521/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	311521

GC VOA

Prep Batch: 311475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	5035	
580-89186-2	MW-13-10-20190912	Total/NA	Solid	5035	
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	5035	
580-89186-4	MW-13-14-20190912	Total/NA	Solid	5035	
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	5035	
580-89186-6	MW-14-10-20190912	Total/NA	Solid	5035	
MB 580-311475/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-311475/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-311475/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 311500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-311475/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	311475
LCS 580-311475/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	311475
LCSD 580-311475/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	311475

Prep Batch: 311720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-7	Tripblank-20190912	Total/NA	Solid	5035	
MB 580-311720/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-311720/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-311720/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 311757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	NWTPH-Gx	311475
580-89186-2	MW-13-10-20190912	Total/NA	Solid	NWTPH-Gx	311475
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	NWTPH-Gx	311475
580-89186-4	MW-13-14-20190912	Total/NA	Solid	NWTPH-Gx	311475
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	NWTPH-Gx	311475
580-89186-6	MW-14-10-20190912	Total/NA	Solid	NWTPH-Gx	311475

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

GC VOA

Analysis Batch: 311805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-7	Tripblank-20190912	Total/NA	Solid	NWTPH-Gx	311720
MB 580-311720/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	311720
LCS 580-311720/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	311720
LCSD 580-311720/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	311720

GC Semi VOA

Prep Batch: 312007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	3546	
580-89186-2	MW-13-10-20190912	Total/NA	Solid	3546	
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	3546	
580-89186-4	MW-13-14-20190912	Total/NA	Solid	3546	
MB 580-312007/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-312007/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 312283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	3546	
580-89186-2	MW-13-10-20190912	Total/NA	Solid	3546	
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	3546	
580-89186-4	MW-13-14-20190912	Total/NA	Solid	3546	
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	3546	
580-89186-6	MW-14-10-20190912	Total/NA	Solid	3546	
MB 580-312283/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-312283/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-312283/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
580-89186-2 DU	MW-13-10-20190912	Total/NA	Solid	3546	

Analysis Batch: 312624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	NWTPH-Dx	312283
580-89186-2	MW-13-10-20190912	Total/NA	Solid	NWTPH-Dx	312283
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	NWTPH-Dx	312283
580-89186-4	MW-13-14-20190912	Total/NA	Solid	NWTPH-Dx	312283
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	NWTPH-Dx	312283
580-89186-6	MW-14-10-20190912	Total/NA	Solid	NWTPH-Dx	312283
MB 580-312283/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	312283
LCS 580-312283/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	312283
LCSD 580-312283/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	312283
580-89186-2 DU	MW-13-10-20190912	Total/NA	Solid	NWTPH-Dx	312283

Analysis Batch: 313152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-312007/1-A	Method Blank	Total/NA	Solid	8082A	312007
LCS 580-312007/2-A	Lab Control Sample	Total/NA	Solid	8082A	312007

Analysis Batch: 313154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	8082A	312007
580-89186-2	MW-13-10-20190912	Total/NA	Solid	8082A	312007

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

GC Semi VOA (Continued)

Analysis Batch: 313154 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	8082A	312007
580-89186-4	MW-13-14-20190912	Total/NA	Solid	8082A	312007

Analysis Batch: 313844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	8082A	312007
580-89186-2	MW-13-10-20190912	Total/NA	Solid	8082A	312007
580-89186-4	MW-13-14-20190912	Total/NA	Solid	8082A	312007

Metals

Prep Batch: 311426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	3050B	
580-89186-2	MW-13-10-20190912	Total/NA	Solid	3050B	
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	3050B	
580-89186-4	MW-13-14-20190912	Total/NA	Solid	3050B	
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	3050B	
580-89186-6	MW-14-10-20190912	Total/NA	Solid	3050B	
MB 580-311426/22-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-311426/23-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-311426/24-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 311850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	6020B	311426
580-89186-2	MW-13-10-20190912	Total/NA	Solid	6020B	311426
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	6020B	311426
580-89186-4	MW-13-14-20190912	Total/NA	Solid	6020B	311426
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	6020B	311426
580-89186-6	MW-14-10-20190912	Total/NA	Solid	6020B	311426
MB 580-311426/22-A	Method Blank	Total/NA	Solid	6020B	311426
LCS 580-311426/23-A	Lab Control Sample	Total/NA	Solid	6020B	311426
LCSD 580-311426/24-A	Lab Control Sample Dup	Total/NA	Solid	6020B	311426

General Chemistry

Analysis Batch: 311425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89186-1	MW-13-8-20190912	Total/NA	Solid	D 2216	
580-89186-2	MW-13-10-20190912	Total/NA	Solid	D 2216	
580-89186-3	MW-13-12.5-20190912	Total/NA	Solid	D 2216	
580-89186-4	MW-13-14-20190912	Total/NA	Solid	D 2216	
580-89186-5	MW-14-7.5-20190912	Total/NA	Solid	D 2216	
580-89186-6	MW-14-10-20190912	Total/NA	Solid	D 2216	
580-89186-6 DU	MW-14-10-20190912	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-8-20190912

Lab Sample ID: 580-89186-1

Date Collected: 09/12/19 10:50

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311425	09/17/19 11:03	JWM	TAL SEA

Client Sample ID: MW-13-8-20190912

Lab Sample ID: 580-89186-1

Date Collected: 09/12/19 10:50

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 14:55	W1T	TAL SEA
Total/NA	Prep	5035			311475	09/17/19 15:44	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311757	09/19/19 19:42	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313154	10/03/19 20:45	CJB	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313844	10/10/19 11:39	CJB	TAL SEA
Total/NA	Prep	3546			312283	09/25/19 11:13	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312624	09/28/19 22:33	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:55	FCW	TAL SEA

Client Sample ID: MW-13-10-20190912

Lab Sample ID: 580-89186-2

Date Collected: 09/12/19 11:05

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311425	09/17/19 11:03	JWM	TAL SEA

Client Sample ID: MW-13-10-20190912

Lab Sample ID: 580-89186-2

Date Collected: 09/12/19 11:05

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 15:20	W1T	TAL SEA
Total/NA	Prep	5035			311475	09/17/19 15:44	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311757	09/19/19 18:49	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313154	10/03/19 21:02	CJB	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313844	10/10/19 11:56	CJB	TAL SEA
Total/NA	Prep	3546			312283	09/25/19 11:13	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312624	09/28/19 22:53	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 10:59	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-13-12.5-20190912

Lab Sample ID: 580-89186-3

Date Collected: 09/12/19 11:20

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311425	09/17/19 11:03	JWM	TAL SEA

Client Sample ID: MW-13-12.5-20190912

Lab Sample ID: 580-89186-3

Date Collected: 09/12/19 11:20

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 15:44	W1T	TAL SEA
Total/NA	Prep	5035			311475	09/17/19 15:44	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311757	09/19/19 17:51	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:03	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313154	10/03/19 21:20	CJB	TAL SEA
Total/NA	Prep	3546			312283	09/25/19 11:13	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312624	09/28/19 23:34	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 11:04	FCW	TAL SEA

Client Sample ID: MW-13-14-20190912

Lab Sample ID: 580-89186-4

Date Collected: 09/12/19 11:25

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311425	09/17/19 11:03	JWM	TAL SEA

Client Sample ID: MW-13-14-20190912

Lab Sample ID: 580-89186-4

Date Collected: 09/12/19 11:25

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			311521	09/18/19 09:14	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	311673	09/19/19 16:09	W1T	TAL SEA
Total/NA	Prep	5035			311475	09/17/19 15:44	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311757	09/19/19 18:21	DCV	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:12	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313154	10/03/19 21:37	CJB	TAL SEA
Total/NA	Prep	3546			312007	09/23/19 10:12	MLT	TAL SEA
Total/NA	Analysis	8082A		1	313844	10/10/19 12:14	CJB	TAL SEA
Total/NA	Prep	3546			312283	09/25/19 11:13	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312624	09/29/19 00:14	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 11:08	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Client Sample ID: MW-14-7.5-20190912

Lab Sample ID: 580-89186-5

Date Collected: 09/12/19 16:00

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311425	09/17/19 11:03	JWM	TAL SEA

Client Sample ID: MW-14-7.5-20190912

Lab Sample ID: 580-89186-5

Date Collected: 09/12/19 16:00

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311475	09/17/19 15:44	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311757	09/19/19 16:46	DCV	TAL SEA
Total/NA	Prep	3546			312283	09/25/19 11:13	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312624	09/29/19 00:34	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 11:43	FCW	TAL SEA

Client Sample ID: MW-14-10-20190912

Lab Sample ID: 580-89186-6

Date Collected: 09/12/19 16:10

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	311425	09/17/19 11:03	JWM	TAL SEA

Client Sample ID: MW-14-10-20190912

Lab Sample ID: 580-89186-6

Date Collected: 09/12/19 16:10

Matrix: Solid

Date Received: 09/13/19 10:30

Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311475	09/17/19 15:44	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311757	09/19/19 17:13	DCV	TAL SEA
Total/NA	Prep	3546			312283	09/25/19 11:13	MLT	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	312624	09/29/19 00:54	W1T	TAL SEA
Total/NA	Prep	3050B			311426	09/17/19 10:55	JCP	TAL SEA
Total/NA	Analysis	6020B		10	311850	09/19/19 11:47	FCW	TAL SEA

Client Sample ID: Tripblank-20190912

Lab Sample ID: 580-89186-7

Date Collected: 09/12/19 00:00

Matrix: Solid

Date Received: 09/13/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			311720	09/19/19 13:20	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	311805	09/20/19 01:08	DCV	TAL SEA

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200
TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Method Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SEA
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL SEA
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL SEA
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SEA
6020B	Metals (ICP/MS)	SW846	TAL SEA
D 2216	Percent Moisture	ASTM	TAL SEA
Subcontract	8260C - BTEX, EDB, EDC, MTBE - to week MTCA	None	SC0056
3050B	Preparation, Metals	SW846	TAL SEA
3546	Microwave Extraction	SW846	TAL SEA
3665A	Sulfuric Acid/Permanganate Cleanup	SW846	TAL SEA
5035	Closed System Purge and Trap	SW846	TAL SEA

Protocol References:

ASTM = ASTM International

None = None

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89186-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89186-1	MW-13-8-20190912	Solid	09/12/19 10:50	09/13/19 10:30	
580-89186-2	MW-13-10-20190912	Solid	09/12/19 11:05	09/13/19 10:30	
580-89186-3	MW-13-12.5-20190912	Solid	09/12/19 11:20	09/13/19 10:30	
580-89186-4	MW-13-14-20190912	Solid	09/12/19 11:25	09/13/19 10:30	
580-89186-5	MW-14-7.5-20190912	Solid	09/12/19 16:00	09/13/19 10:30	
580-89186-6	MW-14-10-20190912	Solid	09/12/19 16:10	09/13/19 10:30	
580-89186-7	Tripblank-20190912	Solid	09/12/19 00:00	09/13/19 10:30	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17



04 October 2019

Kristine Allen
Test America
5755 8th Street East
Tacoma, WA 98424

RE: BP-ARCO 980

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

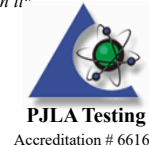
<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19I0333	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Eurofins TestAmerica, Seattle
 5755 8th Street East
 Tacoma, WA 98424
 Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record



Environment Testing
 TestAmerica



Client Information (Sub Contract Lab)
 Shipping/Receiving
 Company: Analytical Resources, Inc
 Address: 4611 South 134th Place, Suite 100,
 Tukwila
 State, Zip: WA, 98168
 Phone: 206-695-6200(Tel)
 Email:
 Project Name: BP-ARCO 980
 Site: ARCO 980 Antea

Lab P/M: Walker, Elaine M
 E-Mail: elaine.walker@testamericainc.com
 State of Origin: Washington
 State Program - Washington
 Accreditations Required (See note):
 COC No: 580-70227.1
 Page: Page 1 of 1
 Job #: 580-89186-1
 Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 M - Hexane
 N - None
 O - ASNAO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Z - other (specify)

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water, B=titrator, A=analyze)	Field Filtered Sample (Yes or No)	SUB (8260C - BTEX, EDB, EDC, MTBE - to week MTC)	Analysis Requested		Special Instructions/Note:
							Perform MS/MSD (Yes or No)	Total Number of Containers	
MW-13-8-20190912	9/12/19	10:50 Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd
MW-13-10-20190912	9/12/19	11:05 Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd
MW-13-12.5-20190912	9/12/19	11:20 Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd
MW-13-14-20190912	9/12/19	11:25 Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd
MW-14-7.5-20190912	9/12/19	16:00 Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd
MW-14-10-20190912	9/12/19	16:10 Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd
Trip/blank-20190912	9/12/19	Pacific	Solid	Solid	X	X			L2, RL reporting, Equ_EQeddi if possible, LCSD req'd

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification

Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Empty Kit Relinquished by: _____ Date: _____
 Primary Deliverable Rank: 2
 Special Instructions/QC Requirements:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Relinquished by: *Bob Dull* Date: *9/20/19* OESZ Company: *SKA TA*
 Relinquished by: *Jacob Walker* Date: *09/20/19* OESZ Company: *ARZ*
 Relinquished by: _____ Date/Time: _____ Company: _____
 Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: _____





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:50
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-13-8-20190912 (580-89186-1)	19I0333-12	Solid	12-Sep-2019 10:50	20-Sep-2019 09:52
MW-13-10-20190912 (580-89186-2)	19I0333-13	Solid	12-Sep-2019 11:05	20-Sep-2019 09:52
MW-13-12.5-20190912 (580-89186-3)	19I0333-14	Solid	12-Sep-2019 11:20	20-Sep-2019 09:52
MW-13-14-20190912 (580-89186-4)	19I0333-15	Solid	12-Sep-2019 11:25	20-Sep-2019 09:52
MW-14-7.5-20190912 (580-89186-5)	19I0333-16	Solid	12-Sep-2019 16:00	20-Sep-2019 09:52
MW-14-10-20190912 (580-89186-6)	19I0333-17	Solid	12-Sep-2019 16:10	20-Sep-2019 09:52
Tripblank-20190912	19I0333-18	Solid	12-Sep-2019 10:50	20-Sep-2019 09:52





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received September 20, 2019 under ARI work order 19I0333. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.





Cooler Receipt Form

ARI Client: Eurofins Test America

Project Name: BP-ARCO 954

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 1910333

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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 0952 -6.7°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JSW Date: 09/20/19 Time: 0952

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 GeI Packs Baggies Foam Block Paper Other: Dry Ice

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped

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

Were the sample(s) split by ARI? YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 09/20/19 Time: 1038 Labels checked by: JSW

**** 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:

Samples stored with Dry Ice. Trip Blanks were not made at ARI.

