



Environment

Prepared for
Shell Oil Products US

Submitted to
Mr. Jerome Cruz
Washington Department
of Ecology
Northwest Region Office
3190 160th Avenue SE
Bellevue, WA 98008

Submitted by
AECOM
111 SW Columbia
Suite 1500
Portland, OR 97201-5850
May 2017

Annual Compliance Monitoring Report 2016

Shell Harbor Island Terminal
Seattle, Washington





Environment

Prepared for
Shell Oil Products US

Submitted to
Mr. Jerome Cruz
Washington Department
of Ecology
Northwest Region Office
3190 160th Avenue SE
Bellevue, WA 98008

Submitted by
AECOM
111 SW Columbia
Suite 1500
Portland, Oregon 97201-5850
May 2017

Annual Compliance Monitoring Report 2016

Shell Harbor Island Terminal
Seattle, Washington

Prepared by
Rebecca Tortorello, Geologist

Reviewed by
Nicky Moody, Project Manager

Table of Contents

1	Introduction	1-1
1.1	Summary of Cleanup Actions	1-1
1.2	Summary of Compliance Monitoring Program	1-2
1.2.1	SH-04 Area.....	1-2
1.2.2	TX-03A Area.....	1-3
1.3	Geology and Hydrogeology	1-3
1.4	Groundwater Elevations and Flow	1-3
1.4.1	SH-04 Area.....	1-4
1.4.2	TX-03A Area (excluding the North Tank Farm).....	1-4
1.4.3	North Tank Farm	1-4
1.4.4	Shoreline Manifold Area.....	1-4
2	General Compliance Results	2-1
2.1	Performance Product Monitoring	2-1
2.2	Natural Attenuation Performance Criteria.....	2-1
2.3	Groundwater Performance and Confirmational Monitoring	2-1
2.3.1	Background Monitoring Well Results.....	2-2
2.3.2	Point of Compliance Well Results	2-2
2.3.3	Sentry Monitoring Results.....	2-2
2.3.3.1	North Tank Farm (included in the TX-03A Area)	2-2
2.3.3.2	Main Tank Farm – Northern Boundary (included in the TX-03A Area).....	2-2
2.3.3.3	Main Tank Farm – Eastern and Western Boundaries	2-3
2.3.3.4	Main Tank Farm – Southern Boundary (includes the SH-04 Area).....	2-3
3	TX-03A Area Investigation.....	3-1
3.1	TX-03A Area Groundwater Flow	3-1
3.2	Additional Monitoring Well Installation.....	3-1
3.2.1	Preliminary Activities.....	3-1
3.2.2	Boring Installation	3-1
3.2.3	Monitoring Well Installation	3-2
3.2.4	Well Development.....	3-2
3.2.5	Investigation Derived Waste Management	3-2
3.2.6	Monitoring Well Survey.....	3-3
3.3	Bio-Sparging System Construction	3-3
3.4	TX-03A Area Groundwater Analytical Results.....	3-3
3.4.1	Petroleum Hydrocarbon Results.....	3-3
3.4.2	BTEX Results	3-3
4	Summary and Conclusions.....	4-1
5	References.....	5-1

List of Tables

Table 1	Groundwater Monitoring Program
Table 2	Groundwater Cleanup Levels
Table 3	Groundwater Elevation Data
Table 4	Product Monitoring Data
Table 5	Compliance Monitoring Natural Attenuation Parameters
Table 6	BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Table 7	Carcinogenic PAHs in Groundwater

List of Figures

Figure 1	Site Vicinity Map
Figure 2	Site Map
Figure 3	TX-03A Area Groundwater Surface Contour Map – February 2016
Figure 4	TX-03A Area Groundwater Surface Contour Map – May 2016
Figure 5	TX-03A Area Groundwater Surface Contour Map – August 2016
Figure 6	TX-03A Area Groundwater Surface Contour Map – December 2016
Figure 7	Gasoline and Diesel Concentrations – 2016
Figure 8	Benzene Concentrations – 2016
Figure 9	TX-03A Area Monitoring Well TX-03A BTEX and Gasoline Concentrations

List of Appendices

Appendix A	Field Sampling Data Sheets
Appendix B	Data Validation and Laboratory Analytical Reports
Appendix C	Boring and Monitoring Well Construction Logs

1 Introduction

The purpose of this Annual Compliance Monitoring Report is to evaluate groundwater conditions with respect to the cleanup requirements at the Shell (Equilon) Distribution Terminal on Harbor Island in Seattle, Washington (herein referred to as the Shell Harbor Island Terminal or the site) (Figure 1). The site is comprised of three parcels located at 2555 13th Avenue SW, 1835 13th Avenue SW, and 1711 13th Avenue SW. These parcels are designated as the Main Tank Farm, the North Tank Farm, and the Shoreline Manifold Area, respectively (Figure 2).

Compliance monitoring activities described in this report are performed under Consent Decree No. 99 2-07 176 SEA with the Washington State Department of Ecology (Ecology, 1998). The information presented in this report is based on data collected during the monitoring period of January through December 2016.

1.1 Summary of Cleanup Actions

The primary cleanup action at the site included excavation of near-surface lead and arsenic impacted soil in areas throughout the Main Tank Farm which was conducted from December 2003 through February 2004. Lead- and arsenic-impacted surface soils were removed to concentrations below the soil cleanup levels of 1,000 milligrams per kilogram (mg/kg) and 32 mg/kg, respectively. In addition, a small area of lead-impacted soil near the oil/water separator (OWS) in the Main Tank Farm was excavated in October 2001. Due to structural constraints, a 3-inch cap was placed over lead-impacted subsurface soil in the area around the OWS.

Between November 2001 and October 2009 total petroleum hydrocarbon (TPH) impacted surface and subsurface hotspots (to 10,000 mg/kg, the shoreline soil cleanup level) were removed from the Shoreline Manifold Area. Additional impacted soils (to 20,000 mg/kg, the inland soil cleanup level) were removed near former underground storage tank (UST) in October 2001, and in the Main Tank Farm in February 2004 and 2007.

A free product and vapor extraction system operated in the Shoreline Manifold Area from 1996 to August 2005. The vapor extraction system was shut down in 2005 when the hydrocarbon recovery through vapor extraction declined. Passive free product recovery occurred at monitoring wells MW-210, MW-211 and MW-212 in the Shoreline Manifold Area through 2010 and monitoring wells MW-210 and MW-212 through 2011. Vacuum purging was conducted on a quarterly basis in monitoring wells MW-210 and MW-212 in 2012.

On September 10, 2013, less than three barrels of diesel product was released in the Shoreline Manifold Area during an "In-Line" inspection of the dock lines. Approximately 2.4 barrels of free standing product was recovered immediately by vacuum truck and the use of sorbent pads and approximately 8 to 20 cubic yards of impacted soil was removed. Confirmation soil samples collected from the excavated area were below the shoreline soil cleanup level of 10,000 mg/kg. Field observations indicated that surface water and the stormwater system were not impacted by the release (URS, 2014). Pooled diesel product was observed surrounding monitoring well MW-212 following the release. The product was removed using a vacuum truck and subsequent monitoring did not detect product. At the request of Ecology, in January 2014, sorbent socks were installed in monitoring wells MW-209, MW-210, and MW-212.

To address residual product, monitoring wells MW-208, MW-210, MW-211, and MW-212 were monitored monthly for product in 2016.

In September 2016, RECON Environmental, Inc. (RECON) conducted a remedial action at the former Lubes Facility. The remedial action included the excavation and disposal of 5.28 tons of visibly stained soils, confirmation soil sampling, and capping of former Lubes Facility open piping at two small petroleum impacted areas. The TPH concentrations in the confirmation soil samples were below the inland soil cleanup level of 20,000 mg/kg (Ecology, 1998). Upon receipt of these results, AECOM authorized RECON to backfill the excavations. Issuance of the remedial action report by RECON documenting this action to Ecology is still pending.

In November 2016, construction of the bio-sparging system commenced within the TX-03A Area (Figure 2). The City of Seattle (the City) halted the completion of the system in December 2016 due to a delay in the issuance of the City Utility Major Permit and the Annual Permit. Prior to the work halt, AECOM oversaw the installation of the 37 bio-sparging wells in the City Parking Lot and Main Tank Farm, and the installation of the system piping within the Main Tank Farm. System construction is set to resume in April 2017 with system start-up in May 2017. The bio-sparging system construction details will be documented in a Construction Completion Report and an Operations and Maintenance Plan, which will be completed later in 2017.

1.2 Summary of Compliance Monitoring Program

Compliance monitoring consists of product monitoring, groundwater level monitoring, and groundwater sampling described in detail in the *Compliance Monitoring Plan* (EMCON and LCI, 1999). The monitoring objectives have been categorized as confirmational, performance, and sentry:

- Performance monitoring is conducted to monitor the effectiveness of the cleanup actions. Performance monitoring consists of three components; product thickness and sheen monitoring, groundwater natural attenuation monitoring, and groundwater quality monitoring.
- Confirmational monitoring is conducted to confirm the long-term effectiveness of the cleanup action once performance and cleanup levels have been met. Confirmational product monitoring comprises of monitoring of product thickness and sheen.
- Sentry monitoring is conducted to provide early warnings of off-site contaminant migrations. Semi-annual sentry groundwater quality monitoring is conducted simultaneously with groundwater performance monitoring.

Site-wide quarterly monitoring was conducted until 2006 in accordance with the *Compliance Monitoring Plan*. In 2006, the monitoring program was modified in accordance to proposed changes by RETEC (RETEC, 2006a; RETEC, 2006b), and additional reductions in the monitoring program occurred in 2008 in accordance with email correspondence with Ecology (URS, 2008). The groundwater monitoring program established in 2008 is presented in the black text in Table 1. The groundwater cleanup levels from the 1998 Consent Decree are presented in Table 2.

1.2.1 SH-04 Area

Compliance monitoring wells MW-05, MW-111, MW-112A, MW-104, and SH-04 are located along 13th Avenue and in the southeast corner of the Main Tank Farm, within the SH-04 Area of the site (Figure 2). Since 2008, the compliance monitoring program was modified between 2011 and 2015 as described below and presented in red text on Table 1.

- In 2011, additional semi-annual samples were obtained from the above listed five monitoring wells to assess the dissolved groundwater plume (URS, 2012). Monitoring wells MW-305 and MW-306 were installed in the SH-04 Area in November 2011.
- In 2012 through 2014, quarterly groundwater samples were collected to assess the dissolved hydrocarbon plume in the SH-04 Area. Additionally, three joint groundwater sampling events were conducted in 2012 with the neighboring Kinder Morgan Terminal in the SH-04 Area.
- In 2014, benzene and gasoline concentrations within sentry well SH-04 were below the cleanup levels. Therefore, due to the reductions of concentrations within the sentry well, in April 2015, URS removed monitoring wells MW-305 and MW-306 from the monitoring program (URS, 2014) (Table 1).

1.2.2 TX-03A Area

As indicated on Table 1, multiple compliance monitoring wells are located in the TX-03A Area of the site. This area includes the northern boundary of the Main Tank Farm and extends north to the northern boundary of the North Tank Farm (Figure 2). The compliance monitoring program within the TX-03A Area includes historical monitoring wells where the monitoring program was only slightly modified in 2008 along with additional monitoring wells which were constructed as part of the TX-03A Area investigation. These modifications since 2008 are presented in red text on Table 1.

In order to assess the dissolved hydrocarbon plume at the TX-03A Area, the following additional monitoring wells were installed within the TX-03A Area between 2011 and 2016:

- MW-301 through MW-304 in November 2011
- MW-307 through MW-310 in November 2012
- MW-311 and MW-312 in October 2014
- MW-313, MW-314, and MW-315 in July 2016

The July 2016 installation activities for MW-313, MW-314, and MW-315 are discussed in Section 3.2.

Since 2012, the newly installed monitoring wells have been sampled either on a quarterly or semi-annual basis, which currently continues.

1.3 Geology and Hydrogeology

The 405-acre Harbor Island was constructed during the early 1900s in an area consisting of intertidal wetlands at the mouth of the Duwamish River. The island was created using sediments dredged to facilitate navigation in the lower Duwamish River and West Waterway (KJC, 1990).

Soil underlying the site consists of emplaced grade and dredge fill overlying native estuarine deposits (EMCON and LCI, 1999). The uppermost grade fill unit consists of coarse-grained fill varying in thickness from less than one foot to approximately two feet thick. The dredge fill unit was created when estuarine deposits near the site were dredged and used as fill. The contact between the dredge fill and native estuarine units is not well defined due to similar properties of the two units. The dredge fill appears to vary from approximately 8 to 20 feet in thickness at the site. It consists of fine- to medium-grained sand with some gravel. Native estuarine deposits underlie the dredge fill at depths of approximately 8 to 20 feet below grade. These deposits are composed of primarily fine- to medium-grained sand with thin silt interbeds.

Groundwater occurs as a thin lens of fresh water overlying brackish water at depth. The groundwater table occurs within the dredge fill 4 to 8 feet below the ground surface (bgs). Groundwater within the dredge fill unit occurs under unconfined conditions. The North Tank Farm and Main Tank Farm areas generally are unaffected by tides; whereas the Shoreline Manifold Area groundwater quality and elevations are affected by tides.

The native estuarine deposits are fully saturated, and groundwater within this unit is unconfined. Groundwater quality and groundwater elevations within this unit can be influenced by surrounding surface water bodies and associated tidal fluctuations. This shallow groundwater flows in a radial fashion to the north and to the south from a potentiometric high located within the Main Tank Farm area.

1.4 Groundwater Elevations and Flow

Monitoring wells at the site are screened in either the shallow or deep depth intervals. The monitoring well screen intervals are presented on Table 1 and discussed below.

- All but two of the monitoring wells in the groundwater monitoring program are screened in the shallow depth interval (at approximately 5 feet to 15 feet bgs)
- Monitoring wells MW-213 and MW-214 are screened in the deep depth interval (at approximately 30 foot to 40 foot bgs).

Groundwater elevation data for the monitoring period (January 2016 through December 2016) and historical groundwater elevation data are presented in Table 3. The groundwater elevation data is discussed below by the distinct areas of the site in the following subsections. These areas are indicated on Figure 2.

1.4.1 SH-04 Area

Depth to groundwater measurements were collected in monitoring wells MW-05, MW-104, MW-111, MW-112A, and SH-04 in December 2016, and ranged from 4.04 feet (MW-111) to 8.34 feet (SH-04). A depth to groundwater measurement was also collected in monitoring well MW-05 at 5.22 feet in May 2016.

1.4.2 TX-03A Area (excluding the North Tank Farm)

Depth to groundwater measurements were collected in monitoring wells MW-101, MW-102, MW-301 through MW-304, MW-307 through MW-312, TES-MW-1, and TX-03A during the quarterly sampling events (February, May, August, and December 2016). Groundwater elevations ranged from 4.44 feet (MW-303, TX-03A) to 8.82 feet (MW-101) during the February event; 5.46 feet (TX-03A) to 10.29 feet (MW-101) during the May event; 6.59 feet (TX-03A) to 11.29 feet (MW-101) during the August event; and 5.04 feet (TX-03A) to 9.62 feet (MW-101) in December 2016.

Localized groundwater elevation contour maps depicting the February, May, August, and December 2016 groundwater elevations for the shallow depth interval beneath the TX-03A area are presented as Figures 3 through 6, respectively. Groundwater in the TX-03A area generally flows to the north-northwest.

1.4.3 North Tank Farm

Depth to groundwater measurements were collected in monitoring wells MW-201 through MW-204 and MW-206A during the quarterly sampling events (March, May, July, and December 2016). The range in groundwater elevations for the four 2016 events are listed below:

- 5.92 feet (MW-203) to 12.33 feet (MW-201) during the February event
- 7.02 feet (MW-203) to 13.74 feet (MW-201) during the May event
- 8.17 feet (MW-203) to 14.04 feet (MW-201) during the August event
- 6.62 feet (MW-203) to 12.86 feet (MW-201) during the December event

1.4.4 Shoreline Manifold Area

Depth to groundwater measurements were collected monthly in 2016 (except for January and March) from monitoring wells MW-208, MW-210, MW-211, and MW-212. The monthly elevations are included on Table 4.

2 General Compliance Results

The analytical results of the groundwater monitoring and operation and maintenance (O&M) (product monitoring) activities are presented in this section. Field sampling data sheets, which include field parameter measurements and O&M field forms, are provided in Appendix A. Copies of the laboratory reports are presented in Appendix B. Data validation was performed on laboratory reports. Data were judged acceptable for their intended use with noted qualifiers. Data validation reports are presented in Appendix B.

2.1 Performance Product Monitoring

In accordance with the groundwater monitoring program (Table 1), monitoring wells MW-208, MW-210, MW-211, and MW-212, located in the Shoreline Manifold Area, were gauged for groundwater levels and monitored for free product on a monthly basis in 2016 with the exception of January and March. Product monitoring data is presented in Table 4. No measureable thickness of floating product was detected in monitoring wells MW-208, MW-211, and MW-212 during the 2016 monthly events. Floating product ranging from 0.13 feet thick (April 2016) to 1.06 feet thick (December 2016) was observed in monitoring well MW-210.

Absorbent socks are present for product recovery in monitoring wells MW-210 and MW-212. With the exception of August and May, the socks were replaced each month.

2.2 Natural Attenuation Performance Criteria

In accordance with the groundwater monitoring program (Table 1), natural attenuation performance monitoring is conducted annually at ten monitoring wells within the TX-03A Area. The results are presented in Table 5 along with the standard groundwater stabilization parameters, which are collected quarterly during the monitoring wells purging.

2.3 Analytical Results for the Groundwater Performance and Confirmational Monitoring

This section presents analytical results for the performance and compliance monitoring events conducted in 2016. Groundwater samples were collected from the following monitoring wells in accordance with Table 1.

- Background well MW-206A
- Point of compliance (POC) wells MW-213 and MW-214
- Sentry wells MW-102, MW-104, MW-201, MW-204, MW-311 through MW-315, MW-05, MW-111, MW-112A, SH-04, MW-105, TX-04, and TX-06A
- General compliance wells MW-101, MW-301, MW-303, MW-309, and TES-MW-1
- Natural attenuation performance wells MW-202, MW-203, MW-302, MW-304, MW-307, MW-308, MW-310, MW-311, MW-312, and TX-03A

Monitoring wells at the site were monitored in 2016 on either a quarterly, semiannual, or annual basis according to Table 1. Monitoring wells MW-311 and MW-312 are identified as both natural attenuation performance wells and sentry wells.

The 2016 and historic groundwater sample results are included on Tables 6 and 7 and summarized in the following subsections. The gasoline and diesel results for 2016 are included on Figure 7, and the benzene results are included on Figure 8. Cleanup level exceedances are highlight in red on Figures 7 and 8.

2.3.1 Background Monitoring Well Results

A groundwater sample was collected from background monitoring well MW-206A in December 2016. The background sample was analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), gasoline range hydrocarbons (gasoline), diesel range hydrocarbons (diesel), and motor oil range hydrocarbons (oil), and the results are presented on Table 6.

No analytes were detected at concentrations above the cleanup levels in background monitoring well MW-206A.

2.3.2 Point of Compliance Well Results

Groundwater samples were collected from POC wells MW-213 and MW-214 in May and December 2016. The groundwater samples from the POC wells were analyzed for BTEX, gasoline, diesel, oil, and carcinogenic polycyclic aromatic hydrocarbons (cPAHs). The results for the two monitoring wells are presented within Tables 6 and 7.

No analytes were detected at concentrations above the cleanup levels in POC wells MW-213 and MW-214.

2.3.3 Sentry Monitoring Results

Sentry wells include MW-102, MW-104, MW-201, MW-204, MW-311 through MW-315, MW-05, MW-111, MW-112A, SH-04, MW-105, TX-04, and TX-06A. The following subsections summarize the results in the sentry wells characterizing groundwater flowing from beneath the North and Main Tank Farms. The sentry wells within the TX-03A Area are also further discussed in Section 3.

2.3.3.1 North Tank Farm (included in the TX-03A Area)

Monitoring wells MW-201 and MW-204 are representative sampling points for assessing the quality of groundwater flowing across the northern boundary of the North Tank Farm. Groundwater samples were collected from these monitoring wells in December 2016 and analyzed for BTEX, gasoline, diesel, and oil.

No analytes were detected at concentrations above the cleanup levels at MW-201 and MW-204 (Table 6).

2.3.3.2 Main Tank Farm – Northern Boundary (included in the TX-03A Area)

Historically, monitoring well TX-03A was the representative sampling point for assessing the quality of groundwater flowing across the northern boundary of the Main Tank Farm. However, the investigation within the TX-03A has expanded with the installation of additional monitoring wells as discussed in Section 1.2.2.

Monitoring wells MW-102 and MW-311 through MW-315 are additional sentry wells used for the characterization of the northern boundary of the Main Tank Farm. Groundwater samples were collected from MW-102 in December 2016 only; from MW-311 and MW-312 in February, May, August, and December 2016; and from MW-313 through MW-315 in August and December 2016 as they were only installed in July 2016. In 2017, groundwater samples will be collected from MW-313 through MW-315 during all four quarters. The groundwater samples from the six sentry wells were all analyzed for BTEX and gasoline, and the groundwater samples from MW-313 through MW-315 were also analyzed for diesel and oil.

No analytes were detected above the cleanup levels at MW-102, MW-311, MW-313, and MW-314 (Table 6).

At MW-312 and MW-315, one or more of the detections of benzene and gasoline exceeded the cleanup levels of 0.071 milligrams per liter (mg/L) and 1 mg/L, respectively. The maximum detected concentrations of benzene and gasoline were detected in monitoring well MW-312 at 0.414 mg/L during the May event and 2.30 mg/L during the August event, respectively (Table 6). These exceedances are highlight in red on Figures 7 and 8.

2.3.3.3 Main Tank Farm – Eastern and Western Boundaries

Monitoring wells TX-04 and TX-06A were designated as the sentry wells for the eastern and western boundaries of the Main Tank Farm. Groundwater samples were collected from these two monitoring wells in December 2016 and analyzed for BTEX, gasoline, diesel, and oil.

No analytes were detected above the cleanup levels at TX-04 and TX-06A (Table 6).

2.3.3.4 Main Tank Farm – Southern Boundary (includes the SH-04 Area)

SH-04 Area monitoring wells MW-05, MW-104, MW-111, MW-112A, and SH-04 as well as monitoring well MW-105, located to the west of the SH-04 Area, were designated as the sentry wells for the southern boundary of the Main Tank Farm.

- MW-05, MW-111, MW-112A, and SH-04 were sampled in May and December 2016 for BTEX, gasoline, diesel, and oil.
- MW-104 was sampled in May and December 2016 for total lead, gasoline, diesel, and oil.
- MW-105 was sampled in December 2016 for total lead, BTEX, gasoline, diesel, and oil.

The results are presented within Table 6, and the cleanup level exceedances for these five sentry wells are as follows:

- Gasoline was detected above the cleanup level of 1 mg/L at MW-104 and MW-112A during both May and December 2016 (Figure 7). The maximum detected concentration was 7.45 mg/L at MW-104 during the May event.
- Benzene was detected above the cleanup level of 0.071 mg/L at MW-111 during both May and December 2016 (Figure 8). The maximum detected benzene concentration was 0.248 mg/L during the December event.
- Total lead was detected above the cleanup level of 0.0058 mg/L at 0.0116 mg/L at MW-105.

3 TX-03A Area Investigation

The northern boundary area, identified as the TX-03A Area, was identified for additional evaluation during the *EPA 5-Year review of the Harbor Island Superfund Site* (EPA, 2010a). The TX-03A Area is shown on Figure 2. This section summarizes the other activities conducted in the TX-03A Area during 2016 in addition to the compliance monitoring.

3.1 TX-03A Area Groundwater Flow

Localized groundwater elevation contour maps for the shallow depth interval beneath the TX-03A Area using the February, May, August, and December 2016 groundwater elevations are presented as Figures 3 through 6, respectively. Groundwater in the TX-03A Area flows to the north-northwest across the north end of the Main Tank Farm across SW Florida Street.

3.2 Additional Monitoring Well Installation

In July 2016, off-site monitoring wells MW-313, MW-314, and MW-315 were installed. The installation activities are discussed below.

3.2.1 Preliminary Activities

Prior to installing the monitoring wells, AECOM received access from Vigor Industrial for the installation of MW-314 within their parking lot and a street use permit from the City for the installation of MW-313 and MW-315.

Additionally, One-Call utilities notification was conducted, and a private utility locator, Applied Professional Services, Inc., assessed each proposed boring location for buried utilities.

3.2.2 Boring Installation

Three borings were initially advanced to a depth of 6 feet bgs by Cascade Drilling using high vacuum extraction and air-knifing methods to minimize impacts to unknown or abandoned buried utilities.

The borings were advanced further to approximately 15 feet bgs for the installation of the monitoring wells. Cascade Drilling used a direct-push drill rig for this effort. Soil cores were collected in a 5-foot long macrocore sampler at 5-foot intervals during the advancement of the drill casing to the total boring depth.

AECOM inspected the soil cores, classified the soil according to the Unified Soil Classification System and noted any field screening observations. The observed soil type included primarily sand. The AECOM field personnel used the following field screening procedures:

- A portion of the sample was placed into sealed plastic bag. The sample was then agitated to break up any large pieces of soil.
- After about 10 minutes, the photoionization detector (PID) probe was inserted into the bag and the PID measurement was recorded in parts per million (ppm).
- AECOM also noted the sample's odor, color, and presence of sheen (if present) using a sheen pan and potable water.

The boring well logs record the soil types and field screening results (Appendix C). The field screening results are summarized below for each location.

- At MW-313, no PID readings were above background (0 parts per million [ppm]), and no petroleum sheen or odors were noted on the soil cores.
- At MW-314, PID readings were detected above background at a maximum level of 5.7 ppm at 8 feet bgs, and a slight hydrocarbon odor was observed at 8 to 15 feet bgs.
- At MW-315, PID readings were detected at a maximum level of 737.4 ppm at 8 feet bgs, and a strong hydrocarbon odor was observed at 8 to 15 feet bgs.

3.2.3 Monitoring Well Installation

Monitoring wells MW-313, MW-314, and MW-315 were installed upon completion of the borings in accordance with Ecology regulations. The monitoring wells specifications are listed below:

- Two-inch diameter, schedule 40 polyvinyl chloride (PVC) well casing to 15 feet bgs
- 10-foot length of 0.010-inch slotted PVC pre-packed well screen placed at the bottom of the boring resulting in an approximate screen interval of 5 to 10 feet bgs
- 10/20 clean Colorado silica sand filter pack within the pre-pack and added up to one feet above the screen (4 feet bgs)
- Bentonite chip seal placed above the filter pack to approximately 1 feet bgs and hydrated with clean water
- A lockable expansion plug and a flush-mounted protective well monument set in concrete to complete each monitoring well's surface features

The well construction details are included on the boring/well logs presented in Appendix C. Screen depth and total depth measurements for the newly installed monitoring wells and existing monitoring wells are included on Table 1.

3.2.4 Well Development

AECOM developed the three new monitoring wells using a decontaminated downhole centrifugal pump. Development was achieved in accordance with the standard operating procedures. More than three well volumes of groundwater were removed at each monitoring well during the well development.

3.2.5 Investigation Derived Waste Management

Investigation Derived Waste (IDW) included soil generated during boring advancement, well development purge water, and decontamination water. AECOM placed the IDW into labeled 55-gallon drums. Miscellaneous non-hazardous wastes (including gloves, rope, paper towels, garbage bags, and similar materials) were disposed of as municipal waste.

The decontamination and purge water was discarded into the Shell Harbor Island Terminal's treatment drains, and the one drum containing soil cuttings was temporarily staged at the Shell Harbor Island Terminal pending characterization and disposal. AECOM collected one composite soil sample to characterize the IDW. The soil was disposed of at a Shell approved disposal facility as per the Shell Residual Management Plan (RMP).

3.2.6 Monitoring Well Survey

Following well installation activities, AECOM oversaw a licensed surveyor, WHPacific, to collect the following measurements for the new monitoring wells:

- Horizontal coordinates
- Ground surface elevations
- Top of the monitoring well casing elevations

The new top of monitoring well casing elevations are included on Table 3, and the horizontal coordinates were used to map the wells on Figures 2 through 8.

3.3 Bio-Sparging System Construction

In November 2016, construction of the bio-sparging system commenced within the TX-03A Area. Prior to City halting the project in December 2016 due to permit delays, AECOM had overseen the installation of the 37 bio-sparging wells in the City Parking Lot and Main Tank Farm, and the installation of the system piping within the Main Tank Farm. System construction is set to resume in April 2017 with system start-up in May 2017. The bio-sparging system construction details will be documented in a Construction Completion Report and an Operations and Maintenance Plan, which will be completed later in 2017.

3.4 TX-03A Area Groundwater Analytical Results

Monitoring wells sampled in the TX-03A Area were analyzed for one or more of the following: gasoline, diesel, oil, BTEX, natural attenuation parameters, and lead (Table 1). The results are included in Tables 5 through 7. The BTEX and petroleum hydrocarbon concentrations detected in groundwater in the TX-03A Area in 2016 are summarized below. The gasoline, diesel, and benzene concentration are shown on Figures 7 and 8. The BTEX and gasoline concentration trends for monitoring well TX-03A are shown on Figure 9.

3.4.1 Petroleum Hydrocarbon Results

Gasoline was analyzed in 22 monitoring wells located in the TX-03A Area during the monitoring period. Diesel and oil were analyzed in 18 monitoring wells located in the TX-03A Area during the monitoring period. Diesel and oil were not detected above the cleanup level of 10 mg/L in any of the monitoring wells.

Gasoline exceeded the cleanup level of 1 mg/L in all sampling events at monitoring wells MW-202, MW-301 through MW-304, MW-307, MW-308, MW-310, MW-312, MW-315, and TX-03A at concentrations ranging from 1.17 mg/L (MW-315 in December 2016) to 8.60 mg/L (MW-303 in May 2016). MW-308 reported concentrations of gasoline exceeding the cleanup level during the May and August 2016 sampling events at concentrations of 1.41 mg/L and 1.48 mg/L, respectively. Gasoline and diesel concentrations are shown on Figure 7 with the cleanup level exceedances highlighted in red.

3.4.2 BTEX Results

During the monitoring period, BTEX constituents were analyzed in 21 monitoring wells located in the TX-03A Area. BTEX constituents were not detected in six of the 21 monitoring wells (MW-101, MW-102, MW-201, MW-206A, MW-313, and TES-MW-1). Benzene exceeded the cleanup level of 0.071 mg/L in monitoring wells MW-301 through MW-304, MW-307, MW-308, MW-310, MW-312, MW-315, and TX-03A at concentrations ranging from 0.0965 mg/L (MW-315 in August 2016) to 1.78 mg/L (TX-03A in May 2016). Benzene concentrations are shown on Figure 8 with the cleanup level exceedances highlighted in red.

Toluene and ethylbenzene detections were all below the cleanup levels of 200 mg/L and 29 mg/L, respectively. A cleanup level for xylenes has not been established for the site.

4 Summary and Conclusions

Based on the analytical results of the January through December 2016 monitoring period, AECOM concludes the following:

- Groundwater elevations at the site appear to be consistent with historic levels. Groundwater elevation data will be collected in association with all monitoring events in 2017. AECOM proposes no changes to the monitoring schedule, which is included in Table 1.
- Measurable product from an older release is still present in the Shoreline Manifold Area. During the past year, measurable product was observed in monitoring well MW-210 only within the Shoreline Manifold Area. Absorbent socks are present for product recovery in monitoring wells MW-210 and MW-212. Given the presence of product, absorbent socks will remain in monitoring wells MW-210 and MW-212, and monthly product monitoring will continue until discussed further with Ecology. The product monitoring schedule is included in Table 1.
- Natural attenuation parameters were collected annually from eight monitoring wells (TX-03A, MW-302, MW-304, MW-307, MW-308, MW-310, MW-311, MW-312) on the northern boundary of the Main Tank Farm and two monitoring wells (MW-202 and MW-203) in the North Tank Farm. In support of evaluating natural attenuation and the bio-sparging system, no changes to the natural attenuation monitoring program will be made in 2017. The groundwater monitoring program is included in Table 1.
- Of the sentry wells, cleanup level exceedances included the benzene and gasoline detections in MW-312 and MW-315 within the TX-03A Area; the benzene detection in MW-111; the gasoline detections in MW-112A and MW-104; and the total lead detection in MW-105.
- Concentrations of gasoline in the North Tank Farm in monitoring well MW-202 are consistent with historic results and continue to exceed the cleanup level.
- Concentrations of benzene and gasoline at the SH-04 Area in monitoring well SH-04 remain below the cleanup levels in 2016.
- Concentrations of benzene and gasoline are stable and consistent with historic results, but exceed cleanup levels in the source areas of the TX-03A Area.
- On-going activities are planned in 2017 for the TX-03A Area. The 2017 activities include quarterly monitoring of monitoring wells in the TX-03A Area (Table 1), the mitigation of the petroleum impacted groundwater infiltration into the City stormwater system north of the Main Tank Farm, under Florida Street, and the completion of the bio-sparging system.

5 References

- AECOM, 2015. *Stormwater System Cleanout and Video Survey Report, Shell Oil Products US Harbor Island Terminal, Seattle, Washington, Consent Decree No. 99-2-07176-0SEA*. October 5.
- Ecology, 1998. *Equilon Seattle Terminal MTCA Consent Decree*. October 2.
- EMCON and LCI, 1999. *Compliance Monitoring Plan, Equilon Seattle Sales Terminal, Seattle, Washington*. Submitted to the Washington State Department of Ecology. February 24 (revised).
- KJC, 1990. *Contaminant Source Tracing Investigation. Harbor Island Storm Drain System*. September.
- RETEC, 2006a. *Proposed Technical Changes to Shell Harbor Island Compliance Monitoring Plan*, Submitted to the Washington State Department of Ecology. February 1.
- RETEC, 2006b. *Follow-up to Telephone Conversation Regarding the Shell Harbor Island Compliance Monitoring Plan*, Submitted to the Washington State Department of Ecology. March 9.
- URS, 2008. *Proposed Changes to Shell's Seattle Terminal Compliance Monitoring Plan* Submitted to the Washington State Department of Ecology dated April.
- URS, 2012. *Annual Compliance Monitoring Report – 2010-2011*. Shell Seattle Distribution Terminal, Seattle, Washington. February.
- URS, 2014. *Annual Compliance Monitoring Report 2014, Shell Harbor Island Terminal, Seattle, Washington*. April.

Tables

**Table 1
Groundwater Monitoring Program
Shell Harbor Island Terminal
Seattle, Washington**

Well	Schedule								Analysis						Compliance Monitoring Well				Well Construction		Comments
	1st Quarter		2nd Quarter (1st Semi-Annual)		3rd Quarter		4th Quarter (2nd Semi-Annual & Annual)		Total Lead	BTEX	TPH-Gx	TPH-Dx	PAHs	NA Parameters	Performance Product	NA Performance	Groundwater Quality Confirmation	Sentry	Total Depth (ft bgs)	Screened Interval (ft bgs)	
	Gauge	Sample	Gauge	Sample	Gauge	Sample	Gauge	Sample													
TX-03A Area																					
MW-101	G		G		G		G	S		X	X	X							15	5.0 - 14.5	
MW-102	G		G		G		G	S		X	X	X					X		15	5.0 - 14.5	
MW-201	G		G		G		G	S		X	X	X					X		15	5.0 - 14.5	
MW-202	G		G	S	G		G	S		X ^A	X	X		X ^A	X				15	5.0 - 14.5	
MW-203	G		G	S	G		G	S			X	X		X ^A	X				15	5.0 - 14.5	
MW-204			-		G		G	S		X	X	X					X		15	5.0 - 14.5	
MW-206A	G		G		G		G	S		X	X	X				X-BGD			15	5.0 - 14.5	
MW-301	G	S	G	S	G	S	G	S		X	X								15	5.0 - 15.0	
MW-302	G		G	S	G		G	S		X	X	X ^A		X ^A	X				15	5.0 - 15.0	
MW-303	G		G	S	G		G	S		X	X	X ^A							15	5.0 - 15.0	
MW-304	G		G	S	G		G	S		X	X	X ^A		X ^A	X				15	5.0 - 15.0	
MW-307	G	S	G	S	G	S	G	S		X	X	X ^S		X ^A	X				15	5.0 - 15.0	
MW-308	G	S	G	S	G	S	G	S		X	X			X ^A	X				15	5.0 - 15.0	
MW-309	G		G	S	G		G	S		X	X	X ^A							15	5.0 - 15.0	
MW-310	G	S	G	S	G	S	G	S		X	X	X ^A		X ^A	X				15	5.0 - 15.0	
MW-311	G	S	G	S	G	S	G	S		X	X			X ^A	X		X		15	5.0 - 15.0	
MW-312	G	S	G	S	G	S	G	S		X	X			X ^A	X		X		15	5.0 - 15.0	
MW-313	G	S	G	S	G	S	G	S		X	X	X					X		15	5.0 - 15.0	
MW-314	G	S	G	S	G	S	G	S		X	X	X					X		15	5.0 - 15.0	
MW-315	G	S	G	S	G	S	G	S		X	X	X					X		15	5.0 - 15.0	
TES-MW-1	G		G		G		G	S		X	X	X							18	3.0 - 18.0	
TX-03A	G	S	G	S	G	S	G	S		X	X	X ^A		X ^A	X				16	6.0 - 16.0	
SH-04 Area																					
MW-05			G	S			G	S		X	X	X					X		15	5.0 - 15.0	
MW-111			G	S			G	S		X	X	X					X		15	5.0 - 14.5	
MW-112A			G	S			G	S		X	X	X					X		15	5.5 - 15.0	
SH-04			G	S			G	S		X	X	X					X		16	6.0 - 16.0	
MW-104			G	S			G	S	X		X	X					X		15	5.0 - 14.5	
Additional Compliance Monitoring Wells																					
MW-105							G	S	X	X	X	X					X		15	5.0 - 14.5	
TX-04							G	S		X	X	X					X		16	6.0 - 16.0	
TX-06A							G	S		X	X	X					X		15.8	5.5 - 15.5	
Shoreline Manifold Area																					
MW-208	MG		MG		MG		MG							X					16.5	5.0 - 14.5	
MW-210	MG		MG		MG		MG							X					15	unknown	
MW-211	MG		MG		MG		MG							X					13	5.0 - 13.0	
MW-212	MG		MG		MG		MG							X					12	unknown	
MW-213			G	S			G	S		X	X	X	X			X-POC			30	30.0 - 40.0	
MW-214			G	S			G	S		X	X	X	X			X-POC			30	30.0 - 40.0	

**Table 1
Groundwater Monitoring Program
Shell Harbor Island Terminal
Seattle, Washington**

Well	Schedule								Analysis						Compliance Monitoring Well				Well Construction		Comments
	1st Quarter		2nd Quarter (1st Semi-Annual)		3rd Quarter		4th Quarter (2nd Semi-Annual & Annual)		Total Lead	BTEX	TPH-Gx	TPH-Dx	PAHs	NA Parameters	Performance Product	NA Performance	Groundwater Quality Confirmation	Sentry	Total Depth (ft bgs)	Screened Interval (ft bgs)	
	Gauge	Sample	Gauge	Sample	Gauge	Sample	Gauge	Sample													
Additional Wells (not included Monitoring Program)																					
DP-06																					
MW-06																					
MW-103																					
MW-106																					
MW-108																					
MW-109																					
MW-110																					
MW-205																					
MW-209																					
MW-305																					
MW-306																					
AMW-8																					
AMW-X																					

Notes:

- Red = Modifications to the program since the November 2008 proposed changes which were established in correspondence between URS and Ecology.
- BGD = Background well with respect to confirmational sampling
- BTEX = benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8260B
- G = indicates a well to be gauged during that event
- POC = Conditional Point of Compliance Well
- ft bgs = below ground surface
- MG = monthly gauge
- NA = natural attenuation
- Natural Attenuation Parameters: Nitrate and Nitrite by EPA Method 353.2, Sulfate by EPA Method 300.0, Dissolved Iron and Manganese by EPA Method 6010B/6020A, and Ferrous Iron collected in the field.
- PAHs = polycyclic aromatic hydrocarbons by EPA Method 8270C-SIM
- S = indicates a well to be sampled during that event
- Total Lead by EPA Method 6020
- TPH-Gx = total petroleum hydrocarbons as gasoline by NWTPH-Gx
- TPH-Dx = total petroleum hydrocarbons as diesel by NWTPH-Dx
- X = indicates a well to be analyzed for that analyte
- X^A = indicates a well to be analyzed for that analyte during the annual sampling event only
- X^S = indicates a well to be analyzed for that analyte during both semi-annual sampling events only

Table 2
Groundwater Cleanup Levels
Shell Harbor Island Terminal
Seattle, Washington

Constituent	Cleanup Level ^a (mg/L)
Arsenic	0.036 ^b
Benzene	0.071
Benzo(a)anthracene	0.000031
Benzo(a)pyrene	0.000031
Benzo(b)fluoranthene	0.000031
Benzo(k)fluoranthene	0.000031
Chrysene	0.000031
Dibenzo(a,h)anthracene	0.000031
Ethylbenzene	29
Indeno(1,2,3-cd)pyrene	0.000031
Lead	0.0058
TPH-G	1
TPH-D	10
TPH-O	10
Toluene	200

Notes:

^a Cleanup levels per the *Cleanup Action Plan*: (Ecology, 1998), except where noted

^b Cleanup level based on ambient water quality criteria (chronic criteria for the protection of aquatic organisms) per WAC 173-201A-040
mg/L = milligrams per liter