By: JSW Date: 09/20/19



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

MW-13-8-20190912 (580-89186-1)
19I0333-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C Sampled: 09/12/2019 10:50
Instrument: NT5 Analyst: PB Analyzed: 09/20/2019 21:06
Sample Preparation: Preparation Method: No Prep - Volatiles Extract ID: 19I0333-12 A
Preparation Batch: BHI0615 Sample Size: 6.553 g (wet)
Prepared: 20-Sep-2019 Final Volume: 5 g Dry Weight: 6.14 g
% Solids: 93.70

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.16	0.81	ND	ug/kg	U
Benzene	71-43-2	1	0.24	0.81	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.81	1.46	ug/kg	
1,2-Dibromoethane	106-93-4	1	0.14	0.81	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.81	5.50	ug/kg	
m,p-Xylene	179601-23-1	1	0.32	1.63	12.5	ug/kg	
o-Xylene	95-47-6	1	0.18	0.81	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.19	0.81	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	92.0	%
<i>Surrogate: Toluene-d8</i>					77-120 %	101	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	86.8	%



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

MW-13-10-20190912 (580-89186-2)

19I0333-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 09/12/2019 11:05

Instrument: NT5 Analyst: PB

Analyzed: 09/20/2019 21:27

Sample Preparation:

Preparation Method: No Prep - Volatiles

Extract ID: 19I0333-13 A

Preparation Batch: BHI0615

Sample Size: 7.196 g (wet)

Dry Weight: 6.56 g

Prepared: 20-Sep-2019

Final Volume: 5 g

% Solids: 91.20

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.76	ND	ug/kg	U
Benzene	71-43-2	1	0.23	0.76	ND	ug/kg	U
Toluene	108-88-3	1	0.12	0.76	0.30	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.13	0.76	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.15	0.76	19.3	ug/kg	
m,p-Xylene	179601-23-1	1	0.30	1.52	55.2	ug/kg	
o-Xylene	95-47-6	1	0.17	0.76	29.5	ug/kg	
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.76	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	81.1 %	
<i>Surrogate: Toluene-d8</i>					77-120 %	97.5 %	
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	98.4 %	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:50
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**MW-13-12.5-20190912 (580-89186-3)
19I0333-14 (Solid)**

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/12/2019 11:20		
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 21:49		
Sample Preparation:	Preparation Method: No Prep - Volatiles	Sample Size: 6.602 g (wet)	Extract ID: 19I0333-14 A
	Preparation Batch: BHI0615	Final Volume: 5 g	Dry Weight: 6.17 g
	Prepared: 20-Sep-2019		% Solids: 93.50

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.81	ND	ug/kg	U
Benzene	71-43-2	1	0.24	0.81	0.29	ug/kg	J
Toluene	108-88-3	1	0.12	0.81	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.14	0.81	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.16	0.81	0.30	ug/kg	J
m,p-Xylene	179601-23-1	1	0.32	1.62	0.87	ug/kg	J
o-Xylene	95-47-6	1	0.18	0.81	0.44	ug/kg	J
Methyl tert-butyl Ether	1634-04-4	1	0.19	0.81	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	83.8	%
<i>Surrogate: Toluene-d8</i>					77-120 %	96.8	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	100	%



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

MW-13-14-20190912 (580-89186-4)
19I0333-15 (Solid)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT5 Analyst: PB
Sample Preparation: Preparation Method: No Prep - Volatiles
Preparation Batch: BHI0615
Prepared: 20-Sep-2019
Sample Size: 7.196 g (wet)
Final Volume: 5 g
Extract ID: 19I0333-15 A
Dry Weight: 6.52 g
% Solids: 90.60
Sampled: 09/12/2019 11:25
Analyzed: 09/20/2019 22:11

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.15	0.77	ND	ug/kg	U
Benzene	71-43-2	1	0.23	0.77	1.21	ug/kg	
Toluene	108-88-3	1	0.12	0.77	0.25	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.13	0.77	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.15	0.77	1.11	ug/kg	
m,p-Xylene	179601-23-1	1	0.30	1.53	2.85	ug/kg	
o-Xylene	95-47-6	1	0.17	0.77	3.36	ug/kg	
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.77	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	88.3	%
<i>Surrogate: Toluene-d8</i>					77-120 %	97.2	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	102	%



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

**MW-14-7.5-20190912 (580-89186-5)
19I0333-16 (Solid)**

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 09/12/2019 16:00

Instrument: NT5 Analyst: PB

Analyzed: 09/20/2019 22:32

Sample Preparation:

Preparation Method: No Prep - Volatiles

Extract ID: 19I0333-16 A

Preparation Batch: BHI0615

Sample Size: 7.234 g (wet)

Dry Weight: 6.60 g

Prepared: 20-Sep-2019

Final Volume: 5 g

% Solids: 91.20

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.14	0.76	ND	ug/kg	U
Benzene	71-43-2	1	0.22	0.76	ND	ug/kg	U
Toluene	108-88-3	1	0.11	0.76	0.35	ug/kg	J
1,2-Dibromoethane	106-93-4	1	0.13	0.76	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.15	0.76	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.30	1.52	ND	ug/kg	U
o-Xylene	95-47-6	1	0.17	0.76	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.18	0.76	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	87.5	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.4	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	99.0	%	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:50
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**MW-14-10-20190912 (580-89186-6)
19I0333-17 (Solid)**

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/12/2019 16:10
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 22:54
Sample Preparation:	Preparation Method: No Prep - Volatiles
	Preparation Batch: BHI0615
	Sample Size: 7.391 g (wet)
	Final Volume: 5 g
	Extract ID: 19I0333-17 A
	Dry Weight: 6.95 g
	% Solids: 94.00

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.14	0.72	ND	ug/kg	U
Benzene	71-43-2	1	0.21	0.72	ND	ug/kg	U
Toluene	108-88-3	1	0.11	0.72	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.13	0.72	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.15	0.72	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.28	1.44	ND	ug/kg	U
o-Xylene	95-47-6	1	0.16	0.72	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.17	0.72	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-149 %	87.7	%
<i>Surrogate: Toluene-d8</i>					77-120 %	96.6	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	98.5	%



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:50
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Tripblank-20190912
19I0333-18 (Solid)

Volatile Organic Compounds

Method: EPA 8260C	Sampled: 09/12/2019 10:50
Instrument: NT5 Analyst: PB	Analyzed: 09/20/2019 17:23
Sample Preparation:	Preparation Method: No Prep - Volatiles
	Preparation Batch: BHI0615
	Sample Size: 5.879 g (wet)
	Final Volume: 5 g
	Extract ID: 19I0333-18 A
	Dry Weight: 5.88 g
	% Solids: 100.00

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dichloroethane	107-06-2	1	0.16	0.85	ND	ug/kg	U
Benzene	71-43-2	1	0.25	0.85	ND	ug/kg	U
Toluene	108-88-3	1	0.13	0.85	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.15	0.85	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.17	0.85	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.33	1.70	ND	ug/kg	U
o-Xylene	95-47-6	1	0.19	0.85	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.20	0.85	ND	ug/kg	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-149 %	93.6	%	
<i>Surrogate: Toluene-d8</i>				77-120 %	97.8	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	102	%	



Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHI0615-BLK1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:56						
1,2-Dichloroethane	ND	0.19	1.00	ug/kg							U
Benzene	ND	0.30	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U
1,2-Dibromoethane	ND	0.18	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	0.23	1.00	ug/kg							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.9			ug/kg	50.0		87.8	80-149			
<i>Surrogate: Toluene-d8</i>	48.2			ug/kg	50.0		96.4	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.8	80-120			
LCS (BHI0615-BS1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 12:32						
1,2-Dichloroethane	45.7			ug/kg	50.0		91.4	76-120			
Benzene	48.6			ug/kg	50.0		97.1	80-120			
Toluene	48.5			ug/kg	50.0		97.0	75-120			
1,2-Dibromoethane	47.9			ug/kg	50.0		95.9	80-120			
Ethylbenzene	50.5			ug/kg	50.0		101	80-125			
m,p-Xylene	102			ug/kg	100		102	76-121			
o-Xylene	51.8			ug/kg	50.0		104	67-132			
Methyl tert-butyl Ether	41.3			ug/kg	50.0		82.6	79-127			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	43.4			ug/kg	50.0		86.8	80-149			
<i>Surrogate: Toluene-d8</i>	49.1			ug/kg	50.0		98.2	77-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.4			ug/kg	50.0		98.7	80-120			
LCS Dup (BHI0615-BSD1)											
					Prepared: 20-Sep-2019 Analyzed: 20-Sep-2019 13:34						
1,2-Dichloroethane	45.4			ug/kg	50.0		90.7	76-120	0.75	30	
Benzene	48.6			ug/kg	50.0		97.1	80-120	0.02	30	
Toluene	48.7			ug/kg	50.0		97.4	75-120	0.44	30	
1,2-Dibromoethane	46.7			ug/kg	50.0		93.4	80-120	2.59	30	
Ethylbenzene	52.0			ug/kg	50.0		104	80-125	3.06	30	
m,p-Xylene	105			ug/kg	100		105	76-121	2.91	30	
o-Xylene	52.3			ug/kg	50.0		105	67-132	0.86	30	
Methyl tert-butyl Ether	40.8			ug/kg	50.0		81.7	79-127	1.17	30	



Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:50
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Volatile Organic Compounds - Quality Control

Batch BHI0615 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHI0615-BSD1)					Prepared: 20-Sep-2019		Analyzed: 20-Sep-2019 13:34				
Surrogate: 1,2-Dichloroethane-d4	43.9			ug/kg	50.0	87.7		80-149			
Surrogate: Toluene-d8	48.6			ug/kg	50.0	97.2		77-120			
Surrogate: 4-Bromofluorobenzene	50.5			ug/kg	50.0	101		80-120			





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichlorofluoromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrolein	WADOE, DoD-ELAP, NELAP, CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acetone	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromoethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Iodomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Methylene Chloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Acrylonitrile	WADOE, DoD-ELAP, NELAP, CALAP
Carbon Disulfide	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
trans-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Vinyl Acetate	WADOE, DoD-ELAP, NELAP, CALAP
1,1-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Butanone	WADOE, DoD-ELAP, NELAP, CALAP
2,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,2-Dichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Chloroform	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromochloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1,1-Trichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,1-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Carbon tetrachloride	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloroethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Benzene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Trichloroethene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
1,2-Dichloropropane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Bromodichloromethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Dibromomethane	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
2-Chloroethyl vinyl ether	WADOE, DoD-ELAP, NELAP
4-Methyl-2-Pentanone	WADOE, DoD-ELAP, NELAP, CALAP
cis-1,3-Dichloropropene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Toluene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC





Test America
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Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

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trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE





Test America 5755 8th Street East Tacoma WA, 98424	Project: BP-ARCO 980 Project Number: 58010261 Project Manager: Kristine Allen	Reported: 04-Oct-2019 15:50
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2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America
5755 8th Street East
Tacoma WA, 98424

Project: BP-ARCO 980
Project Number: 58010261
Project Manager: Kristine Allen

Reported:
04-Oct-2019 15:50

Notes and Definitions

- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-89186-1

Login Number: 89186

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Hobbs, Kenneth F

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311521 Batch Start Date: 09/18/19 09:14 Batch Analyst: Guerra, Fernando C

Batch Method: 3546 Batch End Date: 09/18/19 16:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	8270flspk 00254	8270Surr_Phen 00011		
MB 580-311521/1		3546, 8270D SIM		10 g	10 mL		100 uL		
LCS 580-311521/2		3546, 8270D SIM		10 g	10 mL	500 uL	100 uL		
580-89186-B-1	MW-13-8-20190912	3546, 8270D SIM	T	10.008 g	10 mL		100 uL		
580-89186-C-2	MW-13-10-20190912	3546, 8270D SIM	T	10.123 g	10 mL		100 uL		
580-89186-B-3	MW-13-12.5-20190912	3546, 8270D SIM	T	11.529 g	10 mL		100 uL		
580-89186-A-4	MW-13-14-20190912	3546, 8270D SIM	T	11.106 g	10 mL		100 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D SIM



GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311521 Batch Start Date: 09/18/19 09:14 Batch Analyst: Guerra, Fernando C

Batch Method: 3546 Batch End Date: 09/18/19 16:00

Batch Notes	
Balance ID	SEA232 No Unit
Batch Comment	Vialed by: JWM Hydromatrix:2386660
Blank Matrix ID	2470160
Analyst ID - Concentration	JWM
Concentration 1 Corrected Temperature	75-80 Degrees C
Equipment ID - Concentration 1	Steam Bath 1
Analyst ID - Extraction	FCG
Filter ID	09-795F
Method/Fraction	3546/ 8270_SIM
Microwave Oven ID	MARS1
Microwave Program ID	FUELS1 from 1430-1500
Na2SO4 ID	2454064
Pipette/Syringe/Dispenser ID	MP2/E6
Prep Solvent ID	2467106
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	75-80 Degrees C
Vial Lot Number	19136161

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D SIM



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311475 Batch Start Date: 09/17/19 15:10 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 15:46

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	MeOHSubtraction	MeOHVol	InitialAmount	FinalAmount
MB 580-311475/1		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCS 580-311475/2		5035, NWTPH-Gx					10 mL	10 g	10 mL
LCSD 580-311475/3		5035, NWTPH-Gx					10 mL	10 g	10 mL
580-89186-C-1	MW-13-8-20190912	5035, NWTPH-Gx	T	031.913 g	45.59 g	No	10 mL	13.677 g	10 mL
580-89186-D-2	MW-13-10-20190912	5035, NWTPH-Gx	T	031.121 g	45.05 g	No	10 mL	13.929 g	10 mL
580-89186-C-3	MW-13-12.5-20190912	5035, NWTPH-Gx	T	031.346 g	45.44 g	No	10 mL	14.094 g	10 mL
580-89186-C-4	MW-13-14-20190912	5035, NWTPH-Gx	T	031.412 g	45.31 g	No	10 mL	13.898 g	10 mL
580-89186-B-5	MW-14-7.5-20190912	5035, NWTPH-Gx	T	031.832 g	45.79 g	No	10 mL	13.958 g	10 mL
580-89186-B-6	MW-14-10-20190912	5035, NWTPH-Gx	T	031.829 g	45.39 g	No	10 mL	13.561 g	10 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	GRO_LCS 00054	Methanol 1L 00032	V2.4TFT-EX 00040	VoaSand 00066	AnalysisComment	
MB 580-311475/1		5035, NWTPH-Gx				10 mL	10 g		
LCS 580-311475/2		5035, NWTPH-Gx		200 uL		10 mL	10 g		
LCSD 580-311475/3		5035, NWTPH-Gx		200 uL		10 mL	10 g		
580-89186-C-1	MW-13-8-20190912	5035, NWTPH-Gx	T		10 mL			over weight	
580-89186-D-2	MW-13-10-20190912	5035, NWTPH-Gx	T		10 mL			over weight	
580-89186-C-3	MW-13-12.5-20190912	5035, NWTPH-Gx	T		10 mL			over weight	
580-89186-C-4	MW-13-14-20190912	5035, NWTPH-Gx	T		10 mL			over weight	
580-89186-B-5	MW-14-7.5-20190912	5035, NWTPH-Gx	T		10 mL			over weight	
580-89186-B-6	MW-14-10-20190912	5035, NWTPH-Gx	T		10 mL			over weight	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311475 Batch Start Date: 09/17/19 15:10 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/17/19 15:46