TPH-D = total petroleum hydrocarbons as diesel

TPH-G = total petroleum hydrocarbons as gasoline

TPH-O = total petroleum hydrocarbons as oil

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-05	04/06/93	10.39	6.12	4.27
	05/13/93	10.39	5.92	4.47
	06/10/93	10.39	5.98	4.41
	07/08/93	10.39	6.23	4.16
	08/03/93	10.39	6.50	3.89
	10/08/93	10.39	7.22	3.17
	11/05/93	10.39	7.42	2.97
	12/03/93	10.39	7.38	3.01
	01/05/94	10.39	6.64	3.75
	02/04/94	10.39	6.54	3.85
	08/28/95	10.39	Not Measured	Not Measured
	09/27/95	10.39	8.35	2.04
	04/27/99	10.39	8.07	2.32
	07/14/99	10.39	5.88	4.51
	10/18/99	10.39	7.00	3.39
	04/05/00	10.39	5.05	5.34
	07/18/00	10.39	6.30	4.09
	10/02/00	10.39	7.15	3.24
	01/22/01	10.39	6.50	3.89
	07/23/01	10.39	7.43	2.96
	07/18/02	10.39	7.10	3.29
	01/30/03	10.39	5.84	4.55
	04/15/03	10.39	5.80	4.59
	07/17/03	10.39	7.12	3.27
	10/15/03	10.39	7.78	2.61
	10/23/03	10.39	7.80	2.59
	01/13/04	10.39	5.65	4.74
	04/19/04	13.57	6.35	7.22
	07/27/04	13.57	7.32	6.25
	10/18/04	13.57	7.36	6.21
	01/24/05	13.57	6.26	7.31
	04/18/05	13.57	6.27	7.30
	07/12/05	13.57	6.85	6.72
	10/18/05	13.57	7.60	5.97
	01/25/06	13.57	4.78	8.79
	04/25/06	13.57	5.90	7.67
	10/11/06	13.57	7.62	5.95
	11/19/08	13.57	8.23	5.34
	11/16/09	13.57	6.44	7.13
	10/29/10	13.57	6.57	7.00
10/25/11	13.57	7.25	6.32	
05/30/12	13.57	5.86	7.71	
08/23/12	13.57	6.63	6.94	
11/27/12	13.57	5.30	8.27	
05/16/13	13.57	5.72	7.85	
11/07/13	13.57	6.49	7.08	
04/22/14	13.57	5.25	8.32	
12/08/15	13.57	5.42	8.15	
05/04/16	13.57	5.22	8.35	
12/14/16	13.57	4.78	8.79	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-101	04/06/93	15.14	10.48	4.66
	05/13/93	15.14	10.32	4.82
	06/10/93	15.14	10.45	4.69
	07/08/93	15.14	10.75	4.39
	08/03/93	15.14	11.09	4.05
	09/08/93	15.14	11.52	3.62
	10/08/93	15.14	11.89	3.25
	11/05/93	15.14	12.13	3.01
	12/03/93	15.14	12.14	3.00
	01/05/94	15.14	11.16	3.98
	02/04/94	15.14	11.02	4.12
	08/28/95	15.14	11.25	3.89
	09/27/95	15.14	11.49	3.65
	04/27/99	15.14	9.22	5.92
	07/14/99	15.14	10.73	4.41
	10/18/99	15.14	11.78	3.36
	01/11/00	15.14	9.73	5.41
	04/05/00	15.14	9.85	5.29
	07/18/00	15.14	11.01	4.13
	10/02/00	15.14	11.85	3.29
	01/22/01	15.14	11.67	3.47
	07/23/01	15.14	12.33	2.81
	10/16/01	15.14	13.15	1.99
	04/23/02	15.14	10.81	4.33
	07/18/02	15.14	11.88	3.26
	10/23/02	15.14	12.73	2.41
	01/30/03	15.14	10.09	5.05
	04/15/03	15.14	10.36	4.78
	07/17/03	15.14	11.94	3.20
	10/15/03	15.14	12.68	2.46
	01/13/04	15.14	10.06	5.08
	04/19/04	18.21	11.13	7.08
	07/27/04	18.21	12.07	6.14
	10/18/04	18.21	12.19	6.02
	01/24/05	18.21	10.61	7.60
	04/18/05	18.21	10.86	7.35
	07/12/05	18.21	11.61	6.60
	10/18/05	18.21	12.45	5.76
	01/25/06	18.21	9.21	9.00
	04/25/06	18.21	10.75	7.46
	10/11/06	18.21	12.39	5.82
	11/18/08	18.21	11.45	6.76
11/16/09	18.21	10.95	7.26	
10/26/10	18.21	11.36	6.85	
10/25/11	18.21	12.15	6.06	
05/30/12	18.21	10.79	7.42	
06/13/12	18.21	10.90	7.31	
09/26/12	18.21	12.04	6.17	
11/27/12	18.21	9.90	8.31	
02/22/13	18.21	10.24	7.97	
05/16/13	18.21	10.89	7.32	
09/06/13	18.21	11.99	6.22	
11/07/13	18.21	11.78	6.43	
04/22/14	18.21	10.16	8.05	
11/04/14	18.21	10.70	7.51	
03/10/15	18.21	10.31	7.90	
05/15/15	18.21	10.03	8.18	
07/29/15	18.21	11.86	6.35	
12/10/15	18.21	9.12	9.09	
02/23/16	18.21	8.81	9.40	
05/03/16	18.21	10.29	7.92	
08/30/16	18.21	11.29	6.92	
12/14/16	18.21	9.62	8.59	
03/13/17	18.21	8.87	9.34	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-102	04/06/93	12.51	7.99	4.52
	05/13/93	12.51	7.82	4.69
	06/10/93	12.51	7.80	4.71
	07/08/93	12.51	8.32	4.19
	08/03/93	12.51	8.68	3.83
	09/08/93	12.51	9.03	3.48
	10/08/93	12.51	9.44	3.07
	11/05/93	12.51	9.62	2.89
	12/03/93	12.51	9.42	3.09
	01/05/94	12.51	8.50	4.01
	02/04/94	12.51	8.52	3.99
	08/28/95	12.51	8.86	3.65
	09/27/95	12.51	9.17	3.34
	04/27/99	12.51	6.68	5.83
	07/14/99	12.51	8.40	4.11
	10/18/99	12.51	9.38	3.13
	01/11/00	12.51	7.43	5.08
	04/05/00	12.51	7.55	4.96
	07/18/00	12.51	8.37	4.14
	10/02/00	12.51	9.45	3.06
	01/22/01	12.51	9.12	3.39
	07/23/01	12.51	9.91	2.60
	04/23/02	12.51	8.17	4.34
	07/18/02	12.51	9.44	3.07
	07/18/02	12.51	9.44	3.07
	10/23/02	12.51	10.05	2.46
	01/28/03	12.51	7.20	5.31
	04/15/03	12.51	7.75	4.76
	07/17/03	12.51	9.51	3.00
	10/15/03	12.51	10.11	2.40
	01/13/04	12.51	7.49	5.02
	04/19/04	15.60	8.72	6.88
	07/27/04	15.60	9.62	5.98
	10/18/04	15.60	9.54	6.06
	01/24/05	15.60	7.92	7.68
	04/18/05	15.60	8.20	7.40
	07/12/05	15.60	9.10	6.50
	10/18/05	15.60	9.87	5.73
	01/25/06	15.60	3.94	11.66
	04/25/06	15.60	8.24	7.36
	10/11/06	15.60	9.84	5.76
	11/19/08	15.60	8.79	6.81
	11/16/09	15.60	8.10	7.50
10/28/10	15.60	8.64	6.96	
10/25/11	15.60	9.59	6.01	
05/30/12	15.60	8.27	7.33	
06/13/12	15.60	8.32	7.28	
09/26/12	15.60	9.53	6.07	
11/27/12	15.60	7.03	8.57	
02/22/13	15.60	7.88	7.72	
05/16/13	15.60	8.40	7.20	
09/06/13	15.60	9.36	6.24	
11/07/13	15.60	9.18	6.42	
04/22/14	15.60	7.69	7.91	
11/04/14	15.60	7.91	7.69	
03/10/15	15.60	7.90	7.70	
05/15/15	15.60	8.47	7.13	
07/29/15	15.60	9.39	6.21	
12/10/15	15.60	6.53	9.07	
02/23/16	15.60	6.78	8.82	
05/03/16	15.60	7.92	7.68	
08/30/16	15.60	8.98	6.62	
12/14/16	15.60	7.27	8.33	
03/13/17	15.60	6.75	8.85	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-104	04/06/93	10.22	5.98	4.24
	05/13/93	10.22	6.79	3.43
	06/10/93	10.22	5.85	4.37
	07/08/93	10.22	6.13	4.09
	08/03/93	10.22	6.38	3.84
	09/08/93	10.22	6.72	3.50
	10/08/93	10.22	7.05	3.17
	11/05/93	10.22	7.26	2.96
	12/03/93	10.22	7.26	2.96
	01/05/94	10.22	6.64	3.58
	02/04/94	10.22	6.46	3.76
	08/28/95	10.22	6.43	3.79
	09/27/95	10.22	6.70	3.52
	04/27/99	10.22	2.41	7.81
	07/14/99	10.22	5.62	4.60
	10/18/99	10.22	6.80	3.42
	01/11/00	10.22	5.04	5.18
	04/05/00	10.22	4.80	5.42
	07/18/00	10.22	6.15	4.07
	10/02/00	10.22	7.02	3.20
	01/22/01	10.22	6.45	3.77
	07/23/01	10.22	7.39	2.83
	10/16/01	10.22	8.59	1.63
	04/23/02	10.22	5.91	4.31
	07/18/02	10.22	7.07	3.15
	10/23/02	10.22	7.74	2.48
	01/28/03	10.22	6.03	4.19
	04/15/03	10.22	5.75	4.47
	07/17/03	10.22	7.08	3.14
	10/15/03	10.22	7.76	2.46
	01/13/04	10.22	5.58	4.64
	04/19/04	13.46	6.30	7.16
	07/27/04	13.46	7.25	6.21
	10/18/04	13.46	7.34	6.12
	01/24/05	13.46	6.27	7.19
	04/18/05	13.46	6.22	7.24
	07/12/05	13.46	6.81	6.65
	10/18/05	13.46	7.55	5.91
	01/25/06	13.46	4.78	8.68
	04/25/06	13.46	5.82	7.64
	10/11/06	13.46	7.54	5.92
	11/18/08	13.46	6.74	6.72
04/08/09	13.46	6.27	7.19	
11/16/09	13.46	6.39	7.07	
04/27/10	13.46	5.45	8.01	
10/26/10	13.46	6.53	6.93	
10/25/11	13.46	7.15	6.31	
03/01/12	13.46	5.82	7.64	
05/30/12	13.46	5.74	7.72	
06/13/12	13.46	5.86	7.60	
08/23/12	13.46	6.50	6.96	
09/26/12	13.46	6.90	6.56	
11/27/12	13.46	5.24	8.22	
05/16/13	13.46	5.65	7.81	
11/07/13	13.46	6.44	7.02	
04/22/14	13.46	5.20	8.26	
11/05/14	13.46	6.02	7.44	
05/20/15	13.46	5.86	7.60	
12/09/15	13.46	5.32	8.14	
12/14/16	13.46	4.78	8.68	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-105	04/06/93	9.05	4.97	4.08
	05/13/93	9.05	4.88	4.17
	06/10/93	9.05	4.83	4.22
	07/08/93	9.05	5.20	3.85
	08/03/93	9.05	5.43	3.62
	09/08/93	9.05	6.76	2.29
	10/08/93	9.05	6.06	2.99
	11/05/93	9.05	6.28	2.77
	12/03/93	9.05	6.18	2.87
	01/05/94	9.05	5.65	3.40
	02/04/94	9.05	5.63	3.42
	08/28/95	9.05	5.39	3.66
	09/27/95	9.05	5.70	3.35
	04/27/99	9.05	3.39	5.66
	07/14/99	9.05	4.58	4.47
	10/18/99	9.05	5.79	3.26
	01/11/00	9.05	3.97	5.08
	04/05/00	9.05	3.84	5.21
	07/18/00	9.05	4.90	4.15
	10/02/00	9.05	6.22	2.83
	01/22/01	9.05	5.56	3.49
	07/23/01	9.05	6.48	2.57
	04/23/02	9.05	5.25	3.80
	07/18/02	9.05	6.17	2.88
	10/23/02	9.05	6.78	2.27
	01/28/03	9.05	5.02	4.03
	04/15/03	9.05	4.97	4.08
	07/17/03	9.05	6.2	2.85
	10/15/03	9.05	6.66	2.39
	01/13/04	9.05	5.01	4.04
	04/19/04	12.18	5.51	6.67
	07/27/04	12.18	6.28	5.90
	10/18/04	12.18	6.15	6.03
	01/24/05	12.18	5.02	7.16
	04/18/05	12.18	5.19	6.99
	07/12/05	12.18	5.82	6.36
	10/18/05	12.18	6.44	5.74
	01/25/06	12.18	4.05	8.13
	04/25/06	12.18	5.00	7.18
	10/11/06	12.18	6.51	5.67
11/19/08	12.18	5.52	6.66	
11/16/09	12.18	5.03	7.15	
10/26/10	12.18	5.33	6.85	
10/25/11	12.18	6.06	6.12	
11/26/12	12.18	3.82	8.36	
11/07/13	12.18	5.42	6.76	
11/05/14	12.18	4.62	7.56	
12/08/15	12.18	4.00	8.18	
12/14/16	12.18	4.15	8.03	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-111	04/06/93	8.61	4.95	3.66
	05/13/93	8.61	4.87	3.74
	06/10/93	8.61	4.84	3.77
	07/08/93	8.61	5.11	3.50
	08/03/93	8.61	5.29	3.32
	09/08/93	8.61	5.56	3.05
	10/08/93	8.61	5.81	2.80
	11/05/93	8.61	5.97	2.64
	12/03/93	8.61	5.93	2.68
	01/05/94	8.61	5.45	3.16
	02/04/94	8.61	5.28	3.33
	08/28/95	8.61	5.28	3.33
	09/27/95	8.61	5.45	3.16
	04/27/99	8.61	3.55	5.06
	07/14/99	8.61	4.65	3.96
	10/18/99	8.61	5.59	3.02
	01/11/00	8.61	4.18	4.43
	04/05/00	8.61	3.94	4.67
	07/13/00	8.61	5.30	3.31
	10/02/00	8.61	5.68	2.93
	01/22/01	8.61	5.37	3.24
	07/23/01	8.61	6.22	2.39
	10/16/01	8.61	7.37	1.24
	04/23/02	8.61	5.28	3.33
	07/18/02	8.61	5.94	2.67
	10/23/02	8.61	6.50	2.11
	01/28/03	8.61	5.05	3.56
	04/15/03	8.61	5.03	3.58
	07/17/03	8.61	6.05	2.56
	10/15/03	8.61	6.45	2.16
	01/13/04	8.61	4.84	3.77
	04/19/04	11.88	5.46	6.42
	07/27/04	11.88	6.16	5.72
	10/18/04	11.88	6.11	5.77
	01/24/05	11.88	5.33	6.55
	04/18/05	11.88	5.27	6.61
	07/12/05	11.88	5.75	6.13
	10/18/05	11.88	6.26	5.62
	01/25/06	11.88	4.42	7.46
	04/25/06	11.88	4.88	7.00
	10/11/06	11.88	6.30	5.58
11/19/08	11.88	8.62	3.26	
11/16/09	11.88	5.30	6.58	
10/26/10	11.88	5.35	6.53	
10/25/11	11.88	5.89	5.99	
05/30/12	11.88	4.81	7.07	
08/23/12	11.88	Not Measured	Not Measured	
11/29/12	11.88	4.14	7.74	
05/16/13	11.88	4.63	7.25	
11/07/13	11.88	5.10	6.78	
04/22/14	11.88	4.32	7.56	
11/05/14	11.88	4.58	7.30	
12/08/15	11.88	4.36	7.52	
12/14/16	11.88	4.04	7.84	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-112	04/06/93	9.98	6.69	3.29
	05/13/93	9.98	6.61	3.37
	06/10/93	9.98	6.51	3.47
	07/08/93	9.98	6.83	3.15
	08/03/93	9.98	7.00	2.98
	09/08/93	9.98	7.24	2.74
	10/08/93	9.98	7.50	2.48
	11/05/93	9.98	7.56	2.42
	12/03/93	9.98	7.41	2.57
	01/05/94	9.98	6.93	3.05
	02/04/94	9.98	6.83	3.15
	08/28/95	9.98	6.98	3.00
	09/27/95	9.98	7.13	2.85
	04/27/99	9.98	5.66	4.32
	07/14/99	9.98	6.57	3.41
	10/18/99	9.98	7.36	2.62
	01/11/00	9.98	5.89	4.09
	04/05/00	9.98	5.81	4.17
07/18/00	9.98	7.11	2.87	
10/02/00	9.98	7.57	2.41	
04/25/06	9.98	6.44	3.54	
MW-112A	04/24/02	9.98	6.85	3.13
	07/18/02	9.98	7.22	2.76
	10/23/02	9.98	7.52	2.46
	01/28/03	9.98	6.25	3.73
	04/15/03	9.98	6.47	3.51
	07/17/03	9.98	7.3	2.68
	10/15/03	9.98	7.49	2.49
	01/13/04	9.98	6.2	3.78
	04/19/04	12.52	6.93	5.59
	07/27/04	12.52	7.41	5.11
	10/18/04	12.52	7.15	5.37
	01/24/05	12.52	6.52	6.00
	04/18/05	12.52	6.6	5.92
	07/12/05	12.52	7.1	5.42
	10/18/05	12.52	7.34	5.18
	01/25/06	12.52	5.95	6.57
	10/11/06	12.52	7.43	5.09
	11/19/08	12.52	6.73	5.79
	11/16/09	12.52	6.35	6.17
	10/29/10	12.52	6.51	6.01
	10/25/11	12.52	7.03	5.49
	05/30/12	12.52	6.28	6.24
	08/23/12	12.52	6.56	5.96
	11/25/12	12.52	5.23	7.29
05/16/13	12.52	6.24	6.28	
11/04/13	12.52	-	-	
04/22/14	12.52	5.90	6.62	
11/06/14	12.52	5.68	6.84	
12/08/15	12.52	5.42	7.10	
12/14/16	12.52	5.69	6.83	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-201	04/06/93	17.07	14.03	3.04
	05/13/93	17.07	14.02	3.05
	06/10/93	17.07	13.97	3.10
	07/08/93	17.07	14.25	2.82
	08/03/93	17.07	14.48	2.59
	09/08/93	17.07	14.68	2.39
	10/08/93	17.07	14.90	2.17
	11/05/93	17.07	15.03	2.04
	12/03/93	17.07	14.96	2.11
	01/05/94	17.07	14.10	2.97
	02/04/94	17.07	14.32	2.75
	08/28/95	17.07	14.49	2.58
	09/27/95	17.07	14.56	2.51
	04/27/99	17.07	13.04	4.03
	07/14/99	17.07	14.26	2.81
	10/18/99	17.07	14.93	2.14
	01/11/00	17.07	13.03	4.04
	04/05/00	17.07	13.90	3.17
	07/18/00	17.07	14.09	2.98
	10/02/00	17.07	14.82	2.25
	01/22/01	17.07	14.43	2.64
	07/23/01	17.07	14.95	2.12
	10/16/01	17.07	16.11	0.96
	04/24/02	17.07	14.23	2.84
	07/18/02	17.07	14.73	2.34
	10/23/02	17.07	15.13	1.94
	01/28/03	17.07	13.13	3.94
	04/15/03	17.07	13.58	3.49
	07/17/03	17.07	14.70	2.37
	10/15/03	17.07	14.99	2.08
	01/13/04	17.07	12.71	4.36
	04/19/04	20.18	14.07	6.11
	07/27/04	20.18	14.70	5.48
	10/18/04	20.18	14.70	5.48
	01/24/05	20.18	13.44	6.74
	04/18/05	20.18	13.73	6.45
	07/12/05	20.18	14.47	5.71
	10/18/05	20.18	14.99	5.19
	01/25/06	20.18	12.61	7.57
	04/25/06	20.18	13.94	6.24
	10/11/06	20.18	15.00	5.18
	11/20/08	20.18	13.77	6.41
	11/16/09	20.18	13.74	6.44
10/27/10	20.18	14.42	5.76	
10/26/11	20.18	14.94	5.24	
11/27/12	20.18	13.10	7.08	
02/22/13	20.18	13.74	6.44	
05/16/13	20.18	14.45	5.73	
09/06/13	20.18	14.78	5.40	
11/07/13	20.18	14.70	5.48	
04/22/14	20.18	13.42	6.76	
11/04/14	20.18	13.65	6.53	
03/10/15	20.18	13.64	6.54	
05/15/15	20.18	14.34	5.84	
07/29/15	20.18	14.65	5.53	
12/10/15	20.18	12.23	7.95	
02/23/16	20.18	12.33	7.85	
05/03/16	20.18	13.74	6.44	
08/30/16	20.18	14.04	6.14	
12/14/16	20.18	12.86	7.32	
03/13/17	20.18	12.18	8.00	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-202	04/06/93	16.77	13.23	3.54
	05/13/93	16.77	13.17	3.60
	06/10/93	16.77	13.26	3.51
	07/08/93	16.77	13.54	3.23
	08/03/93	16.77	13.76	3.01
	09/08/93	16.77	14.04	2.73
	10/08/93	16.77	14.30	2.47
	11/05/93	16.77	14.48	2.29
	12/03/93	16.77	14.34	2.43
	01/05/94	16.77	13.73	3.04
	02/04/94	16.77	13.63	3.14
	08/28/95	16.77	13.78	2.99
	09/27/95	16.77	13.95	2.82
	04/27/99	16.77	12.38	4.39
	07/14/99	16.77	13.57	3.20
	10/18/99	16.77	14.31	2.46
	01/11/00	16.77	12.95	3.82
	04/05/00	16.77	12.96	3.81
	07/18/00	16.77	13.21	3.56
	10/02/00	16.77	14.25	2.52
	01/22/01	16.77	14.46	2.31
	07/23/01	16.77	14.64	2.13
	10/16/01	16.77	15.81	0.96
	04/24/02	16.77	13.80	2.97
	07/18/02	16.77	14.28	2.49
	10/23/02	16.77	14.73	2.04
	01/28/03	16.77	12.95	3.82
	04/15/03	16.77	13.13	3.64
	07/17/03	16.77	14.30	2.47
	10/15/03	16.77	14.62	2.15
	01/13/04	16.77	12.81	3.96
	04/19/04	19.86	13.61	6.25
	07/27/04	19.86	14.29	5.57
	10/18/04	19.86	14.30	5.56
	01/24/05	19.86	13.29	6.57
	04/18/05	19.86	13.51	6.35
	07/12/05	19.86	14.02	5.84
	10/18/05	19.86	14.59	5.27
	01/25/06	19.86	12.38	7.48
	04/25/06	19.86	13.43	6.43
	10/11/06	19.86	14.58	5.28
	11/20/08	19.86	13.92	5.94
	04/07/09	19.86	13.71	6.15
11/16/09	19.86	13.70	6.16	
04/27/10	19.86	13.24	6.62	
10/27/10	19.86	14.04	5.82	
10/26/11	19.86	14.45	5.41	
03/02/12	19.86	13.70	6.16	
05/30/12	19.86	13.65	6.21	
06/13/12	19.86	13.76	6.10	
09/26/12	19.86	14.42	5.44	
11/27/12	19.86	13.09	6.77	
02/22/13	19.86	13.27	6.59	
05/16/13	19.86	13.80	6.06	
09/06/13	19.86	14.38	5.48	
11/07/13	19.86	14.25	5.61	
04/22/14	19.86	13.23	6.63	
11/04/14	19.86	13.44	6.42	
03/10/15	19.86	13.23	6.63	
05/15/15	19.86	13.76	6.10	
07/29/15	19.86	14.18	5.68	
12/10/15	19.86	12.76	7.10	
02/23/16	19.86	12.15	7.71	
05/03/16	19.86	13.11	6.75	
08/30/16	19.86	14.00	5.86	
12/14/16	19.86	12.81	7.05	
03/13/17	19.86	12.25	7.61	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-203	04/06/93	11.04	7.39	3.65
	05/13/93	11.04	7.31	3.73
	06/10/93	11.04	7.40	3.64
	07/08/93	11.04	7.66	3.38
	08/03/93	11.04	7.93	3.11
	09/08/93	11.04	8.20	2.84
	10/08/93	11.04	8.46	2.58
	11/05/93	11.04	8.65	2.39
	12/03/93	11.04	8.64	2.40
	01/05/94	11.04	7.99	3.05
	02/04/94	11.04	7.88	3.16
	08/28/95	11.04	7.86	3.18
	09/27/95	11.04	8.02	3.02
	04/27/99	11.04	6.32	4.72
	07/14/99	11.04	7.58	3.46
	10/18/99	11.04	8.42	2.62
	01/11/00	11.04	6.98	4.06
	04/05/00	11.04	6.92	4.12
	07/18/00	11.04	8.00	3.04
	10/02/00	11.04	8.40	2.64
	01/22/01	11.04	8.47	2.57
	07/23/01	11.04	8.69	2.35
	10/16/01	11.04	9.73	1.31
	04/24/02	11.04	7.45	3.59
	10/23/02	11.04	8.80	2.24
	01/28/03	11.04	6.76	4.28
	04/15/03	11.04	7.05	3.99
	07/17/03	11.04	8.25	2.79
	01/13/04	11.04	6.71	4.33
	04/19/04	13.99	7.58	6.41
	07/27/04	13.99	8.25	5.74
	10/18/04	13.99	8.34	5.65
	01/24/05	13.99	7.31	6.68
	04/18/05	13.99	7.43	6.56
	07/12/05	13.99	7.96	6.03
	10/18/05	13.99	8.64	5.35
	01/25/06	13.99	6.41	7.58
	04/25/06	13.99	7.18	6.81
	10/11/06	13.99	8.58	5.41
	11/18/08	13.99	8.01	5.98
	04/08/09	13.99	7.63	6.36
	11/16/09	13.99	4.97	9.02
	04/26/10	13.99	7.17	6.82
10/25/10	13.99	8.10	5.89	
10/26/11	13.99	5.45	8.54	
05/30/12	13.99	7.61	6.38	
06/13/12	13.99	7.65	6.34	
09/26/12	13.99	8.40	5.59	
11/27/12	13.99	7.25	6.74	
02/22/13	13.99	7.26	6.73	
05/16/13	13.99	7.80	6.19	
09/06/13	13.99	8.37	5.62	
11/07/13	13.99	8.27	5.72	
04/22/14	13.99	7.33	6.66	