Batch Notes	
Balance ID	SEA239
Batch Comment	sint vial 2467520
Blank Matrix ID	2343681
Pipette/Syringe/Dispenser ID	BT1
Vial Lot Number	0103701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311720 Batch Start Date: 09/19/19 13:13 Batch Analyst: Vaughan, Dmitra C

Batch Method: 5035 Batch End Date: 09/19/19 16:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	MeOHVol	InitialAmount	FinalAmount	GRO_LCS 00054	Methanol 1L 00032	V2.4TFT-EX 00040
MB 580-311720/1		5035, NWTPH-Gx		10 mL	10 g	10 mL			10 mL
LCS 580-311720/2		5035, NWTPH-Gx		10 mL	10 g	10 mL	200 uL		10 mL
LCSD 580-311720/3		5035, NWTPH-Gx		10 mL	10 g	10 mL	200 uL		10 mL
580-89186-B-7	Tripblank-20190912	5035, NWTPH-Gx	T	10 mL	10 g	10 mL		10 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	VoaSand 00066	AnalysisComment				
MB 580-311720/1		5035, NWTPH-Gx		10 g					
LCS 580-311720/2		5035, NWTPH-Gx		10 g					
LCSD 580-311720/3		5035, NWTPH-Gx		10 g					
580-89186-B-7	Tripblank-20190912	5035, NWTPH-Gx	T		TB				

Batch Notes	
Balance ID	SEA239
Batch Comment	sint vial 2467520
Blank Matrix ID	2343681
Pipette/Syringe/Dispenser ID	BT1
Vial Lot Number	0103701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 312007 Batch Start Date: 09/23/19 10:03 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 10/01/19 19:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	PCB_MS 00009	Pest/PCB Surr 00075		
MB 580-312007/1		3546, 8082A		10 g	10 mL		100 uL		
LCS 580-312007/2		3546, 8082A		10 g	10 mL	100 uL	100 uL		
580-89186-A-1	MW-13-8-20190912	3546, 8082A	T	10.260 g	10 mL		100 uL		
580-89186-A-2	MW-13-10-20190912	3546, 8082A	T	10.199 g	10 mL		100 uL		
580-89186-A-3	MW-13-12.5-20190912	3546, 8082A	T	10.325 g	10 mL		100 uL		
580-89186-A-4	MW-13-14-20190912	3546, 8082A	T	10.324 g	10 mL		100 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A



PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 312007 Batch Start Date: 09/23/19 10:03 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 10/01/19 19:27

Batch Notes	
Acid used for Clean Up ID	2402719
Balance ID	SEA229 No Unit
Batch Comment	Vialed by: MT Hydromatrix:2386660
Blank Matrix ID	2487153
Analyst ID - Concentration	WMM
Concentration 1 Corrected Temperature	90+ Degrees C
Analyst ID - Clean Up	MT
Equipment ID - Concentration 1	Steam Bath 1
Exchange Solvent ID	Hexane 2440392
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/ 8082A & 8082A_DOD5
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP2
Prep Solvent ID	DCM Acetone 2467105
Analyst ID - Spike Analyst	MT
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	90+ Degrees C
Vial Lot Number	5-3-3

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A



GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 312283 Batch Start Date: 09/25/19 11:08 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/27/19 17:42

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TPH Spike_RZ 00102	TPH_SURR 00045		
MB 580-312283/1		3546, NWTPH-Dx		10 g	10 mL		100 uL		
LCS 580-312283/2		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
LCSD 580-312283/3		3546, NWTPH-Dx		10 g	10 mL	100 uL	100 uL		
580-89186-A-1	MW-13-8-20190912	3546, NWTPH-Dx	T	10.524 g	10 mL		100 uL		
580-89186-C-2	MW-13-10-20190912	3546, NWTPH-Dx	T	10.070 g	10 mL		100 uL		
580-89186-C-2 DU	MW-13-10-20190912	3546, NWTPH-Dx	T	10.114 g	10 mL		100 uL		
580-89186-B-3	MW-13-12.5-20190912	3546, NWTPH-Dx	T	10.729 g	10 mL		100 uL		
580-89186-A-4	MW-13-14-20190912	3546, NWTPH-Dx	T	10.948 g	10 mL		100 uL		
580-89186-A-5	MW-14-7.5-20190912	3546, NWTPH-Dx	T	10.616 g	10 mL		100 uL		
580-89186-A-6	MW-14-10-20190912	3546, NWTPH-Dx	T	10.295 g	10 mL		100 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 312283 Batch Start Date: 09/25/19 11:08 Batch Analyst: Tanase, Michelle L

Batch Method: 3546 Batch End Date: 09/27/19 17:42

Batch Notes	
Balance ID	SEA229 No Unit
Batch Comment	Vialed by: mww Hydromatrix:2386660
Blank Matrix ID	2470158
Analyst ID - Concentration	mww
Concentration 1 Corrected Temperature	70-75 Degrees C
Equipment ID - Concentration 1	Steam Bath 1
Analyst ID - Extraction	MT
Filter ID	09-795F
Method/Fraction	3546/NWTPH_Dx, AK102_103, NWTPH_HCID
Microwave Oven ID	MARS2
Microwave Program ID	FUELS1 from 1430-1500
Pipette/Syringe/Dispenser ID	MP2
Prep Solvent ID	DCM 2450659
Analyst ID - Spike Analyst	MT
Analyst ID - Spike Witness Analyst	FCG
Sufficient Volume for Batch QC	Yes
Thermometer ID - Concentration 1	61013-040-1
Concentration 1 Uncorrected Temperature	70-75 Degrees C
Vial Lot Number	19136161

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311426 Batch Start Date: 09/17/19 10:55 Batch Analyst: Pimentel, Joy C

Batch Method: 3050B Batch End Date: 09/17/19 13:54

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TCP CAL 1 00005	ICP CAL 2 00005	MET Spike 3C 00013	
580-89186-B-1	MW-13-8-20190912	3050B, 6020B	T	1.7507 g	50 mL				
580-89186-C-2	MW-13-10-20190912	3050B, 6020B	T	1.7556 g	50 mL				
580-89186-B-3	MW-13-12.5-20190912	3050B, 6020B	T	1.7872 g	50 mL				
580-89186-A-4	MW-13-14-20190912	3050B, 6020B	T	1.7233 g	50 mL				
580-89186-A-5	MW-14-7.5-20190912	3050B, 6020B	T	1.7647 g	50 mL				
580-89186-A-6	MW-14-10-20190912	3050B, 6020B	T	1.7507 g	50 mL				
MB 580-311426/22		3050B, 6020B		1.0 g	50 mL				
ICS 580-311426/23		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	
ICSD 580-311426/24		3050B, 6020B		1.0 g	50 mL	0.5 mL	0.5 mL	0.5 mL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B



METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311426 Batch Start Date: 09/17/19 10:55 Batch Analyst: Pimentel, Joy C

Batch Method: 3050B Batch End Date: 09/17/19 13:54

Batch Notes	
Balance ID	SEA 228
Blank Soil Lot Number	2062632
Temperature - Corrected - End	92.7 Degrees C
Temperature - Corrected - Start	92.7 Degrees C
Digestion End Time	09/17/2019 13:54
Digestion Start Time	09/17/2019 12:54
Digestion Unit ID	41291
Digestion Tube/Cup ID	2420489
Hydrogen Peroxide ID	2470213
Hydrochloric Acid ID	2377437
Nitric Acid ID	2461133
Nominal Amount Used	1.0 g
Pipette/Syringe/Dispenser ID	METALS-PREP-2
Analyst ID - Spike Analyst	see above
Sufficient Volume for Batch QC	yes
Thermometer ID	1108438
Temperature - Uncorrected - End	93 Degrees C
Temperature - Uncorrected - Start	93 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89186-1

SDG No.: _____

Batch Number: 311425 Batch Start Date: 09/17/19 10:52 Batch Analyst: Muchiri, Janet W

Batch Method: D 2216 Batch End Date: 09/17/19 17:51

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
580-89186-A-1	MW-13-8-20190912	D 2216	T	0.705 g	10.554 g	9.935 g			
580-89186-A-2	MW-13-10-20190912	D 2216	T	0.702 g	10.420 g	9.566 g			
580-89186-A-3	MW-13-12.5-20190912	D 2216	T	0.682 g	13.736 g	12.884 g			
580-89186-B-4	MW-13-14-20190912	D 2216	T	0.693 g	11.648 g	10.620 g			
580-89186-A-5	MW-14-7.5-20190912	D 2216	T	0.686 g	11.302 g	10.364 g			
580-89186-A-6	MW-14-10-20190912	D 2216	T	0.684 g	13.264 g	12.508 g			
580-89186-A-6 DU	MW-14-10-20190912	D 2216	T	0.690 g	12.253 g	11.452 g			

Batch Notes

Balance ID	SEA230
Batch Comment	Weighed by JWM (wet) and MT (dry)
Date samples were placed in the oven	09/17/2019
Oven Temp In	112.5 Degrees C
Time samples were place in the oven	12:52
Date samples were removed from oven	09/17/2019
Oven Temp Out	112.0 Degrees C
Time Samples were removed from oven	17:00
Oven ID	Oven 2
Thermometer ID	DIGITAL
Temperature - Start - Uncorrected	110.0 Degrees C
Temperature - End - Uncorrected	109.5 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Subsurface Investigation Report
ARCO Facility No. 980
10822 Roosevelt Way NE, Seattle, WA
Antea Group Project No. 00980SA191.20100
November 18, 2019



Appendix D

Groundwater Laboratory Analytical Reports



ANALYTICAL REPORT

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

Laboratory Job ID: 580-89609-1
Client Project/Site: BP -ARCO 980
Sampling Event: Antea ARCO 980

For:
Antea USA Inc.
4006 148th Ave NE
Redmond, Washington 98052

Attn: Megan Richard

M. Elaine Walker

Authorized for release by:
10/15/2019 3:47:51 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@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.

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of Eurofins TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The signature on the cover page extends to the case narrative and all the data and forms in the package. The Chain of Custody is included and is an integral part of this report.



Elaine Walker
Project Manager II
10/15/2019 3:47:52 PM



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Definitions/Glossary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
X	Surrogate is outside 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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Job ID: 580-89609-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-89609-1

Receipt

Fifteen samples were received on 9/27/2019 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.9° C and 5.3° C.

GC/MS VOA

Method 8260C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 580-313375 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

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

GC VOA

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

GC Semi VOA

Method NWTPH-Dx: The following samples 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: MW-4_18.74_20190926 (580-89609-2), MW-8_17.06_20190926 (580-89609-3), MW-11_17.77_20190926 (580-89609-6), MW-12_13.42_20190926 (580-89609-7), MW-15_13.92_20190926 (580-89609-10) and MW-16_16.41_20190926 (580-89609-11).

Method NWTPH-Dx: Surrogate recovery for the following samples were outside control limits: MW-4_18.74_20190926 (580-89609-2), MW-13_13.34_20190926 (580-89609-8), MW-16_16.41_20190926 (580-89609-11) and B1 (JPHC)_13.78_20190926 (580-89609-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method NWTPH-Dx: The matrix spike duplicate (MSD) recoveries for prep batch 580-313397 analytical batch 580-313418 were outside control limits for Motor Oil. Sample matrix interference and/or non-homogeneity are suspected because the MSD and associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

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.

Detection Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-2_9.23_20190926

Lab Sample ID: 580-89609-1

No Detections.

Client Sample ID: MW-4_18.74_20190926

Lab Sample ID: 580-89609-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
#2 Diesel (C10-C24)	850		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	650		350		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-8_17.06_20190926

Lab Sample ID: 580-89609-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
#2 Diesel (C10-C24)	130		110		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-9_18.02_20190926

Lab Sample ID: 580-89609-4

No Detections.

Client Sample ID: MW-10_16.44_20190926

Lab Sample ID: 580-89609-5

No Detections.

Client Sample ID: MW-11_17.77_20190926

Lab Sample ID: 580-89609-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
#2 Diesel (C10-C24)	1000		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	1000		350		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-12_13.42_20190926

Lab Sample ID: 580-89609-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	2.1		2.0		ug/L	1		8260C	Total/NA
#2 Diesel (C10-C24)	680		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	510		350		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-13_13.34_20190926

Lab Sample ID: 580-89609-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140		3.0		ug/L	1		8260C	Total/NA
Toluene	3.2	F1	2.0		ug/L	1		8260C	Total/NA
Ethylbenzene	19	F1	3.0		ug/L	1		8260C	Total/NA
Xylenes, Total	140		3.0		ug/L	1		8260C	Total/NA
Gasoline	2900		250		ug/L	1		NWTPH-Gx	Total/NA
#2 Diesel (C10-C24)	6900		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	3500	F1	350		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-14_6.08_20190926

Lab Sample ID: 580-89609-9

No Detections.