11/04/14	13.99	7.59	6.40	
03/10/15	13.99	6.70	7.29	
05/15/15	13.99	7.74	6.25	
07/29/15	13.99	8.18	5.81	
12/10/15	13.99	6.83	7.16	
02/23/16	13.99	5.92	8.07	
05/03/16	13.99	7.02	6.97	
08/30/16	13.99	8.17	5.82	
12/14/16	13.99	6.62	7.37	
03/13/17	13.99	5.93	8.06	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-204	04/06/93	14.21	10.97	3.24
	05/13/93	14.21	10.92	3.29
	06/10/93	14.21	10.98	3.23
	07/08/93	14.21	11.20	3.01
	08/03/93	14.21	11.44	2.77
	09/08/93	14.21	11.64	2.57
	10/08/93	14.21	11.85	2.36
	11/05/93	14.21	12.03	2.18
	12/03/93	14.21	12.01	2.20
	01/05/94	14.21	11.42	2.79
	02/04/94	14.21	11.35	2.86
	08/28/95	14.21	11.58	2.63
	09/27/95	14.21	11.57	2.64
	04/05/00	14.21	Not Measured	Not Measured
	10/02/00	14.21	Not Measured	Not Measured
	01/22/01	14.21	11.69	2.52
	07/23/01	14.21	12.05	2.16
	10/16/01	14.21	13.17	1.04
	07/27/04	14.21	11.67	2.54
	10/18/04	17.27	11.71	5.56
	01/24/05	17.27	10.72	6.55
	04/18/05	17.27	10.98	6.29
	07/12/05	17.27	11.4	5.87
	10/18/05	17.27	11.98	5.29
	01/25/06	17.27	9.96	7.31
	10/11/06	17.27	11.96	5.31
	11/20/08	17.27	11.45	5.82
	11/16/09	17.27	11.20	6.07
	10/27/10	17.27	11.54	5.73
	10/27/11	17.27	10.71	6.56
	03/26/12	17.27	Not Measured	Not Measured
	06/12/12	17.27	11.20	6.07
	09/27/12	17.27	Not Measured	Not Measured
	11/27/12	17.27	10.81	6.46
	12/20/12	17.27	Not Measured	Not Measured
	02/22/13	17.27	10.81	6.46
	05/16/13	17.27	11.30	5.97
	09/06/13	17.27	11.77	5.50
	11/07/13	17.27	11.71	5.56
	04/22/14	17.27	10.78	6.49
11/04/14	17.27	11.04	6.23	
03/10/15	17.27	10.75	6.52	
05/15/15	17.27	11.21	6.06	
07/29/15	17.27	11.59	5.68	
12/10/15	17.27	9.91	7.36	
02/23/16	17.27	9.67	7.60	
05/03/16	17.27	10.53	6.74	
08/30/16	17.27	11.78	5.49	
12/14/16	17.27	10.34	6.93	
03/13/17	17.27	9.83	7.44	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-206	04/06/93	10.75	9.83	0.92
	05/13/93	10.75	6.72	4.03
	06/10/93	10.75	6.78	3.97
	07/08/93	10.75	7.08	3.67
	08/03/93	10.75	7.35	3.40
	09/08/93	10.75	7.66	3.09
	10/08/93	10.75	7.95	2.80
	11/05/93	10.75	8.15	2.60
	12/03/93	10.75	8.17	2.58
	01/05/94	10.75	7.42	3.33
	02/04/94	10.75	7.24	3.51
	08/28/95	10.75	7.01	3.74
	09/27/95	10.75	7.19	3.56
	04/27/99	10.75	5.59	5.16
	07/14/99	10.75	6.97	3.78
	10/18/99	10.75	7.88	2.87
	01/11/00	10.75	6.34	4.41
	04/05/00	10.75	6.32	4.43
	07/18/00	10.75	7.11	3.64
	10/02/00	10.75	7.92	2.83
01/22/01	10.75	8.93	1.82	
04/25/06	10.75	9.30	1.45	
10/11/06	10.75	10.44	0.31	
MW-206A	04/24/02	10.75	7.43	3.32
	07/18/02	10.75	8.07	2.68
	10/23/02	10.75	8.55	2.20
	01/28/03	10.75	6.40	4.35
	04/15/03	10.75	5.26	5.49
	07/17/03	10.75	8.06	2.69
	04/19/04	15.90	9.51	6.39
	07/27/04	15.90	10.23	5.67
	10/18/04	15.90	10.17	5.73
	01/24/05	15.90	9.18	6.72
	04/18/05	15.90	9.38	6.52
	07/12/05	15.90	9.87	6.03
	10/18/05	15.90	10.50	5.40
	01/25/06	15.90	8.23	7.67
	11/20/08	15.90	9.81	6.09
	11/16/09	15.90	9.48	6.42
	10/25/10	15.90	9.74	6.16
	10/26/11	15.90	10.25	5.65
	05/30/12	15.90	9.44	6.46
	06/13/12	15.90	9.49	6.41
	09/26/12	15.90	10.21	5.69
	11/27/12	15.90	9.05	6.85
	02/22/13	15.90	9.04	6.86
	05/16/13	15.90	8.44	7.46
	09/06/13	15.90	10.06	5.84
	11/07/13	15.90	10.04	5.86
	04/22/14	15.90	9.01	6.89
	11/04/14	15.90	9.25	6.65
	03/10/15	15.90	9.03	6.87
	05/15/15	15.90	9.49	6.41
	07/29/15	15.90	9.99	5.91
	12/10/15	15.90	8.36	7.54
02/23/16	15.90	8.09	7.81	
05/03/16	15.90	9.03	6.87	
08/30/16	15.90	10.25	5.65	
12/14/16	15.90	8.51	7.39	
03/13/17	15.90	7.98	7.92	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-208	06/28/13	--	4.98	--
	09/11/13	--	5.67	--
	10/30/13	--	5.97	--
	11/05/13	--	5.51	--
	01/16/14	--	5.46	--
	02/27/14	--	4.72	--
	03/25/14	--	4.91	--
	04/22/14	--	4.98	--
	06/10/14	--	5.62	--
	07/24/14	--	5.50	--
	08/28/14	--	5.73	--
	09/23/14	--	5.76	--
	10/22/14	--	4.82	--
	11/05/14	--	4.50	--
	12/18/14	12.16	4.28	7.88
	01/27/15	12.16	4.52	7.64
	02/26/15	12.16	4.92	7.24
	03/11/15	12.16	5.29	6.87
	04/21/15	12.16	5.08	7.08
	05/19/15	12.16	5.31	6.85
	06/11/15	12.16	5.34	6.82
	07/29/15	12.16	5.81	6.35
	08/25/15	12.16	5.95	6.21
	09/24/15	12.16	5.72	6.44
	10/15/15	12.16	5.35	6.81
	11/20/15	12.16	4.37	7.79
	12/09/15	12.16	2.55	9.61
	02/23/16	12.16	4.18	7.98
	04/22/16	12.16	4.90	7.26
	05/03/16	12.16	5.27	6.89
	06/02/16	12.16	5.34	6.82
07/14/16	12.16	5.58	6.58	
08/18/16	12.16	5.80	6.36	
09/08/16	12.16	5.88	6.28	
10/21/16	12.16	5.40	6.76	
11/17/16	12.16	3.67	8.49	
12/01/16	12.16	3.93	8.23	
01/11/17	12.16	2.83	9.33	
02/14/17	12.16	3.81	8.35	
03/13/17	12.16	4.04	8.12	
4/13*/17	12.16	3.78	8.38	
MW-209	09/11/13	--	6.61	--
	10/30/13	--	5.65	--
	01/16/14	--	5.56	--
	02/27/14	--	6.04	--
	03/25/14	--	5.90	--
	04/22/14	--	5.89	--
	06/10/14	--	8.31	--
	07/24/14	--	6.91	--
	08/28/14	--	6.79	--
	09/23/14	--	5.73	--
	10/22/14	--	4.91	--
	11/05/14	--	6.60	--
	12/18/14	12.10	5.27	6.83
	01/27/15	12.10	4.88	7.22
	02/26/15	12.10	5.54	6.56
03/11/15	12.10	5.55	6.55	
05/19/15	12.10	8.60	3.50	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-210	03/29/13	--	6.53	--
	06/28/13	--	6.35	--
	09/11/13	--	6.63	--
	10/30/13	--	7.08	--
	11/05/13	--	6.41	--
	01/16/14	--	6.48	--
	02/27/14	--	6.79	--
	03/25/14	--	6.96	--
	04/22/14	--	6.32	--
	06/10/14	--	7.08	--
	07/24/14	--	6.64	--
	08/28/14	--	6.72	--
	09/23/14	--	6.56	--
	10/22/14	--	5.87	--
	11/05/14	--	6.45	--
	12/18/14	12.85	5.49	7.36
	01/27/15	12.85	6.15	6.70
	02/26/15	12.85	6.69	6.16
	03/11/15	12.85	6.56	6.29
	04/21/15	12.85	6.44	6.41
	05/19/15	12.85	6.50	6.35
	06/11/15	12.85	6.48	6.37
	07/29/15	12.85	6.73	6.12
	08/25/15	12.85	6.23	6.62
	09/24/15	12.85	6.60	6.25
	10/15/15	12.85	6.30	6.55
	11/20/15	12.85	6.47	6.38
	12/09/15	12.85	4.45	8.40
	02/23/16	12.85	5.82	7.03
	04/22/16	12.85	5.96	6.89
	05/03/16	12.85	6.42	6.43
	06/02/16	12.85	6.44	6.41
	07/14/16	12.85	6.67	6.18
08/18/16	12.85	6.78	6.07	
09/08/16	12.85	6.78	6.07	
10/21/16	12.85	6.32	6.53	
11/17/16	12.85	5.43	7.42	
12/01/16	12.85	6.00	6.85	
01/11/17	12.85	5.38	7.47	
02/14/17	12.85	5.69	7.16	
03/13/17	12.85	5.98	6.87	
04/13/17	12.85	6.42	6.43	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-211	03/29/13	--	5.97	--
	06/28/13	--	5.68	--
	10/30/13	--	6.43	--
	11/05/13	--	5.68	--
	01/16/14	--	5.51	--
	02/27/14	--	5.01	--
	03/25/14	--	5.38	--
	04/22/14	--	5.33	--
	06/10/14	--	6.02	--
	07/24/14	--	6.85	--
	08/28/14	--	6.06	--
	09/23/14	--	5.96	--
	10/22/14	--	4.96	--
	11/05/14	--	4.70	--
	12/18/14	12.21	4.50	7.71
	01/27/15	12.21	4.82	7.39
	02/26/15	12.21	5.38	6.83
	03/11/15	12.21	5.52	6.69
	04/21/15	12.21	5.50	6.71
	05/19/15	12.21	5.71	6.50
	06/11/15	12.21	5.70	6.51
	07/29/15	12.21	6.10	6.11
	08/25/15	12.21	6.17	6.04
	09/24/15	12.21	5.72	6.49
	10/15/15	12.21	5.30	6.91
	11/20/15	12.21	4.78	7.43
	12/09/15	12.21	2.80	9.41
	02/23/16	12.21	4.45	7.76
	04/22/16	12.21	4.67	7.54
	05/03/16	12.21	5.63	6.58
	06/02/16	12.21	5.77	6.44
	07/14/16	12.21	6.02	6.19
08/18/16	12.21	6.16	6.05	
09/08/16	12.21	6.22	5.99	
10/21/16	12.21	6.01	6.20	
11/17/16	12.21	3.86	8.35	
12/01/16	12.21	4.14	8.07	
01/11/17	12.21	3.18	9.03	
02/14/17	12.21	4.02	8.19	
03/13/17	12.21	4.27	7.94	
04/13/17	12.21	4.02	8.19	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-212	03/29/13	--	4.90	--
	06/28/13	--	4.42	--
	09/11/13	--	5.32	--
	09/12/13	--	5.52	--
	10/30/13	--	5.28	--
	11/05/13	--	5.51	--
	01/16/14	--	5.47	--
	02/27/14	--	6.12	--
	03/25/14	--	6.30	--
	04/22/14	--	5.85	--
	06/10/14	--	Not Measured	Not Measured
	07/24/14	--	6.06	--
	08/28/14	--	6.23	--
	09/23/14	--	6.08	--
	10/22/14	--	4.13	--
	11/05/14	--	5.12	--
	12/18/14	11.95	4.89	7.06
	01/27/15	11.95	5.38	6.57
	02/26/15	11.95	5.59	6.36
	03/11/15	11.95	5.45	6.50
	04/21/15	11.95	5.85	6.10
	05/19/15	11.95	5.67	6.28
	06/11/15	11.95	5.46	6.49
	07/29/15	11.95	5.85	6.10
	08/25/15	11.95	6.82	5.13
	09/24/15	11.95	6.33	5.62
	10/15/15	11.95	5.82	6.13
	11/20/15	11.95	5.51	6.44
	12/09/15	11.95	3.61	8.34
	02/23/16	11.95	4.38	7.57
	04/22/16	11.95	5.37	6.58
	05/03/16	11.95	6.00	5.95
	06/02/16	11.95	6.18	5.77
	07/14/16	11.95	6.27	5.68
	08/18/16	11.95	6.44	5.51
	09/08/16	11.95	6.55	5.40
10/21/16	11.95	6.10	5.85	
11/17/16	11.95	4.68	7.27	
12/01/16	11.95	4.88	7.07	
01/11/17	11.95	3.88	8.07	
02/14/17	11.95	4.79	7.16	
03/13/17	11.95	4.98	6.97	
04/13/17	11.95	5.02	6.93	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-213	07/23/01	8.57	10.17	-1.60
	10/16/01	8.57	5.81	2.76
	04/24/02	8.57	7.34	1.23
	07/18/02	8.57	7.39	1.18
	10/23/02	8.57	5.04	3.53
	01/28/03	8.57	4.60	3.97
	04/15/03	8.57	4.43	4.14
	07/17/03	8.57	10.24	-1.67
	10/15/03	8.57	5.85	2.72
	01/13/04	8.57	5.02	3.55
	04/19/04	8.57	7.91	0.66
	07/27/04	8.57	6.94	1.63
	10/18/04	8.57	5.70	2.87
	01/24/05	8.57	4.70	3.87
	04/18/05	8.57	7.43	1.14
	07/12/05	8.57	8.72	-0.15
	10/18/05	8.57	7.24	1.33
	01/25/06	8.57	5.79	2.78
	04/25/06	8.57	7.82	0.75
	10/11/06	8.57	6.09	2.48
	11/19/08	8.57	5.98	2.59
	04/07/09	8.57	7.69	0.88
	11/16/09	8.57	4.97	3.60
	04/26/10	8.57	8.22	0.35
	10/28/10	8.57	5.33	3.24
	10/25/11	8.57	7.43	1.14
	06/12/12	8.57	7.84	0.73
	11/29/12	8.57	4.65	3.92
	05/15/13	8.57	8.86	-0.29
	10/30/13	8.57	5.45	3.12
11/05/13	8.57	5.29	3.28	
04/22/14	8.57	6.39	2.18	
11/05/14	12.17	6.55	5.62	
05/19/15	12.17	7.85	4.32	
12/09/15	12.17	4.18	7.99	
12/14/16	12.17	5.22	6.95	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-214	07/23/01	8.63	10.37	-1.74
	10/19/01	8.63	5.74	2.89
	04/24/02	8.63	7.94	0.69
	07/18/02	8.63	7.25	1.38
	10/23/02	8.63	5.85	2.78
	01/28/03	8.63	4.25	4.38
	04/15/03	8.63	4.66	3.97
	07/17/03	8.63	10.40	-1.77
	10/15/03	8.63	4.89	3.74
	01/13/04	8.63	4.86	3.77
	04/19/04	8.63	7.92	0.71
	07/27/04	8.63	6.42	2.21
	10/18/04	8.63	5.37	3.26
	01/24/05	8.63	5.00	3.63
	04/18/05	8.63	7.65	0.98
	07/12/05	8.63	8.82	-0.19
	10/18/05	8.63	7.18	1.45
	01/25/06	8.63	5.96	2.67
	04/25/06	8.63	7.80	0.83
	10/11/06	8.63	5.95	2.68
	11/19/08	8.63	5.50	3.13
	04/07/09	12.92	7.05	5.87
	11/16/09	12.92	5.28	7.64
	04/26/10	12.92	7.80	5.12
	10/28/10	12.92	5.25	7.67
	10/25/11	12.92	7.78	5.14
	06/12/12	12.92	7.80	5.12
	11/29/12	12.92	5.00	7.92
	05/15/13	12.92	9.23	3.69
	10/30/13	12.92	7.88	5.04
11/05/13	12.92	5.38	7.54	
02/27/14	12.92	6.08	6.84	
04/22/14	12.92	6.78	6.14	
11/05/14	12.39	6.80	5.59	
05/19/15	12.39	8.10	4.29	
12/09/15	12.39	4.74	7.65	
12/14/16	12.39	5.58	6.81	
MW-301	03/02/12	12.56	6.03	6.53
	05/30/12	12.56	6.03	6.53
	06/13/12	12.56	6.11	6.45
	09/26/12	12.56	6.82	5.74
	11/27/12	12.56	5.34	7.22
	02/21/13	12.56	5.66	6.90
	05/16/13	12.56	6.14	6.42
	09/06/13	12.56	6.71	5.85
	11/07/13	12.56	6.60	5.96
	04/22/14	12.56	5.56	7.00
	07/24/14	12.56	6.38	6.18
	09/23/14	12.56	6.71	5.85
	11/04/14	12.56	5.73	6.83
	03/10/15	12.56	5.64	6.92
	05/15/15	12.56	6.10	6.46
	07/29/15	12.56	6.63	5.93
	12/10/15	12.56	4.57	7.99
	02/23/16	12.56	4.50	8.06
	05/03/16	12.56	5.53	7.03
	08/30/16	12.56	6.68	5.88
12/14/16	12.56	5.08	7.48	
03/13/17	12.56	7.60	4.96	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-302	03/01/12	12.85	6.47	6.38
	05/30/12	12.85	Not Measured	Not Measured
	06/13/12	12.85	Not Measured	Not Measured
	09/26/12	12.85	7.23	5.62
	11/27/12	12.85	5.83	7.02
	02/22/13	12.85	6.10	6.75
	05/16/13	12.85	6.61	6.24
	09/06/13	12.85	7.11	5.74
	11/07/13	12.85	6.99	5.86
	01/16/14	12.85	6.80	6.05
	04/22/14	12.85	6.09	6.76
	06/10/14	12.85	6.40	6.45
	07/24/14	12.85	6.85	6.00
	09/23/14	12.85	7.13	5.72
	11/04/14	12.85	6.28	6.57
	03/10/15	12.85	6.22	6.63
	05/15/15	12.85	6.60	6.25
	07/29/15	12.85	7.07	5.78
12/10/15	12.85	5.12	7.73	
02/23/16	12.85	5.23	7.62	
05/03/16	12.85	6.15	6.70	
08/30/16	12.85	7.26	5.59	
12/14/16	12.85	5.74	7.11	
03/13/17	12.85	5.33	7.52	
MW-303	03/02/12	12.64	5.96	6.68
	05/30/12	12.64	5.97	6.67
	06/13/12	12.64	6.06	6.58
	09/26/12	12.64	6.86	5.78
	11/27/12	12.64	5.22	7.42
	02/21/13	12.64	5.58	7.06
	05/16/13	12.64	6.10	6.54
	09/06/13	12.64	6.80	5.84
	11/07/13	12.64	6.61	6.03
	04/22/14	12.64	5.49	7.15
	07/24/14	12.64	6.44	6.20
	09/23/14	12.64	6.80	5.84
	11/04/14	12.64	5.73	6.91
	03/10/15	12.64	5.62	7.02
	05/15/15	12.64	6.11	6.53
	07/29/15	12.64	6.71	5.93
	12/10/15	12.64	4.38	8.26
	02/23/16	12.64	4.44	8.20
05/03/16	12.64	5.56	7.08	
08/30/16	12.64	6.82	5.82	
12/14/16	12.64	5.06	7.58	
03/13/17	12.64	4.51	8.13	
MW-304	03/01/12	12.70	6.07	6.63
	05/30/12	12.70	6.12	6.58
	06/13/12	12.70	6.22	6.48
	09/26/12	12.70	6.98	5.72
	11/27/12	12.70	5.43	7.27
	02/22/13	12.70	5.78	6.92
	05/16/13	12.70	Not Measured	Not Measured
	09/06/13	12.70	6.89	5.81
	11/07/13	12.70	6.75	5.95
	01/16/14	12.70	6.50	6.20
	04/22/14	12.70	5.67	7.03
	07/24/14	12.70	6.57	6.13
	09/23/14	12.70	6.89	5.81
	11/04/14	12.70	5.91	6.79
	03/10/15	12.70	5.80	6.90
	05/15/15	12.70	6.28	6.42
	07/29/15	12.70	6.84	5.86
	12/10/15	12.70	4.80	7.90
02/23/16	12.70	Not Measured	Not Measured	
05/03/16	12.70	5.79	6.91	
08/30/16	12.70	Not Measured	Not Measured	
12/14/16	12.70	5.27	7.43	
03/13/17	12.70	4.82	7.88	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-305	03/01/12	13.48	6.47	7.01
	05/30/12	13.48	6.43	7.05
	06/11/12	13.48	6.43	7.05
	09/26/12	13.48	7.22	6.26
	11/28/12	13.48	5.86	7.62
	05/16/13	13.48	6.01	7.47
	11/07/13	13.48	6.40	7.08
	04/22/14	13.48	5.92	7.56
MW-306	11/06/14	13.48	6.22	7.26
	05/21/15	13.48	6.32	7.16
	03/01/12	13.36	6.24	7.12
	05/30/12	13.36	6.14	7.22
	06/11/12	13.36	6.12	7.24
	09/26/12	13.36	6.99	6.37
	11/28/12	13.36	5.64	7.72
	05/16/13	13.36	5.57	7.79
MW-307	11/07/13	13.36	6.04	7.32
	04/22/14	13.36	5.63	7.73
	05/21/15	13.36	5.99	7.37
	12/10/15	13.36	4.80	8.56
	11/27/12	15.62	7.94	7.68
	02/22/13	15.62	8.42	7.20
	05/16/13	15.62	8.91	6.71
	09/06/13	15.62	9.67	5.95
	11/07/13	15.62	9.49	6.13
	04/22/14	15.62	8.52	7.10
	03/10/15	15.62	8.42	7.20
	05/15/15	15.62	8.92	6.70
	07/29/15	15.62	9.58	6.04
MW-308	12/10/15	15.62	7.33	8.29
	02/23/16	15.62	7.24	8.38
	05/03/16	15.62	8.39	7.23
	08/30/16	15.62	9.51	6.11
	12/14/16	15.62	7.84	7.78
	03/13/17	15.62	7.32	8.30
	11/27/12	15.59	7.90	7.69
	02/22/13	15.59	8.22	7.37
	05/16/13	15.59	8.80	6.79
	09/06/13	15.59	9.56	6.03
11/07/13	15.59	9.45	6.14	
04/22/14	15.59	8.10	7.49	
11/04/14	15.59	8.40	7.19	
03/10/15	15.59	8.31	7.28	
05/15/15	15.59	9.01	6.58	
07/29/15	15.59	9.62	5.97	
12/10/15	15.59	6.15	9.44	
02/23/16	15.59	6.88	8.71	
05/03/16	15.59	8.20	7.39	
08/30/16	15.59	9.59	6.00	
12/14/16	15.59	7.56	8.03	
03/13/17	15.59	6.72	8.87	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
MW-309	11/27/12	12.67	5.41	7.26
	02/21/13	12.67	5.73	6.94
	05/16/13	12.67	6.21	6.46
	09/06/13	12.67	6.84	5.83
	11/07/13	12.67	6.76	5.91
	04/22/14	12.67	5.60	7.07
	07/24/14	12.67	6.47	6.20
	09/23/14	12.67	6.81	5.86
	11/04/14	12.67	5.81	6.86
	03/10/15	12.67	5.72	6.95
	05/15/15	12.67	6.18	6.49
	07/29/15	12.67	6.74	5.93
	12/10/15	12.67	4.59	8.08
	02/23/16	12.67	4.70	7.97
	05/03/16	12.67	5.60	7.07
08/30/16	12.67	6.75	5.92	
12/12/16	12.67	5.12	7.55	
03/13/17	12.67	4.62	8.05	
MW-310	11/27/12	13.51	6.42	7.09
	02/21/13	13.51	6.78	6.73
	05/16/13	13.51	7.20	6.31
	09/06/13	13.51	7.72	5.79
	11/07/13	13.51	7.61	5.90
	01/16/14	13.51	7.39	6.12
	04/23/14	13.51	6.64	6.87
	07/24/14	13.51	7.43	6.08
	09/23/14	13.51	7.73	5.78
	11/04/14	13.51	6.84	6.67
	03/10/15	13.51	6.78	6.73
	05/15/15	13.51	7.19	6.32
	07/29/15	13.51	7.67	5.84
	12/10/15	13.51	5.80	7.71
	02/23/16	13.51	5.77	7.74
05/03/16	13.51	6.70	6.81	
08/30/16	13.51	7.76	5.75	
12/14/16	13.51	6.32	7.19	
03/13/17	13.51	5.90	7.61	
MW-311	11/05/14	14.91	8.03	6.88
	03/10/15	14.91	8.02	6.89
	05/15/15	14.91	8.42	6.49
	07/29/15	14.91	8.83	6.08
	12/10/15	14.91	7.08	7.83
	02/23/16	14.91	6.97	7.94
	05/03/16	14.91	7.92	6.99
	08/30/16	14.91	8.92	5.99
12/14/16	14.91	7.53	7.38	
03/13/17	14.91	7.10	7.81	
MW-312	11/05/14	14.31	7.58	6.73
	03/10/15	14.31	7.56	6.75
	05/15/15	14.31	7.95	6.36
	07/29/15	14.31	8.34	5.97
	12/10/15	14.31	6.97	7.34
	02/23/16	14.31	6.68	7.63
	05/03/16	14.31	7.49	6.82
	08/30/16	14.31	8.44	5.87
12/14/16	14.31	7.10	7.21	
03/13/17	14.31	6.75	7.56	
MW-313	08/30/16	13.25	7.05	6.20
	12/14/16	13.25	5.63	7.62
	03/13/17	13.25	5.31	7.94
MW-314	08/30/16	13.49	7.72	5.77
	12/14/16	13.49	6.77	6.72
	03/13/17	13.49	6.55	6.94
MW-315	08/30/16	14.61	8.56	6.05
	12/14/16	14.61	7.26	7.35
	03/13/17	14.61	6.93	7.68

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
SH-04	07/08/93	12.92	9.94	2.98
	08/03/93	12.92	10.15	2.77
	09/08/93	12.92	10.50	2.42
	10/08/93	12.92	10.72	2.20
	11/05/93	12.92	10.88	2.04
	12/03/93	12.92	10.78	2.14
	01/05/94	12.92	10.20	2.72
	02/04/94	12.92	10.12	2.80
	08/28/95	12.92	10.15	2.77
	09/27/95	12.92	10.37	2.55
	04/27/99	12.92	8.55	4.37
	07/14/99	12.92	7.63	5.29
	10/18/99	12.92	10.58	2.34
	01/11/00	12.92	9.06	3.86
	04/05/00	12.92	8.94	3.98
	07/18/00	12.92	9.96	2.96
	10/02/00	12.92	10.62	2.30
	01/22/01	12.92	10.13	2.79
	07/23/01	12.92	6.98	5.94
	10/16/01	12.92	12.20	0.72
	04/23/02	12.92	9.91	3.01
	07/18/02	12.92	10.74	2.18
	10/23/02	12.92	11.27	1.65
	01/28/03	12.92	9.73	3.19
	04/15/03	12.92	9.69	3.23
	07/17/03	12.92	10.78	2.14
	10/15/03	12.92	11.19	1.73
	01/13/04	12.92	9.61	3.31
	04/19/04	16.62	10.05	6.57
	07/27/04	16.62	10.90	5.72
	10/18/04	16.62	10.89	5.73
	01/24/05	16.62	10.03	6.59
	04/18/05	16.62	10.03	6.59
	07/12/05	16.62	10.51	6.11
	10/18/05	16.62	11.01	5.61
	01/25/06	16.62	8.98	7.64
	10/11/06	16.62	11.06	5.56
	11/20/08	16.62	10.40	6.22
	04/08/09	16.62	10.01	6.61
	11/16/09	16.62	10.09	6.53
04/27/10	16.62	9.33	7.29	
10/25/10	16.62	10.23	6.39	
10/27/11	16.62	10.68	5.94	
03/01/12	16.62	9.63	6.99	
05/30/12	16.62	9.56	7.06	
06/11/12	16.62	9.55	7.07	
08/23/12	16.62	9.95	6.67	
09/25/12	16.62	10.21	6.41	
11/25/12	16.62	8.77	7.85	
05/16/13	16.62	8.64	7.98	
11/04/13	16.62	8.75	7.87	
04/22/14	16.62	9.00	7.62	
11/06/14	16.62	9.23	7.39	
05/21/15	16.62	9.15	7.47	
12/08/15	16.62	8.80	7.82	
12/14/16	16.62	8.34	8.28	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
TES-MW-1	04/06/93	13.10	8.79	4.31
	05/13/93	13.10	8.61	4.49
	06/10/93	13.10	8.63	4.47
	07/08/93	13.10	8.98	4.12
	08/03/93	13.10	9.28	3.82
	09/08/93	13.10	8.66	4.44
	10/08/93	13.10	9.98	3.12
	11/05/93	13.10	10.20	2.90
	12/03/93	13.10	10.17	2.93
	01/05/94	13.10	9.30	3.80
	02/04/94	13.10	9.19	3.91
	08/28/95	13.10	9.26	3.84
	09/27/95	13.10	9.53	3.57
	04/27/99	13.10	7.49	5.61
	07/14/99	13.10	8.90	4.20
	10/18/99	13.10	9.88	3.22
	01/11/00	13.10	7.59	5.51
	04/05/00	13.10	8.20	4.90
	10/02/00	13.10	9.99	3.11
	01/22/01	13.10	9.65	3.45
	07/23/01	13.10	10.77	2.33
	10/16/01	13.10	11.93	1.17
	04/23/02	13.10	9.32	3.78
	07/18/02	13.10	10.34	2.76
	10/23/02	13.10	10.92	2.18
	01/30/03	13.10	8.43	4.67
	04/15/03	13.10	8.89	4.21
	07/17/03	13.10	10.41	2.69
	10/15/03	13.10	10.82	2.28
	01/13/04	13.10	8.82	4.28
	04/19/04	16.15	9.76	6.39
	07/27/04	16.15	10.48	5.67
	10/18/04	16.15	10.27	5.88
	01/24/05	16.15	9.26	6.89
	04/18/05	16.15	9.46	6.69
	07/12/05	16.15	10.10	6.05
	10/18/05	16.15	10.70	5.45
	01/25/06	16.15	8.17	7.98
	04/25/06	16.15	9.33	6.82
	10/11/06	16.15	10.66	5.49
	11/18/08	16.15	9.85	6.30
11/16/09	16.15	9.35	6.80	
10/26/10	16.15	9.66	6.49	
10/27/11	16.15	10.42	5.73	
05/30/12	16.15	9.37	6.78	
06/13/12	16.15	9.43	6.72	
06/26/12	16.15	10.31	5.84	
11/27/12	16.15	8.62	7.53	
05/16/13	16.15	9.46	6.69	
11/07/13	16.15	10.06	6.09	
04/22/14	16.15	8.70	7.45	
11/04/14	16.15	9.07	7.08	
03/10/15	16.15	8.92	7.23	
05/15/15	16.15	9.40	6.75	
07/29/15	16.15	10.08	6.07	
12/10/15	16.15	7.14	9.01	
02/23/16	16.15	7.58	8.57	
05/03/16	16.15	8.80	7.35	
08/30/16	16.15	9.86	6.29	
12/14/16	16.15	8.30	7.85	
03/13/17	16.15	7.57	8.58	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
TX-03	04/06/93	9.58	5.57	4.01
	06/10/93	9.58	5.50	4.08
	07/08/93	9.58	5.81	3.77
	08/03/93	9.58	6.08	3.50
	09/08/93	9.58	6.42	3.16
	10/08/93	9.58	6.74	2.84
	11/05/93	9.58	6.91	2.67
	12/03/93	9.58	6.90	2.68
	01/05/94	9.58	6.16	3.42
	02/04/94	9.58	Not Measured	Not Measured
	08/28/95	9.58	6.16	3.42
	09/27/95	9.58	Not Measured	Not Measured
	04/27/99	9.58	4.68	4.90
	07/14/99	9.58	5.87	3.71
	10/18/99	9.58	6.71	2.87
	01/11/00	9.58	5.30	4.28
	04/05/00	9.58	5.31	4.27
07/18/00	9.58	5.98	3.60	
10/02/00	9.58	6.65	2.93	
TX-03A	04/23/02	9.58	6.25	3.33
	07/18/02	9.58	6.75	2.83
	10/23/02	9.58	7.15	2.43
	01/28/03	9.58	5.40	4.18
	04/15/03	9.58	5.76	3.82
	07/17/03	9.58	6.76	2.82
	10/15/03	9.58	7.05	2.53
	01/13/04	9.58	5.46	4.12
	04/19/04	12.26	6.22	6.04
	07/27/04	12.26	6.78	5.48
	10/18/04	12.26	6.69	5.57
	01/24/05	12.26	5.76	6.50
	04/18/05	12.26	5.91	6.35
	07/12/05	12.26	6.41	5.85
	10/18/05	12.26	6.92	5.34
	01/25/06	12.26	4.82	7.44
	04/25/06	12.26	5.82	6.44
	10/11/06	12.26	6.91	5.35
	11/20/08	12.26	6.14	6.12
	04/08/09	12.26	5.90	6.36
	11/16/09	12.26	5.80	6.46
	04/27/10	12.26	5.53	6.73
	10/25/10	12.26	6.20	6.06
	10/27/11	12.26	6.74	5.52
	03/01/12	12.26	5.86	6.40
	06/13/12	12.26	5.97	6.29
	09/26/12	12.26	6.67	5.59
	11/27/12	12.26	5.21	7.05
	02/21/13	12.26	5.55	6.71
	05/16/13	12.26	6.01	6.25
	09/06/13	12.26	6.56	5.70
	11/07/13	12.26	6.45	5.81
	04/22/14	12.26	5.45	6.81
07/24/14	12.26	6.28	5.98	
09/23/14	12.26	6.57	5.69	
11/04/14	12.26	5.64	6.62	
03/10/15	12.26	5.57	6.69	
05/15/15	12.26	5.98	6.28	
07/29/15	12.26	6.51	5.75	
12/10/15	12.26	4.48	7.78	
02/23/16	12.26	4.44	7.82	
05/03/16	12.26	5.46	6.80	
08/30/16	12.26	6.59	5.67	
12/14/16	12.26	5.04	7.22	
03/13/17	12.26	4.56	7.70	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
TX-04	04/06/93	14.36	9.97	4.39
	05/13/93	14.36	9.83	4.53
	06/10/93	14.36	9.87	4.49
	07/08/93	14.36	10.24	4.12
	08/03/93	14.36	10.54	3.82
	09/08/93	14.36	10.96	3.40
	10/08/93	14.36	11.28	3.08
	11/05/93	14.36	11.51	2.85
	12/03/93	14.36	11.43	2.93
	01/05/94	14.36	10.60	3.76
	02/04/94	14.36	10.45	3.91
	08/28/95	14.36	10.64	3.72
	09/27/95	14.36	10.88	3.48
	04/27/99	14.36	8.57	5.79
	07/14/99	14.36	10.01	4.35
	10/18/99	14.36	11.12	3.24
	01/11/00	14.36	9.06	5.30
	04/05/00	14.36	9.04	5.32
	07/18/00	14.36	10.41	3.95
	10/02/00	14.36	11.23	3.13
	01/22/01	14.36	10.70	3.66
	07/23/01	14.36	11.50	2.86
	10/16/01	14.36	9.57	4.79
	04/23/02	14.36	6.81	7.55
	07/18/02	14.36	11.33	3.03
	10/23/02	14.36	11.79	2.57
	01/28/03	14.36	9.51	4.85
	04/15/03	14.36	9.55	4.81
	07/17/03	14.36	11.28	3.08
	10/15/03	14.36	11.93	2.43
	01/13/04	14.36	9.54	4.82
	04/19/04	17.65	10.50	7.15
	07/27/04	17.65	11.46	6.19
	10/18/04	17.65	11.46	6.19
	01/24/05	17.65	10.16	7.49
	04/18/05	17.65	10.35	7.30
	07/12/05	17.65	11.04	6.61
	10/18/05	17.65	11.79	5.86
	01/25/06	17.65	8.43	9.22
	04/25/06	17.65	10.22	7.43
10/11/06	17.65	11.77	5.88	
11/18/08	17.65	10.84	6.81	
11/16/09	17.65	10.39	7.26	
10/25/10	17.65	10.77	6.88	
10/26/11	17.65	11.47	6.18	
11/26/12	17.65	9.26	8.39	
11/04/13	17.65	10.98	6.67	
11/06/14	17.65	10.05	7.60	
02/27/15	17.65	9.37	8.28	
12/08/15	17.65	9.27	8.38	
12/14/16	17.65	8.97	8.68	

**Table 3
Groundwater Elevation Data
Shell Harbor Island Terminal
Seattle, Washington**

Well	Date	Elevation (ft AMSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft AMSL)
TX-06	04/06/93	8.58	3.85	4.73
	06/10/93	8.58	3.71	4.87
	09/08/93	8.58	4.96	3.62
	10/08/93	8.58	5.35	3.23
	11/05/93	8.58	5.54	3.04
	12/03/93	8.58	5.37	3.21
	01/05/94	8.58	4.48	4.10
	02/04/94	8.58	4.43	4.15
	08/28/95	8.58	4.75	3.83
	09/27/95	8.58	5.78	2.80
	04/27/99	8.58	2.62	5.96
	07/14/99	8.58	4.05	4.53
	10/18/99	8.58	5.19	3.39
	01/11/00	8.58	2.98	5.60
	04/05/00	8.58	3.16	5.42
	07/18/00	8.58	4.25	4.33
10/02/00	8.58	5.23	3.35	
04/25/06	8.58	3.88	4.70	
TX-06A	04/23/02	8.58	3.98	4.60
	07/18/02	8.58	4.14	4.44
	10/23/02	8.58	5.98	2.60
	01/28/03	8.58	3.40	5.18
	04/15/03	8.58	3.57	5.01
	07/17/03	8.58	5.24	3.34
	10/15/03	8.58	6.01	2.57
	01/13/04	8.58	3.36	5.22
	04/19/04	11.67	4.41	7.26
	07/27/04	11.67	5.39	6.28
	10/18/04	11.67	5.23	6.44
	01/24/05	11.67	3.66	8.01
	04/18/05	11.67	3.89	7.78
	07/12/05	11.67	4.78	6.89
	10/18/05	11.67	5.63	6.04
	01/25/06	11.67	3.00	8.67
	04/25/06	11.67	5.54	6.13
	11/18/08	11.67	4.56	7.11
	11/16/09	11.67	3.99	7.68
	10/28/10	11.67	4.47	7.2
10/25/11	11.67	5.4	6.27	
11/25/12	11.67	3.03	8.64	
11/07/13	11.67	4.87	6.80	
11/06/14	11.67	4.03	7.64	
12/08/15	11.67	2.8	8.87	
12/14/16	11.67	3.26	8.41	

Notes:

= Indicates data collected during this progress report period

-- = Survey data not available

ft AMSL = feet above mean sea level

ft below TOC = feet below top of the monitoring well casing

Table 4
Product Monitoring Data
Shell Harbor Island Terminal
Seattle, Washington

Date	MW-204			MW-208			MW-209			MW-210			MW-211			MW-212		
	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness
06/01/04	10.68	NP	NP	5.01	NP	NP	—	—	—	6.20	6.15	0.05	5.33	NP	NP	5.60	NP	NP
10/02/04	10.12	NP	NP	4.77	NP	NP	—	—	—	7.09	6.31	0.78	5.04	NP	NP	4.89	NP	NP
10/03/04	10.50	NP	NP	5.98	NP	NP	—	—	—	7.26	6.71	0.55	5.86	NP	NP	6.06	NP	NP
04/19/04	10.95	NP	NP	6.29	NP	NP	—	—	—	6.99	NP	NP	4.90	NP	NP	5.13	NP	NP
05/13/04	11.24	NP	NP	6.07	NP	NP	—	—	—	6.95	NP	NP	4.78	NP	NP	4.80	NP	NP
08/06/04	11.35	NP	NP	4.76	NP	NP	—	—	—	5.52	NP	NP	4.64	NP	NP	4.41	NP	NP
06/07/04	11.55	NP	NP	5.06	NP	NP	—	—	—	6.98	NP	NP	4.55	NP	NP	4.61	NP	NP
11/08/04	11.79	NP	NP	6.51	NP	NP	—	—	—	7.22	NP	NP	7.18	NP	NP	7.27	NP	NP
09/09/04	11.79	NP	NP	6.66	NP	NP	—	—	—	7.19	7.18	0.01	7.16	NP	NP	7.14	7.14	Trace
06/10/04	11.76	NP	NP	6.58	NP	NP	—	—	—	7.18	NP	NP	7.11	NP	NP	7.08	NP	NP
09/11/04	11.61	NP	NP	6.17	NP	NP	—	—	—	7.04	7.01	0.03	6.93	NP	NP	6.95	6.95	Trace
10/12/04	—	—	—	3.91	NP	NP	—	—	—	6.96	NP	NP	5.31	NP	NP	5.00	NP	NP
11/01/05	11.04	NP	NP	3.80	NP	NP	—	—	—	5.78	NP	NP	4.85	4.85	Trace	4.71	NP	NP
11/02/05	10.81	10.81	Trace	4.47	NP	NP	—	—	—	6.19	6.18	0.01	5.71	NP	NP	5.68	NP	NP
11/03/05	11.18	NP	NP	5.48	NP	NP	—	—	—	6.73	NP	NP	6.56	6.56	Trace	6.50	NP	NP
04/18/05	10.98	NP	NP	5.97	NP	NP	—	—	—	6.95	6.81	0.14	6.18	NP	NP	6.42	NP	NP
05/25/05	10.98	NP	NP	4.78	NP	NP	—	—	—	6.12	NP	NP	5.73	NP	NP	5.78	NP	NP
09/06/05	11.15	NP	NP	5.74	NP	NP	—	—	—	6.68	6.67	0.01	6.11	NP	NP	6.33	NP	NP
11/07/05	11.40	NP	NP	6.12	NP	NP	—	—	—	7.13	NP	NP	6.32	NP	NP	6.65	NP	NP
08/19/05	11.64	NP	NP	6.25	NP	NP	—	—	—	6.91	NP	NP	6.50	NP	NP	7.85	NP	NP
09/16/05	11.83	NP	NP	6.51	NP	NP	—	—	—	7.32	NP	NP	6.85	NP	NP	7.02	NP	NP
10/18/05	11.98	NP	NP	6.06	NP	NP	—	—	—	6.93	NP	NP	6.51	NP	NP	6.54	NP	NP
09/11/05	11.67	NP	NP	4.43	NP	NP	—	—	—	6.34	NP	NP	4.86	NP	NP	4.10	NP	NP
05/12/05	11.48	NP	NP	4.65	NP	NP	—	—	—	6.57	NP	NP	—	—	—	—	—	—
01/26/06	9.96	NP	NP	4.72	NP	NP	—	—	—	5.83	NP	NP	6.65	NP	NP	3.95	NP	NP
02/28/06	10.24	NP	NP	5.34	NP	NP	—	—	—	6.28	NP	NP	4.53	NP	NP	4.88	NP	NP
03/24/06	10.57	NP	NP	5.34	NP	NP	—	—	—	4.20	NP	NP	5.74	NP	NP	4.94	NP	NP
04/18/06	10.78	NP	NP	5.41	NP	NP	—	—	—	6.46	6.45	0.01	5.81	NP	NP	5.28	NP	NP
05/18/06	11.06	NP	NP	6.02	NP	NP	—	—	—	7.01	NP	NP	6.32	NP	NP	5.56	NP	NP
06/19/06	11.26	NP	NP	5.98	NP	NP	—	—	—	6.91	NP	NP	6.23	NP	NP	5.48	NP	NP
08/28/06	11.74	NP	NP	6.45	NP	NP	—	—	—	7.25	NP	NP	6.63	NP	NP	5.68	NP	NP
09/15/06	11.83	NP	NP	6.21	NP	NP	—	—	—	7.02	NP	NP	6.54	NP	NP	5.53	NP	NP
10/11/06	11.96	NP	NP	6.10	NP	NP	—	—	—	6.95	NP	NP	5.93	NP	NP	5.48	NP	NP
11/29/06	—	—	—	4.19	NP	NP	—	—	—	5.83	NP	NP	5.39	NP	NP	4.27	NP	NP
12/13/06	10.53	NP	NP	3.60	NP	NP	—	—	—	5.58	5.58	0.01	4.39	NP	NP	2.81	NP	NP
01/31/07	10.17	NP	NP	3.98	NP	NP	—	—	—	6.32	6.09	0.23	5.58	NP	NP	4.26	NP	NP
02/26/07	10.56	NP	NP	4.55	NP	NP	—	—	—	6.04	NP	NP	5.24	NP	NP	4.12	NP	NP
03/20/07	10.68	NP	NP	4.68	NP	NP	—	—	—	6.42	6.41	0.01	5.68	NP	NP	4.82	NP	NP
04/26/07	10.99	NP	NP	—	NP	NP	—	—	—	—	NP	NP	6.15	NP	NP	4.97	4.96	0.01
05/25/07	11.29	NP	NP	5.68	NP	NP	—	—	—	7.05	NP	NP	6.60	NP	NP	5.11	NP	NP
06/15/07	11.50	NP	NP	5.93	NP	NP	—	—	—	7.04	NP	NP	6.35	NP	NP	5.03	NP	NP
07/19/07	11.70	NP	NP	5.82	5.81	0.01	—	—	—	6.81	6.80	0.01	6.34	NP	NP	5.29	5.28	0.01
08/17/07	11.81	NP	NP	5.90	NP	NP	—	—	—	6.75	NP	NP	6.22	NP	NP	5.35	NP	NP
09/11/07	—	NP	NP	6.24	NP	NP	—	—	—	7.28	7.28	<.01	6.68	6.68	<.01	5.73	NP	NP
10/29/07	11.80	NP	NP	5.60	NP	NP	—	—	—	6.68	NP	NP	5.25	NP	NP	6.03	NP	NP
11/12/07	11.84	NP	NP	5.56	NP	NP	—	—	—	6.58	6.57-6.58	<.01	5.82	NP	NP	4.83	—	—
12/26/07	10.84	NP	NP	4.09	NP	NP	—	—	—	5.85	5.84	<.01	4.84	4.85	<.01	4.44	4.43	<.01

Table 4
Product Monitoring Data
Shell Harbor Island Terminal
Seattle, Washington

Date	MW-204			MW-208			MW-209			MW-210			MW-211			MW-212		
	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness
01/11/08	10.64	NP	NP	3.84	NP	NP	—	—	—	5.26	5.25	0.01	4.13	4.12	<.01	3.64	3.63	<.01
02/13/08	10.65	NP	NP	4.58	NP	NP	—	—	—	6.60	6.25	0.35	5.75	NP	NP	4.84	NP	NP
03/14/08	11.05	NP	NP	5.37	NP	NP	—	—	—	6.31	NP	NP	5.65	NP	NP	5.01	NP	NP
04/18/08	10.78	NP	NP	5.41	NP	NP	—	—	—	6.46	6.45	0.01	5.81	NP	NP	5.28	NP	NP
05/05/08	11.39	NP	NP	5.84	NP	NP	—	—	—	7.06	7.05	0.01	6.39	NP	NP	5.49	NP	NP
05/20/08	11.53	NP	NP	5.84	NP	NP	—	—	—	7.03	7.02	0.01	6.69	NP	NP	5.52	NP	NP
06/30/08	11.67	NP	NP	5.85	NP	NP	—	—	—	dry	NP	NP	6.35	6.34	0.01	5.45	5.44	0.01
07/10/08	11.70	NP	NP	5.70	NP	NP	—	—	—	6.83	6.80	0.03	6.23	NP	NP	5.24	NP	NP
08/13/08	11.75	NP	NP	5.61	NP	NP	—	—	—	6.75	NP	NP	6.25	NP	NP	6.17	NP	NP
09/02/08	11.82	NP	NP	5.86	NP	NP	—	—	—	6.98	NP	NP	6.40	NP	NP	5.71	NP	NP
10/10/08	11.82	NP	NP	7.11	NP	NP	—	—	—	5.83	NP	NP	6.59	NP	NP	5.83	NP	NP
11/10/08	10.02	NP	NP	4.68	NP	NP	—	—	—	6.40	NP	NP	5.61	NP	NP	5.21	NP	NP
12/08/08	11.48	NP	NP	5.53	NP	NP	—	—	—	6.70	6.52	0.18	5.82	NP	Sheen	5.17	NP	Sheen
01/07/09	11.00	NP	NP	3.93	NP	NP	—	—	—	5.32	NP	Sheen	4.51	NP	Sheen	4.41	NP	Sheen
02/17/09	11.60	NP	NP	5.20	NP	NP	—	—	—	6.40	NP	Sheen	5.72	NP	Sheen	5.21	NP	Sheen
03/06/09	11.21	NP	NP	4.67	NP	NP	—	—	—	6.02	5.59	0.43	4.45	NP	Sheen	4.83	NP	Sheen
04/07/09	—	—	—	—	—	—	—	—	—	6.98	6.96	0.02	—	—	—	—	—	—
07/09/09	11.55	NP	NP	—	—	—	—	—	—	6.90	NP	Sheen	6.34	NP	Sheen	5.56	NP	Sheen
10/20/09	11.75	NP	NP	4.90	NP	NP	—	—	—	6.28	NP	Sheen	5.63	NP	Sheen	4.91	NP	Sheen
01/05/10	10.98	NP	NP	3.60	NP	NP	—	—	—	5.78	NP	Sheen	3.55	NP	NP	3.30	NP	NP
04/26/10	10.7	NP	NP	5.04	NP	NP	—	—	—	6.29	6.28	0.01	5.76	NP	NP	5.05	NP	NP
07/22/10	11.44	NP	NP	5.83	NP	NP	—	—	—	10.02	NP	Sheen	6.74	NP	NP	5.37	NP	Sheen
10/20/10	11.68	NP	NP	5.90	NP	NP	—	—	—	6.78	NP	Sheen	6.20	NP	Sheen	5.45	NP	Sheen
12/12/10	10.79	NP	NP	4.45	NP	NP	—	—	—	5.97	NP	<0.01	5.27	NP	NP	4.62	NP	Sheen
04/08/11	9.97	NP	NP	4.62	NP	NP	—	—	—	5.72	5.71	0.01	5.22	NP	NP	4.82	NP	NP
07/28/11	11.08	NP	NP	5.71	NP	NP	—	—	—	6.90	6.89	0.01	6.22	NP	NP	5.38	NP	NP
09/21/11	11.75	NP	NP	6.19	NP	NP	—	—	—	7.06	7.05	0.01	6.55	NP	NP	5.78	NP	Sheen
03/26/12	—	—	—	4.68	NP	NP	—	—	—	6.09	5.76	0.33	5.08	NP	NP	4.19	NP	Sheen
06/12/12	11.20	NP	NP	5.24	NP	NP	—	—	—	7.25	6.38	0.87	5.86	NP	NP	4.69	NP	Sheen
09/27/12	—	—	—	8.39	NP	NP	—	—	—	7.29	6.98	0.31	6.73	NP	NP	5.47	NP	Sheen
11/27/12	10.81	NP	NP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12/20/12	—	—	—	2.15	NP	NP	—	—	—	5.40	4.72	0.68	1.97	NP	NP	0.00	NP	NP
02/22/13	10.81	NP	NP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
03/29/13	—	—	—	—	—	—	—	—	—	6.53	6.44	0.09	5.97	NP	Sheen	4.90	NP	Sheen
05/16/13	11.30	NP	NP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
06/28/13	—	—	—	4.98	NP	NP	—	—	—	6.35	6.33	0.02	5.68	NP	NP	4.42	NP	Sheen
09/06/13	11.77	NP	NP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
09/11/13	—	—	—	5.67	NP	Sheen	—	—	—	6.63	NP	NP	—	—	—	5.32	4.82	0.50
09/12/13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.52	5.03	0.49
10/30/13	—	—	—	5.97	NP	NP	—	—	—	7.08	6.96	0.12	6.43	NP	NP	5.29	5.28	0.01
11/07/13	11.73	NP	NP	5.51	NP	NP	—	—	—	6.44	6.41	0.03	5.68	NP	NP	5.54	5.51	0.03
01/16/14	—	—	—	5.46	NP	NP	5.46	5.51	0.05	6.48	6.36	0.12	5.51	NP	NP	5.47	5.43	0.04
02/27/14	—	—	—	4.72	NP	NP	6.04	NP	Sheen	6.79	6.12	0.67	5.01	NP	NP	6.12	NP	Sheen
03/25/14	—	—	—	4.91	NP	NP	5.90	NP	NP	6.96	5.84	1.12	5.38	NP	NP	6.30	NP	NP
04/22/14	10.78	NP	NP	4.98	NP	NP	5.89	NP	NP	6.32	5.98	0.34	5.33	NP	NP	5.85	NP	Sheen
06/10/14	—	—	—	5.62	NP	Sheen	8.31	NP	NP	7.08	6.85	0.23	6.02	NP	NP	—	NP	NP
07/24/14	—	—	—	5.50	NP	NP	6.91	NP	NP	6.64	6.56	0.08	6.85	NP	NP	6.06	NP	Sheen
08/28/14	—	—	—	5.73	NP	NP	6.79	NP	NP	6.72	6.65	0.07	6.06	NP	NP	6.23	NP	NP
09/23/14	—	—	—	5.76	NP	NP	5.73	NP	NP	6.65	6.55	0.10	5.96	NP	NP	6.08	NP	NP
10/22/14	—	—	—	4.82	NP	NP	4.91	NP	NP	5.87	NP	NP	4.96	NP	NP	4.13	NP	Sheen
11/05/14	11.04	NP	NP	4.50	NP	NP	6.60	NP	NP	6.45	5.90	0.55	4.70	NP	NP	5.12	NP	NP
12/18/14	—	—	—	4.28	NP	NP	5.77	NP	NP	5.49	5.26	0.23	4.50	NP	NP	4.89	NP	NP

**Table 4
Product Monitoring Data
Shell Harbor Island Terminal
Seattle, Washington**

Date	MW-204			MW-208			MW-209			MW-210			MW-211			MW-212		
	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness	Groundwater Depth	Product Depth	Product Thickness
01/27/15	—	—	—	4.52	NP	NP	4.88	NP	NP	6.15	5.60	0.55	4.82	NP	NP	5.38	NP	NP
02/26/15	—	—	—	4.92	NP	NP	5.54	NP	NP	6.69	5.88	0.81	5.38	NP	NP	5.59	NP	NP
03/11/15	10.75	NP	NP	5.29	NP	NP	5.55	NP	NP	6.56	6.15	0.41	5.52	NP	NP	5.45	NP	Sheen
04/21/15	—	—	—	5.08	NP	NP	—	—	—	6.44	6.36	0.08	5.50	NP	NP	5.85	NP	NP
05/19/15	11.21	NP	NP	5.31	NP	NP	8.60	NP	NP	6.50	6.49	0.01	5.71	NP	NP	5.67	NP	NP
06/11/15	—	—	—	5.34	NP	NP	—	—	—	6.48	NP	NP	5.70	NP	NP	5.46	NP	NP
07/29/15	11.59	NP	NP	5.81	NP	NP	—	—	—	6.73	NP	NP	6.10	NP	NP	5.85	NP	NP
08/25/15	—	—	—	5.95	NP	NP	—	—	—	6.23	NP	NP	6.17	NP	NP	6.82	NP	NP
09/24/15	—	—	—	5.72	NP	NP	—	—	—	6.60	NP	NP	5.72	NP	NP	6.33	NP	NP
10/15/15	—	—	—	5.35	NP	NP	—	—	—	6.30	NP	NP	5.30	NP	NP	5.82	NP	NP
11/20/15	—	—	—	4.37	NP	NP	—	—	—	6.47	5.67	0.80	4.78	NP	NP	5.51	NP	NP
12/09/15	9.91	NP	NP	2.55	NP	NP	—	—	—	4.45	4.45	Trace	2.80	NP	NP	3.61	NP	NP
02/23/16	—	—	—	4.18	NP	NP	—	—	—	5.82	5.23	0.59	4.45	NP	NP	4.38	NP	Odor
04/22/16	—	—	—	4.90	NP	NP	—	—	—	5.96	5.83	0.13	4.67	NP	NP	5.37	NP	NP
05/03/16	—	—	—	5.27	NP	NP	—	—	—	6.42	6.19	0.23	5.63	NP	NP	6.00	NP	NP
06/02/16	—	—	—	5.34	NP	NP	—	—	—	6.44	6.44	Odor	5.77	NP	NP	6.18	NP	NP
07/14/16	—	—	—	5.58	NP	NP	—	—	—	6.67	NP	NP	6.02	NP	NP	6.27	NP	NP
08/18/16	—	—	—	5.80	NP	NP	—	—	—	6.78	6.78	Odor	6.16	NP	NP	6.44	NP	NP
09/08/16	—	—	—	5.88	NP	NP	—	—	—	6.78	6.78	Odor	6.22	NP	NP	6.55	NP	NP
10/21/16	—	—	—	5.40	NP	NP	—	—	—	6.32	trace	trace	6.01	NP	NP	6.10	NP	NP
11/17/16	—	—	—	3.67	NP	NP	—	—	—	5.43	4.49	0.94	3.86	NP	NP	4.68	NP	NP
12/01/16	—	—	—	3.93	NP	NP	—	—	—	6.00	4.94	1.06	4.14	NP	NP	4.88	NP	NP
12/14/16	10.34	NP	NP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:

= Indicates data collected during this progress report period
 Depth relative to the measuring point at the top of the monitoring well PVC pipe
 Product depth/thick = product depth/thickness in well measured in feet
 — = not measured
 NP = no product detected

Table 5
Compliance Monitoring Natural Attenuation Parameters
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Parameter																	
		Total Alkalinity (mg/L)	Dissolved Oxygen (mg/L)	Hardness (mg/L)	Iron Total (mg/L)	Ferrous Iron (mg/L)	ORP (mv)	pH	Conductivity (µS/cm)	Sulfate (mg/L)	Temperature (°C)	Turbidity (NTU)	Iron Dissolved (mg/L)	Manganese Dissolved (mg/L)	Calcium Total (mg/L)	Magnesium Total (mg/L)	Nitrogen, Nitrate (mg/L)	Nitrogen, Nitrite (mg/L)	
MW-05	05/04/16	NM	3.38	NM	NM	NM	31.6	6.3	357	NM	14.30	9.99	NM	NM	NM	NM	NM	NM	
	12/14/16	NM	5.94	NM	NM	NM	47	6.45	308	NM	12.22	0.0	NM	NM	NM	NM	NM	NM	
MW-101	12/13/16	NM	1.67	NM	NM	NM	-75	6.81	244	NM	8.35	0.0	NM	NM	NM	NM	NM	NM	
MW-102	12/14/16	NM	1.96	NM	NM	NM	32	6.77	438	NM	9.44	0.0	NM	NM	NM	NM	NM	NM	
MW-104	05/05/16	NM	0.65	NM	NM	NM	-105.1	6.2	420	NM	17.11	4.31	NM	NM	NM	NM	NM	NM	
	12/14/16	NM	1.76	NM	NM	NM	-70.0	6.49	340	NM	10.90	0.0	NM	NM	NM	NM	NM	NM	
MW-105	12/14/16	NM	0.32	NM	NM	NM	-58.1	6.14	160	NM	14.63	8.67	NM	NM	NM	NM	NM	NM	
MW-111	05/04/16	NM	3.67	NM	NM	NM	4.6	6.3	148	NM	15.20	23.2	NM	NM	NM	NM	NM	NM	
	12/14/16	NM	0.35	NM	NM	NM	-87.3	6.45	295	NM	13.40	6.48	NM	NM	NM	NM	NM	NM	
MW-112A	05/05/16	NM	0.87	NM	NM	NM	-87.0	6.4	448	NM	14.28	4.41	NM	NM	NM	NM	NM	NM	
	12/12/16	NM	0.67	NM	NM	NM	-87.1	6.51	401	NM	13.70	9.78	NM	NM	NM	NM	NM	NM	
MW-201	01/14/04	NM	1.98	NM	NM	NM	-95.5	5.59	282	NM	12.0	1.5	NM	NM	NM	NM	NM	NM	
	04/20/04	40	5.52	> 400	0.0772	ND	61.3	5	101	5.71	11.4	7.0	NM	NM	NM	NM	NM	NM	
	01/26/05	NM	9.12	NM	NM	NM	129	5.48	720	NM	9.0	9.0	NM	NM	NM	NM	NM	NM	
	04/20/05	15	6.24	40	0.205	0	83	6.66	700	7.67	11.9	8.0	NM	NM	NM	NM	NM	NM	
	07/13/05	NM	0.16	NM	NM	NM	178.1	5.64	99	NM	15.4	1.9	NM	NM	NM	NM	NM	NM	
	10/20/05	NM	0.42	NM	NM	NM	49.2	7.21	535	NM	14.1	3.9	NM	NM	NM	NM	NM	NM	
	01/26/06	NM	7.47	NM	NM	NM	-72.5	7.02	24	NM	8.3	4	NM	NM	NM	NM	NM	NM	
	11/20/08	NM	14.08	NM	NM	NM	268.0	6.12	172	NM	9.3	38	NM	NM	NM	NM	NM	NM	
	04/07/09	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/19/09	NM	7.79	NM	NM	NM	61.0	5.21	13.2	NM	10.6	6.5	NM	NM	NM	NM	NM	NM	
	10/27/10	NM	6.92	NM	NM	NM	157	4.79	15.2	NM	12.7	0.5	NM	NM	NM	NM	NM	NM	
	10/26/11	NM	2.77	NM	NM	NM	-76.0	7.59	655	NM	11.53	5.9	NM	NM	NM	NM	NM	NM	
	11/27/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/06/13	NM	0.00	NM	NM	NM	-74	6.7	800	NM	11.78	0	NM	NM	NM	NM	NM	NM	
	11/06/14	NM	0.00	NM	NM	NM	297	6.1	121	NM	14.1	3.3	NM	NM	NM	NM	NM	NM	
12/13/16	NM	3.58	NM	NM	NM	142.3	6.13	47	NM	8.12	9.27	NM	NM	NM	NM	NM	NM		
MW-202	01/14/04	NM	12.4	NM	NM	NM	-40.2	5.32	52	NM	8.0	9.1	NM	NM	NM	NM	NM	NM	
	04/20/04	180	1.31	> 400	47.8	3	112	5.27	317	< 1	12.1	9.8	NM	NM	NM	NM	NM	NM	
	01/26/05	NM	1.69	NM	NM	NM	3	4.8	218	NM	11.6	126	NM	NM	NM	NM	NM	NM	
	04/20/05	200	0	>600	42.2	8	-60	7.78	44	<1	12.6	26.0	NM	NM	NM	NM	NM	NM	
	07/13/05	NM	0.11	NM	NM	NM	-22	6.09	281	NM	15.7	6.3	NM	NM	NM	NM	NM	NM	
	10/20/05	NM	0.44	NM	NM	NM	-47.9	6.42	576	NM	15.5	5.5	NM	NM	NM	NM	NM	NM	
	01/26/06	NM	0.18	NM	NM	NM	-104.7	7.73	213	NM	10.78	70	NM	NM	NM	NM	NM	NM	
	11/20/08	73	3.65	228	32.5	36.6	232.0	6.40	532	< 1	14.50	10	NM	NM	NM	NM	NM	NM	
	04/07/09	NM	0	NM	NM	NM	-82	6.1	0.175	NM	11.86	56.1	NM	NM	NM	NM	NM	NM	
	11/19/09	64	1.65	120	45.2	19	-53	5.8	51.6	82	12.4	29.5	NM	NM	NM	NM	NM	NM	
	04/27/10	NM	0.22	NM	NM	NM	-96	5.5	34	NM	12.3	55.4	NM	NM	NM	NM	NM	NM	
	10/27/10	75	2.35	70	34.8	7.4	-48	6.2	29.5	< 1.0	15	24	NM	NM	NM	NM	NM	NM	
	10/26/11	84	2.45	45.4	27.4	8.5	-104	8.2	214	< 0.50	12.90	2.72	NM	NM	NM	NM	NM	NM	
	03/02/12	NM	0.00	NM	NM	NM	-39	6.30	334	NM	10.03	27.2	NM	NM	NM	NM	NM	NM	
	06/13/12	NM	4.36	NM	NM	NM	-59	7.2	284	NM	12.5	25.7	NM	NM	NM	NM	NM	NM	
	09/26/12	NM	0.00	NM	NM	NM	-112	6.7	332	NM	14.20	25.0	NM	NM	NM	NM	NM	NM	
	11/27/12	110	0.00	101	35.9	NM	-70	7.33	383	15.0	12.99	77.7	NM	NM	NM	NM	NM	NM	
	11/06/13	80.0	2.28	71.8	37.9	3.0	-43.6	5.79	263	0.76	13.67	4.9	< 0.200	0.439	NM	NM	NM	NM	
	11/06/14	92.0	0.00	92.3	34.9	5.0	-49	6.47	373	7.0	15.87	107.0	0.288	0.631	14.2	13.8	< 0.25	< 0.25	
12/10/15	NM	0.42	NM	NM	1.5	-21	6.42	241	11.6	12.85	98.6	24.2	0.628	NM	NM	< 0.10	< 0.10		
05/03/16	NM	0.36	NM	NM	NM	-46	6.20	232	NM	15.95	16.9	NM	NM	NM	NM	NM	NM		
12/13/16	NM	0.39	NM	NM	0.5	-102.4	6.33	223	1.24 J	10.66	9.52	45.3	0.401	NM	NM	< 0.0400	< 0.0400		