Client Sample ID: MW-15_13.92_20190926

Lab Sample ID: 580-89609-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
#2 Diesel (C10-C24)	1100		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	710		360		ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Seattle

Detection Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-16_16.41_20190926

Lab Sample ID: 580-89609-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
#2 Diesel (C10-C24)	540		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	350		350		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B1 (JPHC)_13.78_20190926

Lab Sample ID: 580-89609-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	80		3.0		ug/L	1		8260C	Total/NA
Toluene	3.2		2.0		ug/L	1		8260C	Total/NA
Ethylbenzene	3.1		3.0		ug/L	1		8260C	Total/NA
Xylenes, Total	39		3.0		ug/L	1		8260C	Total/NA
Gasoline	1700		250		ug/L	1		NWTPH-Gx	Total/NA
#2 Diesel (C10-C24)	3900		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	2200		350		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B3 (JPHC)_14.84_20190926

Lab Sample ID: 580-89609-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
#2 Diesel (C10-C24)	180		110		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Dup-1_20190926

Lab Sample ID: 580-89609-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	67		3.0		ug/L	1		8260C	Total/NA
Toluene	2.8		2.0		ug/L	1		8260C	Total/NA
Xylenes, Total	36		3.0		ug/L	1		8260C	Total/NA
Gasoline	1500		250		ug/L	1		NWTPH-Gx	Total/NA
#2 Diesel (C10-C24)	3900		110		ug/L	1		NWTPH-Dx	Total/NA
Motor Oil (>C24-C36)	1900		360		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Tripblank-1_20190926

Lab Sample ID: 580-89609-15

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-2_9.23_20190926

Lab Sample ID: 580-89609-1

Date Collected: 09/26/19 17:15

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 03:59	1
Benzene	ND		3.0		ug/L			10/05/19 03:59	1
Toluene	ND		2.0		ug/L			10/05/19 03:59	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 03:59	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 03:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	105		80 - 120		10/05/19 03:59	1
Toluene-d8 (Surr)	102		80 - 120		10/05/19 03:59	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		10/05/19 03:59	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 03:59	1
Dibromofluoromethane (Surr)	99		80 - 120		10/05/19 03:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		10/08/19 23:52	1
Trifluorotoluene (Surr)	102		50 - 150		10/08/19 23:52	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)	ND		110		ug/L		10/05/19 12:24	10/06/19 13:04	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	58		50 - 150	10/05/19 12:24	10/06/19 13:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:06	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:08	5

Client Sample ID: MW-4_18.74_20190926

Lab Sample ID: 580-89609-2

Date Collected: 09/26/19 17:50

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 04:24	1
Benzene	ND		3.0		ug/L			10/05/19 04:24	1
Toluene	ND		2.0		ug/L			10/05/19 04:24	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 04:24	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 04:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 04:24	1
Toluene-d8 (Surr)	103		80 - 120		10/05/19 04:24	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-4_18.74_20190926

Lab Sample ID: 580-89609-2

Date Collected: 09/26/19 17:50

Matrix: Water

Date Received: 09/27/19 11:20

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		10/05/19 04:24	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 04:24	1
Dibromofluoromethane (Surr)	98		80 - 120		10/05/19 04:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/09/19 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		50 - 150		10/09/19 00:22	1
Trifluorotoluene (Surr)	103		50 - 150		10/09/19 00:22	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)	850		110		ug/L		10/05/19 12:24	10/06/19 13:24	1
Motor Oil (>C24-C36)	650		350		ug/L		10/05/19 12:24	10/06/19 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	42	X	50 - 150		10/05/19 12:24	10/06/19 13:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:09	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:12	5

Client Sample ID: MW-8_17.06_20190926

Lab Sample ID: 580-89609-3

Date Collected: 09/26/19 11:50

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 04:49	1
Benzene	ND		3.0		ug/L			10/05/19 04:49	1
Toluene	ND		2.0		ug/L			10/05/19 04:49	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 04:49	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 04:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	105		80 - 120		10/05/19 04:49	1
Toluene-d8 (Surr)	103		80 - 120		10/05/19 04:49	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		10/05/19 04:49	1
4-Bromofluorobenzene (Surr)	102		80 - 120		10/05/19 04:49	1
Dibromofluoromethane (Surr)	98		80 - 120		10/05/19 04:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/09/19 00:53	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-8_17.06_20190926

Lab Sample ID: 580-89609-3

Date Collected: 09/26/19 11:50

Matrix: Water

Date Received: 09/27/19 11:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		50 - 150		10/09/19 00:53	1
Trifluorotoluene (Surr)	104		50 - 150		10/09/19 00:53	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)	130		110		ug/L		10/05/19 12:24	10/06/19 13:44	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	10/05/19 12:24	10/06/19 13:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:12	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:16	5

Client Sample ID: MW-9_18.02_20190926

Lab Sample ID: 580-89609-4

Date Collected: 09/26/19 11:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 05:13	1
Benzene	ND		3.0		ug/L			10/05/19 05:13	1
Toluene	ND		2.0		ug/L			10/05/19 05:13	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 05:13	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 05:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 05:13	1
Toluene-d8 (Surr)	104		80 - 120		10/05/19 05:13	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		10/05/19 05:13	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 05:13	1
Dibromofluoromethane (Surr)	97		80 - 120		10/05/19 05:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/09/19 01:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		10/09/19 01:54	1
Trifluorotoluene (Surr)	97		50 - 150		10/09/19 01:54	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		110		ug/L		10/05/19 12:24	10/06/19 14:04	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	35	X	50 - 150	10/05/19 12:24	10/06/19 14:04	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-9_18.02_20190926

Lab Sample ID: 580-89609-4

Date Collected: 09/26/19 11:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:15	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:21	5

Client Sample ID: MW-10_16.44_20190926

Lab Sample ID: 580-89609-5

Date Collected: 09/26/19 10:45

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 05:38	1
Benzene	ND		3.0		ug/L			10/05/19 05:38	1
Toluene	ND		2.0		ug/L			10/05/19 05:38	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 05:38	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 05:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	104		80 - 120		10/05/19 05:38	1
Toluene-d8 (Surr)	104		80 - 120		10/05/19 05:38	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 126		10/05/19 05:38	1
4-Bromofluorobenzene (Surr)	102		80 - 120		10/05/19 05:38	1
Dibromofluoromethane (Surr)	98		80 - 120		10/05/19 05:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/09/19 02:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		10/09/19 02:25	1
Trifluorotoluene (Surr)	104		50 - 150		10/09/19 02:25	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		110		ug/L		10/05/19 12:24	10/06/19 14:24	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 14:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	53		50 - 150		10/05/19 12:24	10/06/19 14:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:19	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:25	5

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-11_17.77_20190926

Lab Sample ID: 580-89609-6

Date Collected: 09/26/19 18:13

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 06:03	1
Benzene	ND		3.0		ug/L			10/05/19 06:03	1
Toluene	ND		2.0		ug/L			10/05/19 06:03	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 06:03	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 06:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	105		80 - 120		10/05/19 06:03	1
Toluene-d8 (Surr)	100		80 - 120		10/05/19 06:03	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 126		10/05/19 06:03	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 06:03	1
Dibromofluoromethane (Surr)	99		80 - 120		10/05/19 06:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		10/08/19 14:20	1
Trifluorotoluene (Surr)	52		50 - 150		10/08/19 14:20	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)	1000		110		ug/L		10/05/19 12:24	10/06/19 14:44	1
Motor Oil (>C24-C36)	1000		350		ug/L		10/05/19 12:24	10/06/19 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	88		50 - 150		10/05/19 12:24	10/06/19 14:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:22	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:29	5

Client Sample ID: MW-12_13.42_20190926

Lab Sample ID: 580-89609-7

Date Collected: 09/26/19 16:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 06:28	1
Benzene	ND		3.0		ug/L			10/05/19 06:28	1
Toluene	2.1		2.0		ug/L			10/05/19 06:28	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 06:28	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 06:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 06:28	1
Toluene-d8 (Surr)	103		80 - 120		10/05/19 06:28	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-12_13.42_20190926

Lab Sample ID: 580-89609-7

Date Collected: 09/26/19 16:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 126		10/05/19 06:28	1
4-Bromofluorobenzene (Surr)	102		80 - 120		10/05/19 06:28	1
Dibromofluoromethane (Surr)	97		80 - 120		10/05/19 06:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		50 - 150		10/08/19 14:44	1
Trifluorotoluene (Surr)	69		50 - 150		10/08/19 14:44	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)	680		110		ug/L		10/05/19 12:24	10/06/19 15:05	1
Motor Oil (>C24-C36)	510		350		ug/L		10/05/19 12:24	10/06/19 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	95		50 - 150		10/05/19 12:24	10/06/19 15:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:25	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:34	5

Client Sample ID: MW-13_13.34_20190926

Lab Sample ID: 580-89609-8

Date Collected: 09/26/19 14:55

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	F1 F2	2.0		ug/L			10/05/19 02:45	1
Benzene	140		3.0		ug/L			10/05/19 02:45	1
Toluene	3.2	F1	2.0		ug/L			10/05/19 02:45	1
Ethylbenzene	19	F1	3.0		ug/L			10/05/19 02:45	1
Xylenes, Total	140		3.0		ug/L			10/05/19 02:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	101		80 - 120		10/05/19 02:45	1
Toluene-d8 (Surr)	105		80 - 120		10/05/19 02:45	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 126		10/05/19 02:45	1
4-Bromofluorobenzene (Surr)	99		80 - 120		10/05/19 02:45	1
Dibromofluoromethane (Surr)	95		80 - 120		10/05/19 02:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2900		250		ug/L			10/09/19 16:41	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-13_13.34_20190926

Lab Sample ID: 580-89609-8

Date Collected: 09/26/19 14:55

Matrix: Water

Date Received: 09/27/19 11:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		50 - 150		10/09/19 16:41	1
Trifluorotoluene (Surr)	104		50 - 150		10/09/19 16:41	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)	6900		110		ug/L		10/05/19 12:24	10/06/19 15:45	1
Motor Oil (>C24-C36)	3500	F1	350		ug/L		10/05/19 12:24	10/06/19 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	46	X	50 - 150	10/05/19 12:24	10/06/19 15:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 14:31	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 21:20	5

Client Sample ID: MW-14_6.08_20190926

Lab Sample ID: 580-89609-9

Date Collected: 09/26/19 16:50

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 06:52	1
Benzene	ND		3.0		ug/L			10/05/19 06:52	1
Toluene	ND		2.0		ug/L			10/05/19 06:52	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 06:52	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 06:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120		10/05/19 06:52	1
Toluene-d8 (Surr)	103		80 - 120		10/05/19 06:52	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		10/05/19 06:52	1
4-Bromofluorobenzene (Surr)	102		80 - 120		10/05/19 06:52	1
Dibromofluoromethane (Surr)	97		80 - 120		10/05/19 06:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		10/08/19 15:09	1
Trifluorotoluene (Surr)	54		50 - 150		10/08/19 15:09	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		110		ug/L		10/05/19 12:24	10/06/19 16:45	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	10/05/19 12:24	10/06/19 16:45	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-14_6.08_20190926

Lab Sample ID: 580-89609-9

Date Collected: 09/26/19 16:50

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:28	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:38	5

Client Sample ID: MW-15_13.92_20190926

Lab Sample ID: 580-89609-10

Date Collected: 09/26/19 13:50

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 07:17	1
Benzene	ND		3.0		ug/L			10/05/19 07:17	1
Toluene	ND		2.0		ug/L			10/05/19 07:17	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 07:17	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 07:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120		10/05/19 07:17	1
Toluene-d8 (Surr)	102		80 - 120		10/05/19 07:17	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		10/05/19 07:17	1
4-Bromofluorobenzene (Surr)	94		80 - 120		10/05/19 07:17	1
Dibromofluoromethane (Surr)	97		80 - 120		10/05/19 07:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		10/08/19 17:10	1
Trifluorotoluene (Surr)	64		50 - 150		10/08/19 17:10	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)	1100		110		ug/L		10/05/19 12:24	10/06/19 17:06	1
Motor Oil (>C24-C36)	710		360		ug/L		10/05/19 12:24	10/06/19 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150		10/05/19 12:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:31	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 22:42	5

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-16_16.41_20190926

Lab Sample ID: 580-89609-11

Date Collected: 09/26/19 12:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 07:41	1
Benzene	ND		3.0		ug/L			10/05/19 07:41	1
Toluene	ND		2.0		ug/L			10/05/19 07:41	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 07:41	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 07:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 07:41	1
Toluene-d8 (Surr)	102		80 - 120		10/05/19 07:41	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		10/05/19 07:41	1
4-Bromofluorobenzene (Surr)	100		80 - 120		10/05/19 07:41	1
Dibromofluoromethane (Surr)	97		80 - 120		10/05/19 07:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 17:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150		10/08/19 17:34	1
Trifluorotoluene (Surr)	77		50 - 150		10/08/19 17:34	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)	540		110		ug/L		10/05/19 12:24	10/06/19 17:26	1
Motor Oil (>C24-C36)	350		350		ug/L		10/05/19 12:24	10/06/19 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	46	X	50 - 150		10/05/19 12:24	10/06/19 17:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:35	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 23:04	5

Client Sample ID: B1 (JPHC)_13.78_20190926

Lab Sample ID: 580-89609-12

Date Collected: 09/26/19 14:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 08:06	1
Benzene	80		3.0		ug/L			10/05/19 08:06	1
Toluene	3.2		2.0		ug/L			10/05/19 08:06	1
Ethylbenzene	3.1		3.0		ug/L			10/05/19 08:06	1
Xylenes, Total	39		3.0		ug/L			10/05/19 08:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120		10/05/19 08:06	1
Toluene-d8 (Surr)	102		80 - 120		10/05/19 08:06	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: B1 (JPHC)_13.78_20190926

Lab Sample ID: 580-89609-12

Date Collected: 09/26/19 14:20

Matrix: Water

Date Received: 09/27/19 11:20

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		10/05/19 08:06	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 08:06	1
Dibromofluoromethane (Surr)	96		80 - 120		10/05/19 08:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1700		250		ug/L			10/08/19 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		50 - 150		10/08/19 17:58	1
Trifluorotoluene (Surr)	106		50 - 150		10/08/19 17:58	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)	3900		110		ug/L		10/05/19 12:24	10/06/19 17:46	1
Motor Oil (>C24-C36)	2200		350		ug/L		10/05/19 12:24	10/06/19 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	42	X	50 - 150	10/05/19 12:24	10/06/19 17:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:47	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 23:09	5

Client Sample ID: B3 (JPHC)_14.84_20190926

Lab Sample ID: 580-89609-13

Date Collected: 09/26/19 13:25

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 08:31	1
Benzene	ND		3.0		ug/L			10/05/19 08:31	1
Toluene	ND		2.0		ug/L			10/05/19 08:31	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 08:31	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 08:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 08:31	1
Toluene-d8 (Surr)	101		80 - 120		10/05/19 08:31	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		10/05/19 08:31	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 08:31	1
Dibromofluoromethane (Surr)	96		80 - 120		10/05/19 08:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 18:22	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: B3 (JPHC)_14.84_20190926

Lab Sample ID: 580-89609-13

Date Collected: 09/26/19 13:25

Matrix: Water

Date Received: 09/27/19 11:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		50 - 150		10/08/19 18:22	1
Trifluorotoluene (Surr)	72		50 - 150		10/08/19 18:22	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)	180		110		ug/L		10/05/19 12:24	10/06/19 18:06	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	10/05/19 12:24	10/06/19 18:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:51	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 23:13	5

Client Sample ID: Dup-1_20190926

Lab Sample ID: 580-89609-14

Date Collected: 09/26/19 06:00

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 08:55	1
Benzene	67		3.0		ug/L			10/05/19 08:55	1
Toluene	2.8		2.0		ug/L			10/05/19 08:55	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 08:55	1
Xylenes, Total	36		3.0		ug/L			10/05/19 08:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 08:55	1
Toluene-d8 (Surr)	102		80 - 120		10/05/19 08:55	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 126		10/05/19 08:55	1
4-Bromofluorobenzene (Surr)	102		80 - 120		10/05/19 08:55	1
Dibromofluoromethane (Surr)	95		80 - 120		10/05/19 08:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1500		250		ug/L			10/09/19 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		10/09/19 16:17	1
Trifluorotoluene (Surr)	99		50 - 150		10/09/19 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)	3900		110		ug/L		10/05/19 12:24	10/06/19 18:26	1
Motor Oil (>C24-C36)	1900		360		ug/L		10/05/19 12:24	10/06/19 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	10/05/19 12:24	10/06/19 18:26	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: Dup-1_20190926

Lab Sample ID: 580-89609-14

Date Collected: 09/26/19 06:00

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 15:54	5

Method: 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 23:17	5

Client Sample ID: Tripblank-1_20190926

Lab Sample ID: 580-89609-15

Date Collected: 09/26/19 00:00

Matrix: Water

Date Received: 09/27/19 11:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0		ug/L			10/05/19 01:06	1
Toluene	ND		2.0		ug/L			10/05/19 01:06	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 01:06	1
m-Xylene & p-Xylene	ND		3.0		ug/L			10/05/19 01:06	1
o-Xylene	ND		2.0		ug/L			10/05/19 01:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		10/05/19 01:06	1
Trifluorotoluene (Surr)	101		80 - 120		10/05/19 01:06	1
4-Bromofluorobenzene (Surr)	101		80 - 120		10/05/19 01:06	1
Dibromofluoromethane (Surr)	95		80 - 120		10/05/19 01:06	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		10/05/19 01:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 12:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		50 - 150		10/08/19 12:43	1
Trifluorotoluene (Surr)	64		50 - 150		10/08/19 12:43	1

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		TFT (80-120)	TOL (80-120)	DCA (80-126)	BFB (80-120)	DBFM (80-120)
580-89609-1	MW-2_9.23_20190926	105	102	101	101	99
580-89609-2	MW-4_18.74_20190926	103	103	102	101	98
580-89609-3	MW-8_17.06_20190926	105	103	100	102	98
580-89609-4	MW-9_18.02_20190926	103	104	102	101	97
580-89609-5	MW-10_16.44_20190926	104	104	103	102	98
580-89609-6	MW-11_17.77_20190926	105	100	104	101	99
580-89609-7	MW-12_13.42_20190926	103	103	104	102	97
580-89609-8	MW-13_13.34_20190926	101	105	103	99	95
580-89609-8 MS	MW-13_13.34_20190926	106	105	104	103	100
580-89609-8 MSD	MW-13_13.34_20190926	103	103	99	102	97
580-89609-9	MW-14_6.08_20190926	102	103	102	102	97
580-89609-10	MW-15_13.92_20190926	102	102	102	94	97
580-89609-11	MW-16_16.41_20190926	103	102	100	100	97
580-89609-12	B1 (JPHC)_13.78_20190926	100	102	99	101	96
580-89609-13	B3 (JPHC)_14.84_20190926	103	101	101	101	96
580-89609-14	Dup-1_20190926	103	102	103	102	95
580-89609-15	Tripblank-1_20190926	101	102	101	101	95
LCS 580-313375/3	Lab Control Sample	101	102	103	101	98
LCS 580-313375/4	Lab Control Sample Dup	101	101	103	102	98
MB 580-313375/6	Method Blank	103	103	102	102	96

Surrogate Legend

TFT = Trifluorotoluene (Surr)
TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (50-150)	TFT1 (50-150)
580-89609-1	MW-2_9.23_20190926	96	102
580-89609-2	MW-4_18.74_20190926	93	103
580-89609-3	MW-8_17.06_20190926	92	104
580-89609-4	MW-9_18.02_20190926	98	97
580-89609-5	MW-10_16.44_20190926	98	104
580-89609-6	MW-11_17.77_20190926	102	52
580-89609-7	MW-12_13.42_20190926	101	69
580-89609-8	MW-13_13.34_20190926	101	104
580-89609-8 MS	MW-13_13.34_20190926	110	100
580-89609-8 MSD	MW-13_13.34_20190926	113	109
580-89609-9	MW-14_6.08_20190926	98	54
580-89609-10	MW-15_13.92_20190926	96	64
580-89609-11	MW-16_16.41_20190926	95	77
580-89609-12	B1 (JPHC)_13.78_20190926	112	106
580-89609-13	B3 (JPHC)_14.84_20190926	92	72
580-89609-14	Dup-1_20190926	102	99

Eurofins TestAmerica, Seattle

Surrogate Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (50-150)	TFT1 (50-150)
580-89609-15	Tripblank-1_20190926	100	64
LCS 580-313622/10	Lab Control Sample	101	105
LCS 580-313628/6	Lab Control Sample	98	102
LCS 580-313719/8	Lab Control Sample	95	96
LCSD 580-313622/11	Lab Control Sample Dup	97	104
LCSD 580-313628/7	Lab Control Sample Dup	100	109
LCSD 580-313719/9	Lab Control Sample Dup	93	106
MB 580-313622/9	Method Blank	99	117
MB 580-313628/5	Method Blank	95	113
MB 580-313719/7	Method Blank	83	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TFT = Trifluorotoluene (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (50-150)
580-89609-1	MW-2_9.23_20190926	58
580-89609-2	MW-4_18.74_20190926	42 X
580-89609-3	MW-8_17.06_20190926	87
580-89609-4	MW-9_18.02_20190926	35 X
580-89609-5	MW-10_16.44_20190926	53
580-89609-6	MW-11_17.77_20190926	88
580-89609-7	MW-12_13.42_20190926	95
580-89609-8	MW-13_13.34_20190926	46 X
580-89609-8 MS	MW-13_13.34_20190926	71
580-89609-8 MSD	MW-13_13.34_20190926	65
580-89609-9	MW-14_6.08_20190926	85
580-89609-10	MW-15_13.92_20190926	79
580-89609-11	MW-16_16.41_20190926	46 X
580-89609-12	B1 (JPHC)_13.78_20190926	42 X
580-89609-13	B3 (JPHC)_14.84_20190926	88
580-89609-14	Dup-1_20190926	82
LCS 580-313397/2-A	Lab Control Sample	83
LCSD 580-313397/3-A	Lab Control Sample Dup	80
MB 580-313397/1-A	Method Blank	91

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Lab Sample ID: MB 580-313375/6
Matrix: Water
Analysis Batch: 313375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0		ug/L			10/05/19 00:42	1
Benzene	ND		3.0		ug/L			10/05/19 00:42	1
Toluene	ND		2.0		ug/L			10/05/19 00:42	1
Ethylbenzene	ND		3.0		ug/L			10/05/19 00:42	1
m-Xylene & p-Xylene	ND		3.0		ug/L			10/05/19 00:42	1
o-Xylene	ND		2.0		ug/L			10/05/19 00:42	1
Xylenes, Total	ND		3.0		ug/L			10/05/19 00:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		10/05/19 00:42	1
Trifluorotoluene (Surr)	103		80 - 120		10/05/19 00:42	1
4-Bromofluorobenzene (Surr)	102		80 - 120		10/05/19 00:42	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		10/05/19 00:42	1
Dibromofluoromethane (Surr)	96		80 - 120		10/05/19 00:42	1

Lab Sample ID: LCS 580-313375/3
Matrix: Water
Analysis Batch: 313375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	10.0	9.34		ug/L		93	72 - 130
Benzene	10.0	9.73		ug/L		97	75 - 121
Toluene	10.0	9.96		ug/L		100	80 - 120
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
m-Xylene & p-Xylene	10.0	10.2		ug/L		102	80 - 120
o-Xylene	10.0	10.3		ug/L		103	80 - 120
Xylenes, Total	20.0	20.5		ug/L		103	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 120
Trifluorotoluene (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	103		80 - 126
Dibromofluoromethane (Surr)	98		80 - 120

Lab Sample ID: LCSD 580-313375/4
Matrix: Water
Analysis Batch: 313375

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
Methyl tert-butyl ether	10.0	9.84		ug/L		98	72 - 130	5	18
Benzene	10.0	9.77		ug/L		98	75 - 121	0	14
Toluene	10.0	9.75		ug/L		97	80 - 120	2	19
Ethylbenzene	10.0	9.88		ug/L		99	80 - 120	2	14
m-Xylene & p-Xylene	10.0	10.0		ug/L		100	80 - 120	2	14
o-Xylene	10.0	10.2		ug/L		102	80 - 120	1	16
Xylenes, Total	20.0	20.2		ug/L		101	80 - 120	1	16

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Lab Sample ID: LCSD 580-313375/4
Matrix: Water
Analysis Batch: 313375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

<u>Surrogate</u>	<u>LCSD</u> <u>%Recovery</u>	<u>LCSD</u> <u>Qualifier</u>	<u>Limits</u>
Toluene-d8 (Surr)	101		80 - 120
Trifluorotoluene (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	102		80 - 120
1,2-Dichloroethane-d4 (Surr)	103		80 - 126
Dibromofluoromethane (Surr)	98		80 - 120

Lab Sample ID: 580-89609-8 MS
Matrix: Water
Analysis Batch: 313375

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total/NA

<u>Analyte</u>	<u>Sample</u> <u>Result</u>	<u>Sample</u> <u>Qualifier</u>	<u>Spike</u> <u>Added</u>	<u>MS</u> <u>Result</u>	<u>MS</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec.</u> <u>Limits</u>
Methyl tert-butyl ether	ND	F1 F2	10.0	4.69	F1	ug/L		47	72 - 130
Benzene	140		10.0	148	4	ug/L		61	75 - 121
Toluene	3.2	F1	10.0	8.67	F1	ug/L		55	80 - 120
Ethylbenzene	19	F1	10.0	21.4	F1	ug/L		26	80 - 120
m-Xylene & p-Xylene	57		10.0	54.5	4	ug/L		-27	80 - 120
o-Xylene	84		10.0	84.1	4	ug/L		4	80 - 120
Xylenes, Total	140		20.0	139	4	ug/L		-12	80 - 120

<u>Surrogate</u>	<u>MS</u> <u>%Recovery</u>	<u>MS</u> <u>Qualifier</u>	<u>Limits</u>
Trifluorotoluene (Surr)	106		80 - 120
Toluene-d8 (Surr)	105		80 - 120
1,2-Dichloroethane-d4 (Surr)	104		80 - 126
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120

Lab Sample ID: 580-89609-8 MSD
Matrix: Water
Analysis Batch: 313375

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total/NA

<u>Analyte</u>	<u>Sample</u> <u>Result</u>	<u>Sample</u> <u>Qualifier</u>	<u>Spike</u> <u>Added</u>	<u>MSD</u> <u>Result</u>	<u>MSD</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec.</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limit</u>
Methyl tert-butyl ether	ND	F1 F2	10.0	3.66	F1 F2	ug/L		37	72 - 130	25	18
Benzene	140		10.0	141	4	ug/L		-13	75 - 121	5	14
Toluene	3.2	F1	10.0	7.19	F1	ug/L		40	80 - 120	19	19
Ethylbenzene	19	F1	10.0	20.1	F1	ug/L		13	80 - 120	6	14
m-Xylene & p-Xylene	57		10.0	52.1	4	ug/L		-51	80 - 120	4	14
o-Xylene	84		10.0	84.4	4	ug/L		6	80 - 120	0	16
Xylenes, Total	140		20.0	137	4	ug/L		-23	80 - 120	2	16

<u>Surrogate</u>	<u>MSD</u> <u>%Recovery</u>	<u>MSD</u> <u>Qualifier</u>	<u>Limits</u>
Trifluorotoluene (Surr)	103		80 - 120
Toluene-d8 (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 126
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Lab Sample ID: MB 580-313622/9
Matrix: Water
Analysis Batch: 313622

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 14:33	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150					10/08/19 14:33	1
Trifluorotoluene (Surr)	117		50 - 150					10/08/19 14:33	1

Lab Sample ID: LCS 580-313622/10
Matrix: Water
Analysis Batch: 313622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	1000	915		ug/L		92	79 - 120		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		50 - 150						
Trifluorotoluene (Surr)	105		50 - 150						

Lab Sample ID: LCSD 580-313622/11
Matrix: Water
Analysis Batch: 313622

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	1000	923		ug/L		92	79 - 120	1	10
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	97		50 - 150						
Trifluorotoluene (Surr)	104		50 - 150						

Lab Sample ID: MB 580-313628/5
Matrix: Water
Analysis Batch: 313628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/08/19 11:30	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					10/08/19 11:30	1
Trifluorotoluene (Surr)	113		50 - 150					10/08/19 11:30	1

Lab Sample ID: LCS 580-313628/6
Matrix: Water
Analysis Batch: 313628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	1000	932		ug/L		93	79 - 120		

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Lab Sample ID: LCS 580-313628/6
Matrix: Water
Analysis Batch: 313628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		50 - 150
Trifluorotoluene (Surr)	102		50 - 150

Lab Sample ID: LCSD 580-313628/7
Matrix: Water
Analysis Batch: 313628

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	1000	937		ug/L		94	79 - 120	1	10

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		50 - 150
Trifluorotoluene (Surr)	109		50 - 150

Lab Sample ID: MB 580-313719/7
Matrix: Water
Analysis Batch: 313719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		250		ug/L			10/09/19 11:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	83		50 - 150		10/09/19 11:27	1
Trifluorotoluene (Surr)	93		50 - 150		10/09/19 11:27	1

Lab Sample ID: LCS 580-313719/8
Matrix: Water
Analysis Batch: 313719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	868		ug/L		87	79 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	95		50 - 150
Trifluorotoluene (Surr)	96		50 - 150

Lab Sample ID: LCSD 580-313719/9
Matrix: Water
Analysis Batch: 313719

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	1000	881		ug/L		88	79 - 120	1	10

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	93		50 - 150
Trifluorotoluene (Surr)	106		50 - 150

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Lab Sample ID: 580-89609-8 MS
Matrix: Water
Analysis Batch: 313719

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	2900		1000	3720		ug/L		85	79 - 120
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	110		50 - 150						
Trifluorotoluene (Surr)	100		50 - 150						

Lab Sample ID: 580-89609-8 MSD
Matrix: Water
Analysis Batch: 313719

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	2900		1000	4000		ug/L		112	79 - 120	7	10
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	113		50 - 150								
Trifluorotoluene (Surr)	109		50 - 150								