**Table 5
Compliance Monitoring Natural Attenuation Parameters
Shell Harbor Island Terminal
Seattle, Washington**

Well	Sample Date	Parameter																	
		Total Alkalinity (mg/L)	Dissolved Oxygen (mg/L)	Hardness (mg/L)	Iron Total (mg/L)	Ferrous Iron (mg/L)	ORP (mv)	pH	Conductivity (µS/cm)	Sulfate (mg/L)	Temperature (°C)	Turbidity (NTU)	Iron Dissolved (mg/L)	Manganese Dissolved (mg/L)	Calcium Total (mg/L)	Magnesium Total (mg/L)	Nitrogen, Nitrate (mg/L)	Nitrogen, Nitrite (mg/L)	
MW-203	01/13/04	NM	2.91	NM	NM	NM	-6.9	6.38	243	NM	12.4	13.7	NM	NM	NM	NM	NM	NM	
	04/19/04	220	1.02	180	12	1	110	6.58	369	2.4	13.0	39.2	NM	NM	NM	NM	NM	NM	
	07/27/04	NM	1.12	NM	NM	NM	90.9	6.11	514	NM	16.4	32.2	NM	NM	NM	NM	NM	NM	
	10/18/04	NM	0.35	NM	NM	NM	136.8	9.42	643	NM	14.8	110	NM	NM	NM	NM	NM	NM	
	01/25/05	NM	2.79	NM	NM	NM	21	6.37	476	NM	12.9	210	NM	NM	NM	NM	NM	NM	
	04/19/05	220	0	>600	26.7	5.5	0	6.22	44	6.48	12.8	5	NM	NM	NM	NM	NM	NM	NM
	07/13/05	NM	0.67	NM	NM	NM	-46	6.34	351	NM	15.0	15	NM	NM	NM	NM	NM	NM	NM
	10/20/05	NM	1.12	NM	NM	NM	-48.7	6.69	902	NM	15.9	34	NM	NM	NM	NM	NM	NM	NM
	01/23/06	NM	2.2	NM	NM	NM	7.6	6.45	131	NM	11.4	60	NM	NM	NM	NM	NM	NM	NM
	11/18/08	80	10.3	208	1.56	1.35	87.0	7.11	448	17.1	13.9	190	NM	NM	NM	NM	NM	NM	NM
	04/08/09	NM	1.87	NM	NM	NM	-31.0	6.83	136	NM	12.2	338	NM	NM	NM	NM	NM	NM	NM
	11/17/09	86	5.5	86	2.36	< 0.1	197	6.28	25.8	8.3	12.2	45.6	NM	NM	NM	NM	NM	NM	NM
	04/26/10	NM	0.30	NM	NM	NM	-109.0	6.81	40.9	NM	12.7	80.1	NM	NM	NM	NM	NM	NM	NM
	10/25/10	139	1.58	150	7.83	4.3	-4	6.10	43.8	14	14.1	51.8	NM	NM	NM	NM	NM	NM	NM
	05/23/11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/26/11	180	2.94	146	28.1	8.8	-81	8.40	384.0	< 0.50	13.98	10.9	NM	NM	NM	NM	NM	NM	NM
	06/13/12	NM	4.27	NM	NM	NM	-38	7.20	375	NM	12.8	22.3	NM	NM	NM	NM	NM	NM	NM
	11/27/12	170	0.00	140	21.2	NM	22	6.61	250	24.4	14.83	41.7	NM	NM	NM	NM	NM	NM	NM
	11/06/13	190	0.18	161	21.9	3.0	-51	6.35	486	< 0.50	12.59	0.0	3.68	0.178	NM	NM	NM	NM	NM
	11/06/14	134	4.55	150	15.0	1.5	135.1	6.71	236	14.5	16.13	28.4	< 0.200	0.127	50.9	5.49	0.42 J	< 0.25	< 0.10
12/09/15	NM	0.00	NM	NM	5	-60.0	6.05	0	4.1	12.51	67.2	24	0.197	NM	NM	< 0.10	< 0.10	< 0.10	
05/04/16	NM	4.91	NM	NM	NM	-108.0	6.42	266	NM	12.93	14.5	NM	NM	NM	NM	NM	NM	NM	
12/13/16	NM	0.73	NM	NM	0.5	-88.0	6.25	221	2.27	10.46	9.60	14.1	0.134	NM	NM	< 0.0400	< 0.0400	< 0.0400	
MW-204	12/13/16	NM	0.99	NM	NM	NM	21	5.84	173	NM	10.72	4.00	NM	NM	NM	NM	NM	NM	
MW-206-A	12/12/16	NM	0.68	NM	NM	NM	-104.9	6.60	482	NM	11.31	9.44	NM	NM	NM	NM	NM	NM	
MW-213	05/03/16	NM	0.13	NM	NM	NM	-330.0	8.3	12440	NM	14.65	0.0	NM	NM	NM	NM	NM	NM	
	12/13/16	NM	5.52	NM	NM	NM	-321	8.28	18.7	NM	9.57	5.6	NM	NM	NM	NM	NM	NM	
MW-214	05/03/16	NM	0.44	NM	NM	NM	-363.0	8.2	10960	NM	14.91	0.0	NM	NM	NM	NM	NM	NM	
	12/14/16	NM	7.24	NM	NM	NM	39	6.98	312	NM	10.50	0.0	NM	NM	NM	NM	NM	NM	
MW-301	02/22/16	NM	0.34	NM	NM	NM	-127.1	6.50	449	NM	12.32	15.1	NM	NM	NM	NM	NM	NM	
	05/02/16	NM	0.29	NM	NM	NM	-119.6	6.60	257	NM	17.58	6.7	NM	NM	NM	NM	NM	NM	
	08/29/16	NM	1.96	NM	NM	NM	5.0	6.86	183	NM	18.76	0.0	NM	NM	NM	NM	NM	NM	
	12/12/16	NM	2.37	NM	NM	NM	-140	6.73	357	NM	10.16	0.00	NM	NM	NM	NM	NM	NM	
MW-302	03/01/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	06/12/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	06/28/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	09/25/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	11/25/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	11/05/13	102	0.10	84.3	2.11	6.0-6.5	-67	6.42	346	13.2	14.81	0.0	< 0.200	0.349	NM	NM	NM	NM	
	11/03/14	148	0.53	103	26.9	2.5	-27.8	6.50	342	< 0.50	15.91	5.06	0.765	0.493	23	10.9	< 0.10	< 0.10	
	12/10/15	NM	0.35	NM	NM	1.5	-104.8	6.63	337	< 0.50	14.58	0.00	27.4	0.402	NM	NM	< 0.10	< 0.10	
05/04/16	NM	4.92	NM	NM	NM	-116.5	6.51	371	NM	13.60	2.49	NM	NM	NM	NM	NM	NM		
12/15/16	NM	0.95	NM	NM	1.0	-89	6.58	388	< 0.128	10.93	0.0	35.1	0.572	NM	NM	< 0.0400	< 0.0400		
MW-303	05/04/16	NM	2.92	NM	NM	NM	-73.9	6.42	91	NM	11.90	9.31	NM	NM	NM	NM	NM	NM	
	12/12/16	NM	1.29	NM	NM	NM	-50.0	6.49	185	NM	11.20	0.0	NM	NM	NM	NM	NM	NM	
MW-304	11/05/13	128	0.10	88.6	35.5	7.0	-119	6.60	396	< 0.50	12.20	0.0	0.345	0.273	NM	NM	NM	NM	
	11/03/14	125	0.62	88.1	35.9	5.0	-36.9	6.46	310	0.51	14.86	11.2	3.60 J	0.297 J	17	11.2	< 0.10	< 0.10	
	12/10/15	NM	0.35	NM	NM	3.0	100.1	6.55	345	0.873	12.81	4.0	33.70	0.390	NM	NM	< 0.10	< 0.10	
	05/04/16	NM	1.95	NM	NM	NM	-103.1	6.35	337	NM	12.90	6.3	NM	NM	NM	NM	NM	NM	
	12/15/16	NM	2.40	NM	NM	0.5	-92.0	6.65	342	3.35	9.20	0.0	28.20	0.276	NM	NM	< 0.0400	< 0.0400	