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

Lab Sample ID: MB 580-313397/1-A
Matrix: Water
Analysis Batch: 313418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		110		ug/L		10/05/19 12:24	10/06/19 12:03	1
Motor Oil (>C24-C36)	ND		350		ug/L		10/05/19 12:24	10/06/19 12:03	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
o-Terphenyl	91		50 - 150	10/05/19 12:24	10/06/19 12:03	1			

Lab Sample ID: LCS 580-313397/2-A
Matrix: Water
Analysis Batch: 313418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2000	1750		ug/L		88	50 - 120
Motor Oil (>C24-C36)	2000	2190		ug/L		109	64 - 120
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
o-Terphenyl	83		50 - 150				

Lab Sample ID: LCSD 580-313397/3-A
Matrix: Water
Analysis Batch: 313418

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 313397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2000	1860		ug/L		93	50 - 120	6	26
Motor Oil (>C24-C36)	2000	2170		ug/L		109	64 - 120	1	24

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	80		50 - 150

Lab Sample ID: 580-89609-8 MS
Matrix: Water
Analysis Batch: 313418

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total/NA
Prep Batch: 313397

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	Limits
				Result	Qualifier				
#2 Diesel (C10-C24)	6900		2020	9300		ug/L		120	50 - 120
Motor Oil (>C24-C36)	3500	F1	2020	6190	F1	ug/L		135	64 - 120

Surrogate	MS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	71		50 - 150

Lab Sample ID: 580-89609-8 MSD
Matrix: Water
Analysis Batch: 313418

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total/NA
Prep Batch: 313397

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	Limits	RPD	Limit
				Result	Qualifier						
#2 Diesel (C10-C24)	6900		2010	8020		ug/L		57	50 - 120	15	26
Motor Oil (>C24-C36)	3500	F1	2010	5140		ug/L		84	64 - 120	19	24

Surrogate	MSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	65		50 - 150

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-313919/23-A
Matrix: Water
Analysis Batch: 314244

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 313919

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		4.0		ug/L		10/10/19 13:05	10/11/19 14:27	5

Lab Sample ID: LCS 580-313919/24-A
Matrix: Water
Analysis Batch: 314244

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 313919

Analyte	Spike Added	LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Lead	1000	973		ug/L		97	80 - 120

Lab Sample ID: LCSD 580-313919/25-A
Matrix: Water
Analysis Batch: 314244

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 313919

Analyte	Spike Added	LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Lead	1000	969		ug/L		97	80 - 120	0	20

QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

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

Lab Sample ID: 580-89609-8 MS
Matrix: Water
Analysis Batch: 314244

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total Recoverable
Prep Batch: 313919

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	ND		1000	981		ug/L		98	80 - 120

Lab Sample ID: 580-89609-8 MSD
Matrix: Water
Analysis Batch: 314244

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total Recoverable
Prep Batch: 313919

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	ND		1000	953		ug/L		95	80 - 120	3	20

Lab Sample ID: 580-89609-8 DU
Matrix: Water
Analysis Batch: 314244

Client Sample ID: MW-13_13.34_20190926
Prep Type: Total Recoverable
Prep Batch: 313919

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		ug/L		NC	20

Lab Sample ID: MB 580-313667/19-B
Matrix: Water
Analysis Batch: 314274

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 314067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.0		ug/L		10/11/19 14:46	10/14/19 21:15	5

Lab Sample ID: LCS 580-313667/20-B
Matrix: Water
Analysis Batch: 314274

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 314067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	1000	954		ug/L		95	80 - 120

Lab Sample ID: LCSD 580-313667/21-B
Matrix: Water
Analysis Batch: 314274

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 314067

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	1000	957		ug/L		96	80 - 120	0	20

Lab Sample ID: 580-89609-8 MS
Matrix: Water
Analysis Batch: 314274

Client Sample ID: MW-13_13.34_20190926
Prep Type: Dissolved
Prep Batch: 314067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	ND		1000	1040		ug/L		103	80 - 120

Lab Sample ID: 580-89609-8 MSD
Matrix: Water
Analysis Batch: 314274

Client Sample ID: MW-13_13.34_20190926
Prep Type: Dissolved
Prep Batch: 314067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	ND		1000	1170		ug/L		117	80 - 120	12	20

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QC Sample Results

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: 580-89609-8 DU
Matrix: Water
Analysis Batch: 314274

Client Sample ID: MW-13_13.34_20190926
Prep Type: Dissolved
Prep Batch: 314067

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		ug/L		NC	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

GC/MS VOA

Analysis Batch: 313375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Total/NA	Water	8260C	
580-89609-2	MW-4_18.74_20190926	Total/NA	Water	8260C	
580-89609-3	MW-8_17.06_20190926	Total/NA	Water	8260C	
580-89609-4	MW-9_18.02_20190926	Total/NA	Water	8260C	
580-89609-5	MW-10_16.44_20190926	Total/NA	Water	8260C	
580-89609-6	MW-11_17.77_20190926	Total/NA	Water	8260C	
580-89609-7	MW-12_13.42_20190926	Total/NA	Water	8260C	
580-89609-8	MW-13_13.34_20190926	Total/NA	Water	8260C	
580-89609-9	MW-14_6.08_20190926	Total/NA	Water	8260C	
580-89609-10	MW-15_13.92_20190926	Total/NA	Water	8260C	
580-89609-11	MW-16_16.41_20190926	Total/NA	Water	8260C	
580-89609-12	B1 (JPHC)_13.78_20190926	Total/NA	Water	8260C	
580-89609-13	B3 (JPHC)_14.84_20190926	Total/NA	Water	8260C	
580-89609-14	Dup-1_20190926	Total/NA	Water	8260C	
580-89609-15	Tripblank-1_20190926	Total/NA	Water	8260C	
MB 580-313375/6	Method Blank	Total/NA	Water	8260C	
LCS 580-313375/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 580-313375/4	Lab Control Sample Dup	Total/NA	Water	8260C	
580-89609-8 MS	MW-13_13.34_20190926	Total/NA	Water	8260C	
580-89609-8 MSD	MW-13_13.34_20190926	Total/NA	Water	8260C	

GC VOA

Analysis Batch: 313622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-2	MW-4_18.74_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-3	MW-8_17.06_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-4	MW-9_18.02_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-5	MW-10_16.44_20190926	Total/NA	Water	NWTPH-Gx	
MB 580-313622/9	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 580-313622/10	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 580-313622/11	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 313628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-6	MW-11_17.77_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-7	MW-12_13.42_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-9	MW-14_6.08_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-10	MW-15_13.92_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-11	MW-16_16.41_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-12	B1 (JPHC)_13.78_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-13	B3 (JPHC)_14.84_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-15	Tripblank-1_20190926	Total/NA	Water	NWTPH-Gx	
MB 580-313628/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 580-313628/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 580-313628/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 313719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-8	MW-13_13.34_20190926	Total/NA	Water	NWTPH-Gx	

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

GC VOA (Continued)

Analysis Batch: 313719 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-14	Dup-1_20190926	Total/NA	Water	NWTPH-Gx	
MB 580-313719/7	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 580-313719/8	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 580-313719/9	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
580-89609-8 MS	MW-13_13.34_20190926	Total/NA	Water	NWTPH-Gx	
580-89609-8 MSD	MW-13_13.34_20190926	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 313397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Total/NA	Water	3510C	
580-89609-2	MW-4_18.74_20190926	Total/NA	Water	3510C	
580-89609-3	MW-8_17.06_20190926	Total/NA	Water	3510C	
580-89609-4	MW-9_18.02_20190926	Total/NA	Water	3510C	
580-89609-5	MW-10_16.44_20190926	Total/NA	Water	3510C	
580-89609-6	MW-11_17.77_20190926	Total/NA	Water	3510C	
580-89609-7	MW-12_13.42_20190926	Total/NA	Water	3510C	
580-89609-8	MW-13_13.34_20190926	Total/NA	Water	3510C	
580-89609-9	MW-14_6.08_20190926	Total/NA	Water	3510C	
580-89609-10	MW-15_13.92_20190926	Total/NA	Water	3510C	
580-89609-11	MW-16_16.41_20190926	Total/NA	Water	3510C	
580-89609-12	B1 (JPHC)_13.78_20190926	Total/NA	Water	3510C	
580-89609-13	B3 (JPHC)_14.84_20190926	Total/NA	Water	3510C	
580-89609-14	Dup-1_20190926	Total/NA	Water	3510C	
MB 580-313397/1-A	Method Blank	Total/NA	Water	3510C	
LCS 580-313397/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 580-313397/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
580-89609-8 MS	MW-13_13.34_20190926	Total/NA	Water	3510C	
580-89609-8 MSD	MW-13_13.34_20190926	Total/NA	Water	3510C	

Analysis Batch: 313418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-2	MW-4_18.74_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-3	MW-8_17.06_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-4	MW-9_18.02_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-5	MW-10_16.44_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-6	MW-11_17.77_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-7	MW-12_13.42_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-8	MW-13_13.34_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-9	MW-14_6.08_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-10	MW-15_13.92_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-11	MW-16_16.41_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-12	B1 (JPHC)_13.78_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-13	B3 (JPHC)_14.84_20190926	Total/NA	Water	NWTPH-Dx	313397
580-89609-14	Dup-1_20190926	Total/NA	Water	NWTPH-Dx	313397
MB 580-313397/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	313397
LCS 580-313397/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	313397
LCSD 580-313397/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	313397
580-89609-8 MS	MW-13_13.34_20190926	Total/NA	Water	NWTPH-Dx	313397

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

GC Semi VOA (Continued)

Analysis Batch: 313418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-8 MSD	MW-13_13.34_20190926	Total/NA	Water	NWTPH-Dx	313397

Metals

Filtration Batch: 313667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Dissolved	Water	FILTRATION	
580-89609-2	MW-4_18.74_20190926	Dissolved	Water	FILTRATION	
580-89609-3	MW-8_17.06_20190926	Dissolved	Water	FILTRATION	
580-89609-4	MW-9_18.02_20190926	Dissolved	Water	FILTRATION	
580-89609-5	MW-10_16.44_20190926	Dissolved	Water	FILTRATION	
580-89609-6	MW-11_17.77_20190926	Dissolved	Water	FILTRATION	
580-89609-7	MW-12_13.42_20190926	Dissolved	Water	FILTRATION	
580-89609-8	MW-13_13.34_20190926	Dissolved	Water	FILTRATION	
580-89609-9	MW-14_6.08_20190926	Dissolved	Water	FILTRATION	
580-89609-10	MW-15_13.92_20190926	Dissolved	Water	FILTRATION	
580-89609-11	MW-16_16.41_20190926	Dissolved	Water	FILTRATION	
580-89609-12	B1 (JPHC)_13.78_20190926	Dissolved	Water	FILTRATION	
580-89609-13	B3 (JPHC)_14.84_20190926	Dissolved	Water	FILTRATION	
580-89609-14	Dup-1_20190926	Dissolved	Water	FILTRATION	
MB 580-313667/19-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 580-313667/20-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 580-313667/21-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
580-89609-8 MS	MW-13_13.34_20190926	Dissolved	Water	FILTRATION	
580-89609-8 MSD	MW-13_13.34_20190926	Dissolved	Water	FILTRATION	
580-89609-8 DU	MW-13_13.34_20190926	Dissolved	Water	FILTRATION	

Prep Batch: 313919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Total Recoverable	Water	3005A	
580-89609-2	MW-4_18.74_20190926	Total Recoverable	Water	3005A	
580-89609-3	MW-8_17.06_20190926	Total Recoverable	Water	3005A	
580-89609-4	MW-9_18.02_20190926	Total Recoverable	Water	3005A	
580-89609-5	MW-10_16.44_20190926	Total Recoverable	Water	3005A	
580-89609-6	MW-11_17.77_20190926	Total Recoverable	Water	3005A	
580-89609-7	MW-12_13.42_20190926	Total Recoverable	Water	3005A	
580-89609-8	MW-13_13.34_20190926	Total Recoverable	Water	3005A	
580-89609-9	MW-14_6.08_20190926	Total Recoverable	Water	3005A	
580-89609-10	MW-15_13.92_20190926	Total Recoverable	Water	3005A	
580-89609-11	MW-16_16.41_20190926	Total Recoverable	Water	3005A	
580-89609-12	B1 (JPHC)_13.78_20190926	Total Recoverable	Water	3005A	
580-89609-13	B3 (JPHC)_14.84_20190926	Total Recoverable	Water	3005A	
580-89609-14	Dup-1_20190926	Total Recoverable	Water	3005A	
MB 580-313919/23-A	Method Blank	Total Recoverable	Water	3005A	
LCS 580-313919/24-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 580-313919/25-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
580-89609-8 MS	MW-13_13.34_20190926	Total Recoverable	Water	3005A	
580-89609-8 MSD	MW-13_13.34_20190926	Total Recoverable	Water	3005A	
580-89609-8 DU	MW-13_13.34_20190926	Total Recoverable	Water	3005A	

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Metals

Prep Batch: 314067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Dissolved	Water	3005A	313667
580-89609-2	MW-4_18.74_20190926	Dissolved	Water	3005A	313667
580-89609-3	MW-8_17.06_20190926	Dissolved	Water	3005A	313667
580-89609-4	MW-9_18.02_20190926	Dissolved	Water	3005A	313667
580-89609-5	MW-10_16.44_20190926	Dissolved	Water	3005A	313667
580-89609-6	MW-11_17.77_20190926	Dissolved	Water	3005A	313667
580-89609-7	MW-12_13.42_20190926	Dissolved	Water	3005A	313667
580-89609-8	MW-13_13.34_20190926	Dissolved	Water	3005A	313667
580-89609-9	MW-14_6.08_20190926	Dissolved	Water	3005A	313667
580-89609-10	MW-15_13.92_20190926	Dissolved	Water	3005A	313667
580-89609-11	MW-16_16.41_20190926	Dissolved	Water	3005A	313667
580-89609-12	B1 (JPHC)_13.78_20190926	Dissolved	Water	3005A	313667
580-89609-13	B3 (JPHC)_14.84_20190926	Dissolved	Water	3005A	313667
580-89609-14	Dup-1_20190926	Dissolved	Water	3005A	313667
MB 580-313667/19-B	Method Blank	Dissolved	Water	3005A	313667
LCS 580-313667/20-B	Lab Control Sample	Dissolved	Water	3005A	313667
LCSD 580-313667/21-B	Lab Control Sample Dup	Dissolved	Water	3005A	313667
580-89609-8 MS	MW-13_13.34_20190926	Dissolved	Water	3005A	313667
580-89609-8 MSD	MW-13_13.34_20190926	Dissolved	Water	3005A	313667
580-89609-8 DU	MW-13_13.34_20190926	Dissolved	Water	3005A	313667

Analysis Batch: 314244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Total Recoverable	Water	6020B	313919
580-89609-2	MW-4_18.74_20190926	Total Recoverable	Water	6020B	313919
580-89609-3	MW-8_17.06_20190926	Total Recoverable	Water	6020B	313919
580-89609-4	MW-9_18.02_20190926	Total Recoverable	Water	6020B	313919
580-89609-5	MW-10_16.44_20190926	Total Recoverable	Water	6020B	313919
580-89609-6	MW-11_17.77_20190926	Total Recoverable	Water	6020B	313919
580-89609-7	MW-12_13.42_20190926	Total Recoverable	Water	6020B	313919
580-89609-8	MW-13_13.34_20190926	Total Recoverable	Water	6020B	313919
580-89609-9	MW-14_6.08_20190926	Total Recoverable	Water	6020B	313919
580-89609-10	MW-15_13.92_20190926	Total Recoverable	Water	6020B	313919
580-89609-11	MW-16_16.41_20190926	Total Recoverable	Water	6020B	313919
580-89609-12	B1 (JPHC)_13.78_20190926	Total Recoverable	Water	6020B	313919
580-89609-13	B3 (JPHC)_14.84_20190926	Total Recoverable	Water	6020B	313919
580-89609-14	Dup-1_20190926	Total Recoverable	Water	6020B	313919
MB 580-313919/23-A	Method Blank	Total Recoverable	Water	6020B	313919
LCS 580-313919/24-A	Lab Control Sample	Total Recoverable	Water	6020B	313919
LCSD 580-313919/25-A	Lab Control Sample Dup	Total Recoverable	Water	6020B	313919
580-89609-8 MS	MW-13_13.34_20190926	Total Recoverable	Water	6020B	313919
580-89609-8 MSD	MW-13_13.34_20190926	Total Recoverable	Water	6020B	313919
580-89609-8 DU	MW-13_13.34_20190926	Total Recoverable	Water	6020B	313919

Analysis Batch: 314274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-1	MW-2_9.23_20190926	Dissolved	Water	6020B	314067
580-89609-2	MW-4_18.74_20190926	Dissolved	Water	6020B	314067
580-89609-3	MW-8_17.06_20190926	Dissolved	Water	6020B	314067
580-89609-4	MW-9_18.02_20190926	Dissolved	Water	6020B	314067
580-89609-5	MW-10_16.44_20190926	Dissolved	Water	6020B	314067

Eurofins TestAmerica, Seattle

QC Association Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Metals (Continued)

Analysis Batch: 314274 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-89609-6	MW-11_17.77_20190926	Dissolved	Water	6020B	314067
580-89609-7	MW-12_13.42_20190926	Dissolved	Water	6020B	314067
580-89609-8	MW-13_13.34_20190926	Dissolved	Water	6020B	314067
580-89609-9	MW-14_6.08_20190926	Dissolved	Water	6020B	314067
580-89609-10	MW-15_13.92_20190926	Dissolved	Water	6020B	314067
580-89609-11	MW-16_16.41_20190926	Dissolved	Water	6020B	314067
580-89609-12	B1 (JPHC)_13.78_20190926	Dissolved	Water	6020B	314067
580-89609-13	B3 (JPHC)_14.84_20190926	Dissolved	Water	6020B	314067
580-89609-14	Dup-1_20190926	Dissolved	Water	6020B	314067
MB 580-313667/19-B	Method Blank	Dissolved	Water	6020B	314067
LCS 580-313667/20-B	Lab Control Sample	Dissolved	Water	6020B	314067
LCSD 580-313667/21-B	Lab Control Sample Dup	Dissolved	Water	6020B	314067
580-89609-8 MS	MW-13_13.34_20190926	Dissolved	Water	6020B	314067
580-89609-8 MSD	MW-13_13.34_20190926	Dissolved	Water	6020B	314067
580-89609-8 DU	MW-13_13.34_20190926	Dissolved	Water	6020B	314067



Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-2_9.23_20190926

Lab Sample ID: 580-89609-1

Date Collected: 09/26/19 17:15

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 03:59	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313622	10/08/19 23:52	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 13:04	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:08	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:06	FCW	TAL SEA

Client Sample ID: MW-4_18.74_20190926

Lab Sample ID: 580-89609-2

Date Collected: 09/26/19 17:50

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 04:24	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313622	10/09/19 00:22	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 13:24	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:12	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:09	FCW	TAL SEA

Client Sample ID: MW-8_17.06_20190926

Lab Sample ID: 580-89609-3

Date Collected: 09/26/19 11:50

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 04:49	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313622	10/09/19 00:53	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 13:44	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:16	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:12	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-9_18.02_20190926

Lab Sample ID: 580-89609-4

Date Collected: 09/26/19 11:20

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 05:13	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313622	10/09/19 01:54	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 14:04	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:21	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:15	FCW	TAL SEA

Client Sample ID: MW-10_16.44_20190926

Lab Sample ID: 580-89609-5

Date Collected: 09/26/19 10:45

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 05:38	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313622	10/09/19 02:25	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 14:24	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:25	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:19	FCW	TAL SEA

Client Sample ID: MW-11_17.77_20190926

Lab Sample ID: 580-89609-6

Date Collected: 09/26/19 18:13

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 06:03	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 14:20	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 14:44	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:29	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:22	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-12_13.42_20190926

Lab Sample ID: 580-89609-7

Date Collected: 09/26/19 16:20

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 06:28	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 14:44	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 15:05	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:34	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:25	FCW	TAL SEA

Client Sample ID: MW-13_13.34_20190926

Lab Sample ID: 580-89609-8

Date Collected: 09/26/19 14:55

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 02:45	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313719	10/09/19 16:41	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 15:45	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 21:20	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 14:31	FCW	TAL SEA

Client Sample ID: MW-14_6.08_20190926

Lab Sample ID: 580-89609-9

Date Collected: 09/26/19 16:50

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 06:52	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 15:09	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 16:45	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:38	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:28	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: MW-15_13.92_20190926

Lab Sample ID: 580-89609-10

Date Collected: 09/26/19 13:50

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 07:17	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 17:10	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 17:06	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 22:42	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:31	FCW	TAL SEA

Client Sample ID: MW-16_16.41_20190926

Lab Sample ID: 580-89609-11

Date Collected: 09/26/19 12:20

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 07:41	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 17:34	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 17:26	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:13	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 23:04	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:35	FCW	TAL SEA

Client Sample ID: B1 (JPHC)_13.78_20190926

Lab Sample ID: 580-89609-12

Date Collected: 09/26/19 14:20

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 08:06	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 17:58	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 17:46	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:14	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 23:09	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:47	FCW	TAL SEA

Lab Chronicle

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Client Sample ID: B3 (JPHC)_14.84_20190926

Lab Sample ID: 580-89609-13

Date Collected: 09/26/19 13:25

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 08:31	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 18:22	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 18:06	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:14	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 23:13	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:51	FCW	TAL SEA

Client Sample ID: Dup-1_20190926

Lab Sample ID: 580-89609-14

Date Collected: 09/26/19 06:00

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 08:55	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313719	10/09/19 16:17	DCV	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 18:26	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313667	10/08/19 14:14	A1B	TAL SEA
Dissolved	Prep	3005A			314067	10/11/19 14:46	A1B	TAL SEA
Dissolved	Analysis	6020B		5	314274	10/14/19 23:17	FCW	TAL SEA
Total Recoverable	Prep	3005A			313919	10/10/19 13:05	A1B	TAL SEA
Total Recoverable	Analysis	6020B		5	314244	10/11/19 15:54	FCW	TAL SEA

Client Sample ID: Tripblank-1_20190926

Lab Sample ID: 580-89609-15

Date Collected: 09/26/19 00:00

Matrix: Water

Date Received: 09/27/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	313375	10/05/19 01:06	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 12:43	W1T	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
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- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Method Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SEA
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL SEA
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SEA
6020B	Metals (ICP/MS)	SW846	TAL SEA
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SEA
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL SEA
5030B	Purge and Trap	SW846	TAL SEA
FILTRATION	Sample Filtration	None	TAL SEA

Protocol References:

None = None

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

Client: Antea USA Inc.
Project/Site: BP -ARCO 980

Job ID: 580-89609-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89609-1	MW-2_9.23_20190926	Water	09/26/19 17:15	09/27/19 11:20	
580-89609-2	MW-4_18.74_20190926	Water	09/26/19 17:50	09/27/19 11:20	
580-89609-3	MW-8_17.06_20190926	Water	09/26/19 11:50	09/27/19 11:20	
580-89609-4	MW-9_18.02_20190926	Water	09/26/19 11:20	09/27/19 11:20	
580-89609-5	MW-10_16.44_20190926	Water	09/26/19 10:45	09/27/19 11:20	
580-89609-6	MW-11_17.77_20190926	Water	09/26/19 18:13	09/27/19 11:20	
580-89609-7	MW-12_13.42_20190926	Water	09/26/19 16:20	09/27/19 11:20	
580-89609-8	MW-13_13.34_20190926	Water	09/26/19 14:55	09/27/19 11:20	
580-89609-9	MW-14_6.08_20190926	Water	09/26/19 16:50	09/27/19 11:20	
580-89609-10	MW-15_13.92_20190926	Water	09/26/19 13:50	09/27/19 11:20	
580-89609-11	MW-16_16.41_20190926	Water	09/26/19 12:20	09/27/19 11:20	
580-89609-12	B1 (JPHC)_13.78_20190926	Water	09/26/19 14:20	09/27/19 11:20	
580-89609-13	B3 (JPHC)_14.84_20190926	Water	09/26/19 13:25	09/27/19 11:20	
580-89609-14	Dup-1_20190926	Water	09/26/19 06:00	09/27/19 11:20	
580-89609-15	Tripblank-1_20190926	Water	09/26/19 00:00	09/27/19 11:20	

Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-89609-1

Login Number: 89609

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: O'Connell, Jason I

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.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313375 Batch Start Date: 10/04/19 22:38 Batch Analyst: Thaneerat, Wijittra 1Batch Method: 8260C Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	5X SUR/IS/TFT 00011	VOAMasterMix 00043	
LCS 580-313375/3		8260C		5 mL	5 mL		2 uL	10 uL	
LCSD 580-313375/4		8260C		5 mL	5 mL		2 uL	10 uL	
MB 580-313375/6		8260C		5 mL	5 mL		2 uL		
580-89609-F-15	Tripblank-1	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-8	MW-13_13.34_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-8	MW-13_13.34_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL	8.6 uL	
580-89609-E-8	MW-13_13.34_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL	8.6 uL	
580-89609-E-1	MW-2_9.23_201909 26	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-2	MW-4_18.74_20190 926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-3	MW-8_17.06_20190 926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-4	MW-9_18.02_20190 926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-5	MW-10_16.44_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-6	MW-11_17.77_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-7	MW-12_13.42_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-9	MW-14_6.08_20190 926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-E-10	MW-15_13.92_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-J-11	MW-16_16.41_2019 0926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-J-12	B1 (JPHC)_13.78_201 90926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-J-13	B3 (JPHC)_14.84_201 90926	8260C	T	5 mL	5 mL	<2 SU	2 uL		
580-89609-J-14	Dup-1_20190926	8260C	T	5 mL	5 mL	<2 SU	2 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260C

Page 1 of 2

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313375 Batch Start Date: 10/04/19 22:38 Batch Analyst: Thaneerat, Wijittra 1

Batch Method: 8260C Batch End Date: _____

Batch Notes	
Vial Lot Number	0103701e

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260C



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313622 Batch Start Date: 10/08/19 13:32 Batch Analyst: Vaughan, Dmitra C

Batch Method: NWTPH-Gx Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	BFBGRO ARCHON 00038	GRO_LCS 00056	TFT Spike 00036
MB 580-313622/9		NWTPH-Gx		5 mL	5 mL		1 uL		10.75 uL
LCS 580-313622/10		NWTPH-Gx		5 mL	5 mL		1 uL	25 uL	
LCSD 580-313622/11		NWTPH-Gx		5 mL	5 mL		1 uL	25 uL	
580-89609-G-1	MW-2_9.23_201909 26	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	1 uL		10.75 uL
580-89609-G-2	MW-4_18.74_20190 926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	1 uL		10.75 uL
580-89609-G-3	MW-8_17.06_20190 926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	1 uL		10.75 uL
580-89609-G-4	MW-9_18.02_20190 926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	1 uL		10.75 uL
580-89609-G-5	MW-10_16.44_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	1 uL		10.75 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	V2.4TFT-EX 00041					
MB 580-313622/9		NWTPH-Gx							
LCS 580-313622/10		NWTPH-Gx		1250 uL					
LCSD 580-313622/11		NWTPH-Gx		1250 uL					
580-89609-G-1	MW-2_9.23_201909 26	NWTPH-Gx	T						
580-89609-G-2	MW-4_18.74_20190 926	NWTPH-Gx	T						
580-89609-G-3	MW-8_17.06_20190 926	NWTPH-Gx	T						
580-89609-G-4	MW-9_18.02_20190 926	NWTPH-Gx	T						
580-89609-G-5	MW-10_16.44_2019 0926	NWTPH-Gx	T						

Batch Notes	
Vial Lot Number	0103701E

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313622 Batch Start Date: 10/08/19 13:32 Batch Analyst: Vaughan, Dmitra C

Batch Method: NWTPH-Gx Batch End Date: _____

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313628 Batch Start Date: 10/08/19 10:42 Batch Analyst: Thaneerat, Wijittra 1

Batch Method: NWTPH-Gx Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	BFBGRO ARCHON 00038	GRO_LCS 00056	TFT Spike 00036
MB 580-313628/5		NWTPH-Gx		5 mL	5 mL		2 uL		10.75 uL
LCS 580-313628/6		NWTPH-Gx		5 mL	5 mL		2 uL	50 uL	
LCSD 580-313628/7		NWTPH-Gx		5 mL	5 mL		2 uL	50 uL	
580-89609-A-15	Tripblank-1	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-F-6	MW-11_17.77_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-F-7	MW-12_13.42_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-F-9	MW-14_6.08_20190 926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-F-10	MW-15_13.92_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-E-11	MW-16_16.41_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-E-12	B1 (JPHC)_13.78_201 90926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL
580-89609-E-13	B3 (JPHC)_14.84_201 90926	NWTPH-Gx	T	5 mL	5 mL	<2 SU	2 uL		10.75 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	V2.4TFT-EX 00041					
MB 580-313628/5		NWTPH-Gx							
LCS 580-313628/6		NWTPH-Gx		2500 uL					
LCSD 580-313628/7		NWTPH-Gx		2500 uL					
580-89609-A-15	Tripblank-1	NWTPH-Gx	T						
580-89609-F-6	MW-11_17.77_2019 0926	NWTPH-Gx	T						
580-89609-F-7	MW-12_13.42_2019 0926	NWTPH-Gx	T						
580-89609-F-9	MW-14_6.08_20190 926	NWTPH-Gx	T						
580-89609-F-10	MW-15_13.92_2019 0926	NWTPH-Gx	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313628 Batch Start Date: 10/08/19 10:42 Batch Analyst: Thaneerat, Wijittra 1

Batch Method: NWTPH-Gx Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	V2.4TFT-EX 00041					
580-89609-E-11	MW-16_16.41_2019 0926	NWTPH-Gx	T						
580-89609-E-12	B1 (JPHC)_13.78_201 90926	NWTPH-Gx	T						
580-89609-E-13	B3 (JPHC)_14.84_201 90926	NWTPH-Gx	T						

Batch Notes	
pH Indicator ID	0.0-0.6 lot #6901002
Vial Lot Number	lot #0217701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx



GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313719 Batch Start Date: 10/09/19 10:39 Batch Analyst: Vaughan, Dmitra C

Batch Method: NWTPH-Gx Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	BFBGRO ARCHON 00038	GRO_LCS 00056	TFT Spike 00036
MB 580-313719/7		NWTPH-Gx		5 mL	5 mL		2 uL		10.75 uL
LCS 580-313719/8		NWTPH-Gx		5 mL	5 mL		2 uL	50 uL	
LCSD 580-313719/9		NWTPH-Gx		5 mL	5 mL		2 uL	50 uL	
580-89609-F-14	Dup-1_20190926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	2 uL		10.75 uL
580-89609-G-8	MW-13_13.34_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	2 uL		10.75 uL
580-89609-G-8 MS	MW-13_13.34_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	2 uL	21.5 uL	10.75 uL
580-89609-G-8 MSD	MW-13_13.34_2019 0926	NWTPH-Gx	T	5 mL	5 mL	<2.0 SU	2 uL	21.5 uL	10.75 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	V2.4TFT-EX 00041					
MB 580-313719/7		NWTPH-Gx							
LCS 580-313719/8		NWTPH-Gx		2500 uL					
LCSD 580-313719/9		NWTPH-Gx		2500 uL					
580-89609-F-14	Dup-1_20190926	NWTPH-Gx	T						
580-89609-G-8	MW-13_13.34_2019 0926	NWTPH-Gx	T						
580-89609-G-8 MS	MW-13_13.34_2019 0926	NWTPH-Gx	T						
580-89609-G-8 MSD	MW-13_13.34_2019 0926	NWTPH-Gx	T						

Batch Notes	
pH Indicator ID	0.0-6.0 LOT#6901002
Pipette/Syringe/Dispenser ID	B50N, C25N, C25000
Vial Lot Number	0217701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313397 Batch Start Date: 10/05/19 12:24 Batch Analyst: Coy, Nickolas D

Batch Method: 3510C Batch End Date: 10/05/19 15:52

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH
MB 580-313397/1		3510C, NWTPH-Dx				250 mL	1.0 mL	7.0 SU	2.0 SU
LCS 580-313397/2		3510C, NWTPH-Dx				250 mL	1.0 mL	7.0 SU	2.0 SU
LCS 580-313397/3		3510C, NWTPH-Dx				250 mL	1.0 mL	7.0 SU	2.0 SU
580-89609-A-1	MW-2_9.23_20190926	3510C, NWTPH-Dx	T	00434.84 g	00184.59 g	250.3 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-2	MW-4_18.74_20190926	3510C, NWTPH-Dx	T	00435.77 g	00185.91 g	249.9 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-3	MW-8_17.06_20190926	3510C, NWTPH-Dx	T	00414.97 g	00166.90 g	248.1 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-4	MW-9_18.02_20190926	3510C, NWTPH-Dx	T	00413.35 g	00166.62 g	246.7 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-5	MW-10_16.44_20190926	3510C, NWTPH-Dx	T	00414.38 g	00166.42 g	248 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-6	MW-11_17.77_20190926	3510C, NWTPH-Dx	T	00413.66 g	00167.10 g	246.6 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-7	MW-12_13.42_20190926	3510C, NWTPH-Dx	T	00433.36 g	00184.27 g	249.1 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-8	MW-13_13.34_20190926	3510C, NWTPH-Dx	T	00434.92 g	00184.45 g	250.5 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-8 MS	MW-13_13.34_20190926	3510C, NWTPH-Dx	T	00414.64 g	00167.24 g	247.4 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-8 MSD	MW-13_13.34_20190926	3510C, NWTPH-Dx	T	00414.99 g	00166.50 g	248.5 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-9	MW-14_6.08_20190926	3510C, NWTPH-Dx	T	00434.95 g	00184.16 g	250.8 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-10	MW-15_13.92_20190926	3510C, NWTPH-Dx	T	00412.72 g	00166.89 g	245.8 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-11	MW-16_16.41_20190926	3510C, NWTPH-Dx	T	00435.34 g	00184.24 g	251.1 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-12	B1 (JPHC)_13.78_20190926	3510C, NWTPH-Dx	T	00413.98 g	00166.94 g	247 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-13	B3 (JPHC)_14.84_20190926	3510C, NWTPH-Dx	T	00414.12 g	00167.21 g	246.9 mL	1.0 mL	2.0 SU	N/A SU
580-89609-A-14	Dup-1_20190926	3510C, NWTPH-Dx	T	00411.67 g	00166.47 g	245.2 mL	1.0 mL	2.0 SU	N/A SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	TPH_Water_Spk _00022	TPH_WaterSurr _00050			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313397 Batch Start Date: 10/05/19 12:24 Batch Analyst: Coy, Nickolas D

Batch Method: 3510C Batch End Date: 10/05/19 15:52

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	TPH_Water_Spk 00022	TPH_WaterSurr 00050			
MB 580-313397/1		3510C, NWTPH-Dx		N/A SU		100 uL			
LCS 580-313397/2		3510C, NWTPH-Dx		N/A SU	100 uL	100 uL			
LCSD 580-313397/3		3510C, NWTPH-Dx		N/A SU	100 uL	100 uL			
580-89609-A-1	MW-2_9.23_201909 26	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-2	MW-4_18.74_20190 926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-3	MW-8_17.06_20190 926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-4	MW-9_18.02_20190 926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-5	MW-10_16.44_2019 0926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-6	MW-11_17.77_2019 0926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-7	MW-12_13.42_2019 0926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-8	MW-13_13.34_2019 0926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-8 MS	MW-13_13.34_2019 0926	3510C, NWTPH-Dx	T	N/A SU	100 uL	100 uL			
580-89609-A-8 MSD	MW-13_13.34_2019 0926	3510C, NWTPH-Dx	T	N/A SU	100 uL	100 uL			
580-89609-A-9	MW-14_6.08_20190 926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-10	MW-15_13.92_2019 0926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-11	MW-16_16.41_2019 0926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-12	B1 (JPHC)_13.78_201 90926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-13	B3 (JPHC)_14.84_201 90926	3510C, NWTPH-Dx	T	N/A SU		100 uL			
580-89609-A-14	Dup-1_20190926	3510C, NWTPH-Dx	T	N/A SU		100 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313397 Batch Start Date: 10/05/19 12:24 Batch Analyst: Coy, Nickolas D

Batch Method: 3510C Batch End Date: 10/05/19 15:52

Batch Notes	
Acid Used for pH Adjustment ID	2407340
Balance ID	SEA225
Batch Comment	Vialed by: NDC
Analyst ID - Concentration	NDC
Concentration 1 Corrected Temperature	69.8-74.8 Degrees C
Concentration 2 Corrected Temperature	18.8 Degrees C
Equipment ID - Concentration 1	Steam Bath 2
Equipment ID - Concentration 2	Turbovap 5
Analyst ID - Extraction	NDC
Filter ID	2416954
Method/Fraction	3510C_LVI/NWTPH_Dx
Na2SO4 ID	2400382
pH Indicator ID	6901002 pH 0.0-6.0/6901003 pH 4.0-10.0
Pipette/Syringe/Dispenser ID	MP1
Prep Solvent ID	2450659 DCM
Prep Solvent Volume Used	120 mL
Residual Chlorine Indicator ID	fisher cat#14-860
Analyst ID - Spike Analyst	NDC
Sufficient Volume for Batch QC	MB, LCS, LCSD
Thermometer ID - Concentration 1	661200
Thermometer ID - Concentration 2	DigitalReadout
Concentration 1 Uncorrected Temperature	70-75 Degrees C
Concentration 2 Uncorrected Temperature	21.0 Degrees C
Vial Lot Number	19103141

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313667 Batch Start Date: 10/08/19 14:13 Batch Analyst: Boyer, Alec 1

Batch Method: FILTRATION Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
580-89609-D-1	MW-2_9.23_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-2	MW-4_18.74_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-3	MW-8_17.06_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-4	MW-9_18.02_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-5	MW-10_16.44_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-6	MW-11_17.77_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-7	MW-12_13.42_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-8	MW-13_13.34_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-8 MS	MW-13_13.34_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-8 MSD	MW-13_13.34_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-9	MW-14_6.08_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-10	MW-15_13.92_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-11	MW-16_16.41_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-12	B1 (JPHC)_13.78_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-13	B3 (JPHC)_14.84_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
580-89609-D-14	Dup-1_20190926	FILTRATION, 3005A, 6020B	D	250 mL	250 mL				
MB 580-313667/19		FILTRATION, 3005A, 6020B		250 mL	250 mL				
LCS 580-313667/20		FILTRATION, 3005A, 6020B		250 mL	250 mL				
LCS 580-313667/21		FILTRATION, 3005A, 6020B		250 mL	250 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313667 Batch Start Date: 10/08/19 14:13 Batch Analyst: Boyer, Alec 1

Batch Method: FILTRATION Batch End Date: _____

Batch Notes	
Batch Comment	pH paper 6711004
Filter ID	1244830
Nitric Acid ID	2461133
Pipette/Syringe/Dispenser ID	METALS-PREP-2

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313919 Batch Start Date: 10/10/19 13:05 Batch Analyst: Boyer, Alec 1

Batch Method: 3005A Batch End Date: 10/10/19 19:33

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP CAL 1 00005	ICP CAL 2 00005	MET Spike 3C 00014	
580-89609-C-8	MW-13_13.34_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-8 DU	MW-13_13.34_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-8 MS	MW-13_13.34_2019 0926	3005A, 6020B	R	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
580-89609-C-8 MSD	MW-13_13.34_2019 0926	3005A, 6020B	R	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
580-89609-C-1	MW-2_9.23_201909 26	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-2	MW-4_18.74_20190 926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-3	MW-8_17.06_20190 926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-4	MW-9_18.02_20190 926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-5	MW-10_16.44_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-6	MW-11_17.77_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-7	MW-12_13.42_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-9	MW-14_6.08_20190 926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-10	MW-15_13.92_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-11	MW-16_16.41_2019 0926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-12	B1 (JPHC)_13.78_201 90926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-13	B3 (JPHC)_14.84_201 90926	3005A, 6020B	R	50 mL	50 mL				
580-89609-C-14	Dup-1_20190926	3005A, 6020B	R	50 mL	50 mL				
MB 580-313919/23		3005A, 6020B		50 mL	50 mL				
LCS 580-313919/24		3005A, 6020B		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
LCSD 580-313919/25		3005A, 6020B		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 313919 Batch Start Date: 10/10/19 13:05 Batch Analyst: Boyer, Alec 1

Batch Method: 3005A Batch End Date: 10/10/19 19:33

Batch Notes	
Temperature - Corrected - End	95.4 Degrees C
Temperature - Corrected - Start	95.4 Degrees C
Digestion End Time	10/10/2019 19:33
Digestion Start Time	10/10/2019 15:33
Digestion Unit ID	38010
Hydrochloric Acid ID	2486593
Nitric Acid ID	2461131
pH Indicator ID	6711004
Pipette/Syringe/Dispenser ID	METALS-PREP-2
Analyst ID - Spike Analyst	see above
Sufficient Volume for Batch QC	yes
Thermometer ID	661717
Digestion Tube/Cup ID	2420489
Temperature - Uncorrected - End	96 Degrees C
Temperature - Uncorrected - Start	96 Degrees C

Basis	Basis Description
R	Total Recoverable

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 314067 Batch Start Date: 10/11/19 14:46 Batch Analyst: Boyer, Alec 1

Batch Method: 3005A Batch End Date: 10/11/19 19:34

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP CAL 1 00005	ICP CAL 2 00005	MET Spike 3C 00014	
580-89609-D-8-A	MW-13_13.34_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-8-A DU	MW-13_13.34_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-8-B MS	MW-13_13.34_2019 0926	3005A, 6020B	D	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
580-89609-D-8-C MSD	MW-13_13.34_2019 0926	3005A, 6020B	D	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
580-89609-D-1-A	MW-2_9.23_201909 26	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-2-A	MW-4_18.74_20190 926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-3-A	MW-8_17.06_20190 926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-4-A	MW-9_18.02_20190 926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-5-A	MW-10_16.44_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-6-A	MW-11_17.77_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-7-A	MW-12_13.42_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-9-A	MW-14_6.08_20190 926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-10-A	MW-15_13.92_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-11-A	MW-16_16.41_2019 0926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-12-A	B1 (JPHC)_13.78_201 90926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-13-A	B3 (JPHC)_14.84_201 90926	3005A, 6020B	D	50 mL	50 mL				
580-89609-D-14-A	Dup-1_20190926	3005A, 6020B	D	50 mL	50 mL				
MB 580-313667/19-A		3005A, 6020B		50 mL	50 mL				
LCS 580-313667/20-A		3005A, 6020B		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
ICSD 580-313667/21-A		3005A, 6020B		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020B

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Seattle Job No.: 580-89609-1

SDG No.: _____

Batch Number: 314067 Batch Start Date: 10/11/19 14:46 Batch Analyst: Boyer, Alec 1

Batch Method: 3005A Batch End Date: 10/11/19 19:34

Batch Notes	
Temperature - Corrected - End	95.7 Degrees C
Temperature - Corrected - Start	95.7 Degrees C
Digestion End Time	10/11/2019 19:34
Digestion Start Time	10/11/2019 15:34
Digestion Unit ID	38008
Hydrochloric Acid ID	2486593
Nitric Acid ID	2461131
pH Indicator ID	6711004
Pipette/Syringe/Dispenser ID	METALS-PREP-2
Analyst ID - Spike Analyst	see above
Sufficient Volume for Batch QC	yes
Thermometer ID	661358
Digestion Tube/Cup ID	2420489
Temperature - Uncorrected - End	96 Degrees C
Temperature - Uncorrected - Start	96 Degrees C

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.