Table 5
Compliance Monitoring Natural Attenuation Parameters
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Parameter																	
		Total Alkalinity (mg/L)	Dissolved Oxygen (mg/L)	Hardness (mg/L)	Iron Total (mg/L)	Ferrous Iron (mg/L)	ORP (mv)	pH	Conductivity (µS/cm)	Sulfate (mg/L)	Temperature (°C)	Turbidity (NTU)	Iron Dissolved (mg/L)	Manganese Dissolved (mg/L)	Calcium Total (mg/L)	Magnesium Total (mg/L)	Nitrogen, Nitrate (mg/L)	Nitrogen, Nitrite (mg/L)	
MW-307	11/26/12	144	0.00	84.9	33.5	NM	-62	7.18	332	1.5	12.70	36.6	NM	NM	NM	NM	NM	NM	
	11/06/13	60.0	0.07	45.4	27.0	3.5	-106	6.42	231	< 0.50	12.31	0.8	< 0.200	0.217	NM	NM	NM	NM	
	11/04/14	104	0.26	78.2	44.1	4.5	-107	6.86	383	< 0.50	14.49	6.9	18.2	0.513	19	7.41	< 0.10	< 0.10	
	12/09/15	NM	0.51	NM	NM	2.25	-78	6.40	225	< 0.50	12.78	7.9	29.6	0.338	NM	NM	< 0.10	< 0.10	
	02/23/16	NM	0.27	NM	NM	NM	-68.9	6.21	225	NM	10.43	9.98	NM	NM	NM	NM	NM	NM	
	05/03/16	NM	0.39	NM	NM	NM	-54.0	6.05	211	NM	12.71	9.27	NM	NM	NM	NM	NM	NM	NM
	08/30/16	NM	1.18	NM	NM	NM	67.0	6.91	198	NM	16.90	0.00	NM	NM	NM	NM	NM	NM	NM
	12/13/16	NM	0.57	NM	NM	1.5	-87.4	6.46	138	< 0.256	10.28	8.09	21.2	0.235	NM	NM	< 0.0400	< 0.0400	
MW-308	02/23/16	NM	0.32	NM	NM	NM	-36.3	6.78	657	NM	10.09	9.17	NM	NM	NM	NM	NM	NM	
	05/03/16	NM	0.31	NM	NM	NM	-42.7	6.52	4.31	NM	13.49	7.44	NM	NM	NM	NM	NM	NM	
	08/30/16	NM	1.43	NM	NM	NM	50.0	7.00	224.00	NM	16.93	0.00	NM	NM	NM	NM	NM	NM	
	12/13/16	NM	0.51	NM	NM	1.5	-22.5	6.75	577	141	10.31	8.43	1.53	1.05	NM	NM	< 0.0400	< 0.0400	
MW-309	05/04/16	NM	2.80	NM	NM	NM	-102.7	6.50	208	NM	14.84	8.08	NM	NM	NM	NM	NM	NM	
	12/12/16	NM	0.67	NM	NM	NM	-110.3	6.46	250	NM	11.39	9.47	NM	NM	NM	NM	NM	NM	
MW-310	11/28/12	158	0.00	132	29.3	NM	-88	7.22	385	< 0.50	13.97	80.6	NM	NM	NM	NM	NM	NM	
	11/05/13	134	0.05	114	29.6	2.0-2.5	-95	6.44	396	< 0.50	14.07	0.0	0.982	0.528	NM	NM	NM	NM	
	11/04/14	122	0.03	102	41.4	1.5	-101	6.88	393	< 0.50	15.97	0.0	11.5	0.615	26.0	8.89	< 0.10	< 0.10	
	12/10/15	NM	0.45	NM	NM	2	-79	6.39	313	< 0.50	13.23	0.0	34.8	0.554	NM	NM	< 0.10	< 0.10	
	02/22/16	NM	0.29	NM	NM	NM	-98.5	6.40	358	NM	11.72	3.83	NM	NM	NM	NM	NM	NM	
	05/02/16	NM	0.34	NM	NM	NM	-67.1	6.18	270	NM	15.68	8.56	NM	NM	NM	NM	NM	NM	
	08/29/16	NM	1.64	NM	NM	NM	29.0	6.82	283	NM	19.29	0.00	NM	NM	NM	NM	NM	NM	
12/15/16	NM	1.26	NM	NM	2.0	-70	6.49	258	1.13	11.60	0.0	26.4	0.485	NM	NM	< 0.0400	< 0.0400		
MW-311	11/05/14	188	0.00	222	32.6	1.5	-146	7.42	606	42.3	16.57	7.0	< 0.200	1.57	75.2	8.27	< 0.25	< 0.25	
	12/10/15	NM	0.00	NM	NM	0.75	-103	6.35	0	46.4	14.15	1.4	27.4	1.45	NM	NM	< 0.10	< 0.10	
	02/22/16	NM	0.26	NM	NM	NM	-103.1	6.45	583	NM	13.84	4.2	NM	NM	NM	NM	NM	NM	
	05/04/16	NM	1.02	NM	NM	NM	-109.3	6.49	564	NM	14.42	6.2	NM	NM	NM	NM	NM	NM	
	08/29/16	NM	1.01	NM	NM	NM	22.0	6.89	384	NM	22.58	7.7	NM	NM	NM	NM	NM	NM	
	12/15/16	NM	0.40	NM	NM	3.0	-107.3	6.64	270	23.7	12.91	7.38	22.7	0.801	NM	NM	< 0.0400	< 0.0400	
MW-312	11/05/14	202	0.58	195	25.6	5.7	-92.0	6.78	459	< 1.3	17.07	0.0	< 0.200	0.787	58.8	11.6	< 0.25	< 0.25	
	12/10/15	NM	0.00	NM	NM	1.5	-89.0	6.30	0	< 0.50	13.74	0.0	16.8	0.717	NM	NM	< 0.10	< 0.10	
	02/23/16	NM	0.22	NM	NM	NM	-113.5	6.63	578	NM	13.69	8.84	NM	NM	NM	NM	NM	NM	
	05/04/16	NM	1.19	NM	NM	NM	-122.1	6.63	539	NM	14.77	4.05	NM	NM	NM	NM	NM	NM	
	08/29/16	NM	1.01	NM	NM	NM	28.0	6.89	480	NM	24.31	0.00	NM	NM	NM	NM	NM	NM	
12/15/16	NM	0.40	NM	NM	4.0	-121.8	6.74	452	< 0.500	13.74	9.47	20.4	0.924	NM	NM	< 0.0400	< 0.0400		
MW-313	08/29/16	NM	1.07	NM	NM	NM	23	6.9	489	NM	21.96	0.0	NM	NM	NM	NM	NM	NM	
	12/12/16	NM	1.04	NM	NM	NM	-34.9	6.82	474	NM	14.13	9.06	NM	NM	NM	NM	NM	NM	
MW-314	08/30/16	NM	1.23	NM	NM	NM	82	6.9	565	NM	20.60	8.52	NM	NM	NM	NM	NM	NM	
	12/14/16	NM	0.52	NM	NM	NM	-90.3	6.73	471	NM	13.42	9.44	NM	NM	NM	NM	NM	NM	
MW-315	08/29/16	NM	1.04	NM	NM	NM	2	6.9	558	NM	20.56	8.44	NM	NM	NM	NM	NM	NM	
	12/12/16	NM	1.45	NM	NM	NM	-102	6.74	488	NM	12.07	0.0	NM	NM	NM	NM	NM	NM	
SH-04	05/05/16	NM	1.43	NM	NM	NM	-107.3	6.5	129	NM	14.18	8.73	NM	NM	NM	NM	NM	NM	
	12/14/16	NM	0.39	NM	NM	NM	-48.2	6.41	133	NM	8.88	7.21	NM	NM	NM	NM	NM	NM	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-05	01/15/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.37	< 0.5	NA
	04/21/04	0.0015	< 0.001	0.0053	< 0.001	< 0.25	0.41	< 0.5	NA
	07/28/04	0.0015	0.001	< 0.001	0.0017	< 0.25	< 0.25	< 0.5	NA
	10/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/25/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/18/05	< 0.001	< 0.001	< 0.001	< 0.001	0.072	< 0.25	< 0.5	NA
	07/12/05	< 0.001	< 0.001	< 0.001	< 0.001	0.25	< 0.25	< 0.5	NA
	10/19/05	< 0.001	< 0.001	< 0.001	< 0.001	0.11	< 0.25	< 0.5	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	< 0.238	< 0.476	NA
	11/19/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.25	< 0.5	NA
	11/17/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/29/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.14	< 0.1	NA
	05/23/11	< 0.003	< 0.005	< 0.003	< 0.007	0.0744	NA	NA	NA
	10/25/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	0.115	< 0.095	< 0.19	NA
	11/29/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0954	< 0.095	NA
11/07/13	< 0.00020	0.00083 J	< 0.00020	0.00087 J	0.345	< 0.049	< 0.097	NA	
11/06/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	0.0507 J	0.137	< 0.094	NA	
12/08/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.233	< 0.388	NA	
05/04/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000162	70.9 J	< 0.0398	< 0.0598	NA	
12/14/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	< 0.0436	< 0.0654	NA	
MW-101	01/16/04	< 0.001	< 0.001	< 0.001	0.0028	0.55	< 0.25	< 0.5	NA
	04/20/04	0.0016	< 0.001	< 0.001	0.0014	0.67	< 0.25	< 0.5	NA
	07/28/04	0.0012	< 0.001	< 0.001	0.0011	1.0	< 0.25	< 0.5	NA
	10/18/04	0.0011	< 0.001	< 0.001	< 0.001	0.42	< 0.25	< 0.5	NA
	01/26/05	< 0.001	< 0.001	< 0.001	0.0011	0.51	< 0.25	< 0.5	NA
	04/19/05	0.0016	< 0.001	< 0.001	< 0.001	0.58	< 0.25	< 0.5	NA
	07/13/05	< 0.001	< 0.001	< 0.001	< 0.001	0.31	< 0.25	< 0.5	NA
	10/10/05	< 0.001	< 0.001	< 0.001	< 0.001	0.16	< 0.25	< 0.5	NA
	01/27/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	0.223	< 0.236	< 0.476	NA
	11/18/08	< 0.005	< 0.005	< 0.005	< 0.005	0.1	< 0.25	< 0.5	NA
	11/18/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/26/10	< 0.0005	< 0.001	< 0.001	< 0.001	0.15	0.13	< 0.1	NA
	10/27/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	0.0936	< 0.10	< 0.20	NA
	11/26/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	0.188 J	0.0937 J	< 0.10	NA
	11/06/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	0.118 J	< 0.0048	< 0.0095	NA
11/04/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.0048	< 0.0095	NA	
12/09/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	0.129	< 0.201	NA	
12/13/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.101	0.0983 J	< 0.0632	NA	
MW-102	01/14/04	0.0021	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/21/04	0.0036	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	07/28/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	10/18/04	0.0011	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/25/05	0.0024	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/18/05	0.0027	< 0.001	< 0.001	< 0.001	< 0.05	< 0.25	< 0.5	NA
	07/13/05	< 0.001	< 0.001	< 0.001	< 0.001	0.077	< 0.25	< 0.5	NA
	10/19/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.25	< 0.5	NA
	01/26/06	0.00498	< 0.0005	0.00174	0.00201	< 0.05	< 0.238	< 0.472	NA
	11/19/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.25	< 0.5	NA
	11/18/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/28/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/26/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	0.113	< 0.20	NA
	11/28/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.050	< 0.10	NA
	11/07/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.047	0.144 J	NA
11/04/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0568 J	< 0.094	NA	
12/08/15	< 0.0020	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.233	< 0.388	NA	
12/14/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	< 0.0413	< 0.0620	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-104	01/15/04	0.0019	< 0.001	0.15	0.1028	2.7	1.2	< 0.5	0.00555
	01/15/04	0.0012	< 0.001	0.1	0.0706	2	1.3	< 0.5	< 0.005
	04/21/04	0.0066	0.0025	0.35	0.0931	4.3	1.7	< 0.5	0.00575
	07/28/04	0.0018	< 0.001	0.048	0.017	2.2	0.87	< 0.5	< 0.005
	07/28/04	0.0017	< 0.001	0.049	0.019	2.1	1.3	< 0.5	< 0.005
	10/19/04	< 0.001	< 0.001	0.0021	0.0016	< 0.25	0.61	< 0.5	< 0.005
	01/24/05	< 0.001	< 0.001	0.0012	< 0.001	< 0.25	0.74	< 0.5	< 0.005
	04/18/05	< 0.001	< 0.001	0.057	0.0067	1.4	1.2	< 0.5	< 0.005
	07/12/05	0.0014	< 0.001	0.11	0.012	1.8	0.7	< 0.5	< 0.005
	10/19/05	< 0.001	< 0.001	0.024	0.0049	0.29	0.62	< 0.5	< 0.005
	01/25/06	0.00245	0.00129	0.33	0.0273	2.07	3.73	< 0.962	0.0077
	10/30/07	NA	NA	NA	NA	1.25	NA	NA	< 0.002
	05/20/08	NA	NA	NA	NA	4.00	2.10	< 0.5	NA
	11/18/08	NA	NA	NA	NA	0.13	0.69	< 0.5	< 0.005
	04/08/09	NA	NA	NA	NA	1.80	1.60	< 0.1	0.00326
	11/17/09	< 0.0005	< 0.001	0.0016	< 0.001	0.21	0.17	< 0.1	0.00778
	04/27/10	NA	NA	NA	NA	3.90	2.50	0.27	0.00232
	10/26/10	NA	NA	NA	NA	0.23	0.23	< 0.1	NA
	05/23/11	< 0.0006	0.003	0.104	0.0018	4.44	0.45	< 0.097	< 0.01
	10/25/11	NA	NA	NA	NA	3.38	0.413	< 0.20	< 0.01
	03/01/12	0.00079 J	0.0015	0.0467	0.0016 J	3.69	NA	NA	NA
	06/13/12	NA	NA	NA	NA	4.78	0.423	< 0.10	< 0.01
	09/26/12	0.00066 J	0.0024	0.0509	0.0019 J	4.54	NA	NA	NA
11/29/12	0.00038 J	0.00037 J	0.0113	< 0.00046	0.592	0.315	< 0.098	NA	
05/14/13	NA	NA	NA	NA	5.07	0.601	< 0.096	< 0.01	
11/07/13	NA	NA	NA	NA	3.62	0.666 J	< 0.095	< 0.01	
04/24/14	NA	NA	NA	NA	5.68	1.13	0.100 J	< 0.01	
11/05/14	NA	NA	NA	NA	0.441	0.527	0.221	< 0.01	
05/20/15	NA	NA	NA	NA	2.82	0.686	< 0.097	< 0.01	
12/09/15	NA	NA	NA	NA	< 0.100	0.408	< 0.398	< 0.00200	
05/05/16	NA	NA	NA	NA	7.45	2.85	0.144 J	0.00285	
12/14/16	NA	NA	NA	NA	3.61	2.22	0.155 J	0.000902 J	
MW-105	01/15/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	1.4	< 0.5	0.00647
	04/21/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.65	< 0.5	0.00793
	07/27/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	2.2	< 0.5	0.0128
	10/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	1.8	< 0.5	0.0311
	01/24/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	3	< 0.5	0.00824
	04/18/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	1.3	0.78	0.00615
	07/12/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	1.7	< 0.5	< 0.005
	10/18/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	1.7	0.66	< 0.005
	01/25/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	3.95	< 0.962	0.00321
	11/19/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	NA	NA	< 0.005
	11/17/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.17	< 0.1	0.021
	10/26/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	NA	NA	NA
	10/25/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	0.253	< 0.20	< 0.01
	11/26/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.291	< 0.098	< 0.01
	11/07/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.189	< 0.095	0.0179
	11/05/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.377	0.192	< 0.01
	12/08/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	0.406	0.408	0.0152
12/14/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	0.850	0.377	0.0116	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-111	01/15/04	0.047	< 0.001	< 0.001	< 0.001	< 0.25	0.98	< 0.5	NA
	04/21/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.48	< 0.5	NA
	07/27/04	0.015	< 0.001	< 0.001	0.0012	< 0.25	0.45	< 0.5	NA
	10/19/04	0.036	0.0012	< 0.001	0.0035	0.35	0.45	< 0.5	NA
	01/25/05	0.079	< 0.005	< 0.005	< 0.005	0.58 J	0.63	< 0.5	NA
	04/18/05	< 0.001	< 0.001	< 0.001	< 0.001	0.096	< 0.25	< 0.5	NA
	07/12/05	0.0094	< 0.001	< 0.001	< 0.001	0.23	0.26	< 0.5	NA
	10/18/05	0.017	< 0.001	< 0.001	0.0013	0.26	0.27	< 0.5	NA
	01/25/06	0.0956	0.00189	0.000796	0.0037	0.683	0.998	< 0.481	NA
	11/19/08	0.014	< 0.005	< 0.005	< 0.005	0.230	0.370	< 0.5	NA
	11/17/09	0.041	< 0.001	< 0.001	< 0.001	0.240	0.110	< 0.1	NA
	10/26/10	0.0043	< 0.001	< 0.001	< 0.001	< 0.1	0.120	< 0.1	NA
	05/23/11	0.0006	<.0005	<.0003	<.0007	<0.050	NA	NA	NA
	10/25/11	0.00094	< 0.0010	< 0.0010	< 0.0020	< 0.20	0.122	< 0.20	NA
	11/29/12	0.0248	0.0010	< 0.00020	0.0012 J	0.371	0.269	< 0.10	NA
11/07/13	0.0845	0.0010	0.00023 J	0.00069 J	0.208	0.174	< 0.095	NA	
11/05/14	0.0574	0.0012	0.00083 J	0.00047 J	0.232	0.167	0.118 J	NA	
12/08/15	0.386	0.0065	0.00291	0.00333	0.944	0.335	<0.388	NA	
05/04/16	0.0719	0.00157	0.00158	0.00125 J	0.294	0.141	< 0.0598	NA	
12/14/16	0.248	0.00375 J	0.00243 J	<0.00442	0.739 J	0.343	0.0883 J	NA	
MW-112A	01/15/04	0.02	< 0.001	< 0.001	< 0.001	0.25	0.63	< 0.5	NA
	04/21/04	< 0.005	< 0.005	< 0.005	< 0.005	< 1.2	0.56	< 0.75	NA
	07/27/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.51	< 0.5	NA
	10/19/04	0.0013	< 0.001	< 0.001	< 0.001	< 0.25	0.68	< 0.5	NA
	01/24/05	0.003	0.0012	< 0.001	0.001	0.44	0.65	< 0.5	NA
	04/20/05	< 0.001	< 0.001	< 0.001	< 0.001	0.42	1.4	< 0.5	NA
	07/12/05	0.0029	< 0.001	< 0.001	< 0.001	0.28	0.48	< 0.5	NA
	10/18/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.25	< 0.5	NA
	01/26/06	0.00211	< 0.0005	< 0.0005	< 0.001	0.236	0.602	< 0.485	NA
	11/19/08	< 0.005	< 0.005	< 0.005	< 0.005	0.300	1.300	< 0.5	NA
	11/18/09	0.00075	< 0.001	< 0.001	< 0.001	0.200	0.230	< 0.1	NA
	10/29/10	0.03600	< 0.001	< 0.001	0.0015	0.770	0.600	< 0.1	NA
	05/24/11	0.00041	<0.0005	<0.0003	<0.0007	0.129	NA	NA	NA
	10/25/11	0.0055	< 0.0010	< 0.0010	< 0.0020	0.292	0.200	< 0.20	NA
	11/25/12	0.0058	0.00022 J	0.00037 J	< 0.00046	0.197 J	0.282	< 0.10	NA
11/04/13	0.0238	0.00068 J	0.0376	0.0012 J	0.909	1.72	< 0.19	NA	
11/06/14	0.0156	0.0014	0.028	0.0016 J	0.760	1.43	0.295	NA	
12/08/15	0.0297	0.00368	0.00219	0.00406	1.31	5.89	< 0.389	NA	
05/05/16	0.0248	0.00131	0.0992	0.00688	1.75	7.96	0.132 J	NA	
12/12/16	0.0426	0.00666	0.0109	0.0103	2.27	2.77	0.180 J	NA	
MW-201	01/14/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/20/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/26/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.33	< 0.5	NA
	04/20/05	< 0.001	< 0.001	< 0.001	0.0021	< 0.25	< 0.25	< 0.5	NA
	07/13/05	< 0.001	< 0.001	< 0.001	< 0.001	0.12	0.7	< 0.5	NA
	10/20/05	< 0.001	< 0.001	< 0.001	< 0.001	0.22	4.6	2.3	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.050	0.342	< 0.476	NA
	11/20/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	0.41	< 0.5	NA
	11/19/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/27/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.18	< 0.1	NA
	10/26/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	0.0899	1.46	0.181	NA
	11/27/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.122	< 0.10	NA
	11/06/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	0.0964 J	0.520	< 0.094	NA
	11/06/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.173	0.195	NA
	12/10/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	0.121	0.323	< 0.389	NA
12/13/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	0.203	0.174 J	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-202	01/14/04	< 0.001	< 0.001	< 0.001	< 0.001	2.5	15	< 10	NA
	04/20/04	0.014	0.0062	0.074	0.021	4.4	28	< 10	NA
	01/26/05	< 0.005	< 0.005	< 0.005	< 0.005	7.7	5.2	< 5	NA
	04/20/05	0.016	0.0022	0.036	0.0237	3.7	6.2	< 5	NA
	07/13/05	0.016	0.0033	0.067	0.0191	3.5	6.2	< 1	NA
	10/20/05	0.019	0.0021	0.058	0.0056	3.3	5.9	< 2.5	NA
	01/26/06	0.0224	0.00598	0.041	0.0191	5.79	11.2	< 4.76	NA
	04/25/06	0.007	0.0038	0.062	0.0124	6.8	8.7	< 4.85	NA
	10/12/06	0.009	0.0034	0.083	0.0062	5.7	11.5	0.834	NA
	04/26/07	0.008	0.0048	0.063	< 0.015	4.8	8.2	1.05	NA
	10/30/07	NA	NA	NA	NA	4.55	10.9	< 1	NA
	05/20/08	NA	NA	NA	NA	2.3	1.8	< 2.5	NA
	11/20/08	NA	NA	NA	NA	5.0	2.2	< 0.5	NA
	04/07/09	NA	NA	NA	NA	4.8	14	< 0.1	NA
	11/19/09	NA	NA	NA	NA	6.6	20	< 0.5	NA
	04/27/10	NA	NA	NA	NA	3.3	6.4	0.12	NA
	10/27/10	0.0081	0.0031	0.066	0.0022	6.0	5.4	< 0.1	NA
	05/23/11	NA	NA	NA	NA	3.5	1.84	< 0.097	NA
	10/26/11	NA	NA	NA	NA	4.3	1.02	< 0.21	NA
	03/02/12	0.0053	0.0019	0.0107	0.0013 J	3.87	NA	NA	NA
	06/13/12	NA	NA	NA	NA	3.31	1.54	< 0.10	NA
	09/26/12	0.0058	0.0029 J	0.0378	< 0.0018	4.07	NA	NA	NA
	11/27/12	0.0113	0.0034	0.0274	0.0022	6.07	2.67	< 0.30	NA
05/15/13	NA	NA	NA	NA	3.83	1.62	< 0.096	NA	
11/06/13	< 0.00020	0.0027	0.0335	0.0012 J	4.68	1.29	< 0.095	NA	
04/22/14	NA	NA	NA	NA	3.22	2.18	< 0.28	NA	
11/06/14	0.0083	0.0026	0.0154	0.0011	5.10	2.45	0.282 J	NA	
05/19/15	NA	NA	NA	NA	2.96	0.84	< 0.096	NA	
12/10/15	0.00419	0.00124	0.00277	< 0.0030	5.67	27.2	0.565	NA	
05/03/16	NA	NA	NA	NA	2.89	2.29	0.111 J	NA	
12/13/16	0.00606	0.00280	0.00901	0.00110 J	2.92	4.04	0.201	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-203	01/13/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.26	< 0.5	NA
	07/27/04	0.013	< 0.001	0.0069	< 0.001	2.6	0.45	< 0.5	NA
	10/19/04	0.013	< 0.001	0.015	0.0025	1.6	< 0.25	< 0.5	NA
	10/19/04	0.017	< 0.001	0.012	0.0018	1.4	< 0.25	< 0.5	NA
	01/25/05	0.0063	< 0.001	0.011	0.0013	1.6	0.52	0.68	NA
	04/19/05	0.0068	< 0.001	0.0018	< 0.001	0.63	< 0.25	0.55	NA
	07/13/05	0.01	< 0.001	0.0077	< 0.001	0.89	< 0.25	< 0.5	NA
	10/20/05	0.023	0.002	0.021	0.0026	4.2	2.1	1.1	NA
	01/23/06	0.00186	< 0.0005	0.00182	0.00125	0.76	0.565	< 0.943	NA
	04/26/06	0.00694	0.00076	0.00079	< 0.003	1.38	0.660	0.625	NA
	10/13/06	0.02300	0.00553	0.00448	0.00652	6.22	7.390	1.34	NA
	04/27/07	0.00502	< 0.0005	0.00053	< 0.003	1.24	0.507	0.515	NA
	05/20/08	NA	NA	NA	NA	0.60	0.320	< 0.5	NA
	11/18/08	NA	NA	NA	NA	0.17	< 0.25	< 0.5	NA
	04/08/09	NA	NA	NA	NA	< 0.1	0.12	0.11	NA
	11/17/09	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1	NA
	04/26/10	NA	NA	NA	NA	0.16	0.18	< 0.1	NA
	10/25/10	NA	NA	NA	NA	0.92	0.36	< 0.1	NA
	05/23/11	NA	NA	NA	NA	0.333	0.085	0.314	NA
	10/26/11	NA	NA	NA	NA	1.380	0.262	0.118	NA
	06/13/12	NA	NA	NA	NA	0.459	0.134	0.332	NA
	11/27/12	NA	NA	NA	NA	1.05	0.0943 J	< 0.10	NA
05/15/13	NA	NA	NA	NA	0.144 J	< 0.048	< 0.096	NA	
11/06/13	NA	NA	NA	NA	0.680	< 0.047	< 0.094	NA	
04/22/14	NA	NA	NA	NA	0.164	0.210 J	0.732 J	NA	
11/06/14	NA	NA	NA	NA	0.102	0.0933 J	0.168 J	NA	
05/19/15	NA	NA	NA	NA	0.285	0.166	0.170 J	NA	
12/09/15	NA	NA	NA	NA	< 0.100	0.319	< 0.394	NA	
05/04/16	NA	NA	NA	NA	0.575	0.161	0.133 J	NA	
12/13/16	NA	NA	NA	NA	0.203	0.234	0.125 J	NA	
MW-204	07/27/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	1.6	< 0.5	NA
	01/26/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	6.2	< 1	NA
	04/18/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	1.5	0.79	NA
	07/13/05	< 0.001	< 0.001	< 0.001	< 0.001	0.076	1.1	0.59	NA
	10/19/05	< 0.001	< 0.001	< 0.001	< 0.001	0.082	0.45	< 0.5	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	5.53	< 0.952	NA
	04/25/06	< 0.0005	< 0.0005	< 0.0005	< 0.003	0.076	2.5	1.11	NA
	10/12/06	< 0.0005	< 0.0005	< 0.0005	< 0.003	0.0634	0.90	0.519	NA
	04/26/07	< 0.0005	< 0.0005	< 0.0005	< 0.003	0.086	1.81	0.749	NA
	10/30/07	NA	NA	NA	NA	< 0.05	NA	NA	NA
	11/20/08	< 0.005	< 0.005	< 0.005	< 0.005	0.13	1.0	< 0.5	NA
	11/19/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	3.5	0.16	NA
	10/27/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.29	< 0.1	NA
	10/27/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	0.0660	0.599	< 0.20	NA
	11/27/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.975	< 0.10	NA
	11/06/13	0.00057 J	< 0.00020	< 0.00020	< 0.00046	0.0762 J	0.280	0.0976 J	NA
	11/06/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.505	0.321	NA
12/10/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	0.579	< 0.388	NA	
12/13/16	0.000187 J	< 0.000312	0.000555 J	< 0.000442	< 0.0178	0.507	0.215	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-206A	01/22/04	< 0.001	< 0.001	< 0.001	0.004	< 0.25	< 0.25	< 0.5	NA
	04/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	07/27/04	< 0.005	< 0.005	< 0.005	< 0.005	< 1.2	1.8	0.78	NA
	10/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	2	1.1	NA
	01/25/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	2.1	2.2	NA
	04/18/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	1.3	1.5	NA
	07/13/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	1.2	1.9	NA
	10/20/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	2.1	7.9	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	4.41	2.54	NA
	11/20/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	2.1	1.7	NA
	11/19/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.1	< 0.1	NA
	10/25/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	0.18	NA
	10/26/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	0.141	< 0.20	NA
	11/27/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.116	0.111 J	NA
11/06/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.047	< 0.094	NA	
11/06/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.236	0.392	NA	
12/08/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.242	< 0.403	NA	
12/12/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	0.180	0.135 J	NA	
MW-213	01/14/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/20/04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.25	< 0.5	NA
	07/28/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	10/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/25/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/19/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.25	< 0.5	NA
	07/12/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.25	< 0.5	NA
	10/20/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	0.34	< 0.5	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	0.653	< 0.495	NA
	10/30/07	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	NA	NA
	11/19/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.25	< 0.5	NA
	04/07/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	11/18/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	04/26/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/28/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	05/24/11	< 0.0003	< 0.0005	< 0.0003	< 0.0007	< 0.050	< 0.049	< 0.098	NA
	10/25/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	< 0.11	< 0.21	NA
	06/12/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.050	< 0.10	NA
	11/29/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.050	< 0.10	NA
	05/15/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.096	NA
	11/05/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0625 J	< 0.095	NA
	04/23/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0586	< 0.094	NA
11/05/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0782 J	< 0.094	NA	
05/19/15	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.1020	< 0.10	NA	
12/09/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.235	< 0.392	NA	
05/03/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000162	< 0.100	0.0415 J	< 0.0593	NA	
12/13/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.100	0.115 J	< 0.0622	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-214	01/14/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/20/04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.25	< 0.5	NA
	07/28/04	< 0.005	< 0.005	< 0.005	< 0.005	< 1.2	< 0.25	< 0.5	NA
	10/19/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/25/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	0.36	< 0.5	NA
	04/19/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	0.3	< 0.5	NA
	07/12/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	0.29	< 0.5	NA
	10/20/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	0.33	< 0.5	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	0.91	< 0.476	NA
	10/30/07	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	NA	NA
	05/05/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	0.91	< 0.5	NA
	07/10/08	NA	NA	NA	NA	NA	< 0.5	< 1	NA
	11/19/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	0.80	< 0.5	NA
	04/07/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.17	< 0.1	NA
	11/18/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.11	< 0.1	NA
	04/26/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.19	< 0.1	NA
	10/28/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	05/24/11	< 0.0003	< 0.0005	< 0.0003	< 0.0007	< 0.050	0.127	< 0.097	NA
	10/25/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	0.126	< 0.21	NA
	06/12/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.050	0.135 J	NA
11/29/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.095	NA	
05/15/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0857 J	< 0.096	NA	
11/05/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0552 J	< 0.094	NA	
04/23/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.118	< 0.094	NA	
11/05/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.168	0.103	NA	
05/19/15	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.106	< 0.094	NA	
12/09/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	0.248	< 0.392	NA	
05/03/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000162	< 0.100	0.123	< 0.0594	NA	
12/14/16	< 0.0000930	< 0.000312	0.000275 J	< 0.000442	0.0226 J	0.130	< 0.0600	NA	
MW-301	03/02/12	0.240	0.0138	0.00990	0.0212	3.37	NA	NA	NA
	09/25/12	0.333	0.0131	0.0186	0.0192	4.02	NA	NA	NA
	11/28/12	0.241	0.0099	0.0125	0.0106	2.76	NA	NA	NA
	02/21/13	0.659	0.0175	0.0264	0.0173 J	3.98	0.315	< 0.10	NA
	05/15/13	0.357	0.0122	0.0231	0.0145	3.63	NA	NA	NA
	11/04/13	0.160	0.0097	0.0164	0.0109	2.29	NA	NA	NA
	04/23/14	0.252	0.0072	0.0135	0.0075	3.57	NA	NA	NA
	07/24/14	0.314	0.0080	0.0143	0.0096	3.70	0.361	< 0.094	NA
	11/03/14	0.108	0.0043 J	0.0046 J	0.0051 J	1.76	NA	NA	NA
	03/09/15	0.222	0.0067	0.0065	0.0062 J	2.27	NA	NA	NA
	05/21/15	0.194	0.0069	0.0100	0.0060 J	2.24	NA	NA	NA
	07/28/15	0.116	0.0036	0.0037	0.0019 J	2.09	NA	NA	NA
	12/10/15	0.0437	0.0035	0.0010	0.0055	1.34	NA	NA	NA
	02/22/16	0.280	0.0088	0.0104	0.0075	3.65	NA	NA	NA
	05/02/16	0.170	0.00834	0.0138	0.00663	3.32	NA	NA	NA
08/29/16	0.0647	0.00551	0.0103	0.00640	2.90	NA	NA	NA	
12/12/16	0.251	0.00745	0.0173	0.00633	3.00	NA	NA	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
MW-302	03/01/12	0.831	0.0275	0.213	0.248	5.33	NA	NA	NA
	06/12/12	0.574	0.0156	0.0183	0.0244	4.18	NA	NA	NA
	06/28/12	1.23	0.0437	0.403	0.289	5.65	NA	NA	NA
	09/25/12	0.657	0.0247	0.180	0.106	4.07	NA	NA	NA
	11/25/12	0.449	0.0152	0.191	0.177	4.58	NA	NA	NA
	02/22/13	0.393	0.0149	0.124	0.116	4.15	0.435	< 0.10	NA
	05/14/13	0.873	0.0231	0.236	0.145	4.19	NA	NA	NA
	09/05/13	0.783	0.0189	0.162	0.0746	3.70	NA	NA	NA
	11/05/13	0.607	0.0112	0.0977	0.0529	2.69	NA	NA	NA
	01/16/14	0.404	0.0161	0.0843	0.0504	3.54	NA	NA	NA
	04/23/14	0.980	0.0269	0.276	0.232	5.86	NA	NA	NA
	07/24/14	0.656	0.0206	0.178	0.131	4.66	0.363	< 0.094	NA
	11/03/14	0.506	0.0159	0.221	0.176	4.06	0.361	< 0.094	NA
	05/21/15	0.454	0.0161	0.174	0.150	3.44	NA	NA	< 0.010
12/10/15	0.372	0.0085	0.014	0.018	2.16	1	< 0.391	NA	
05/04/16	0.595	0.0145	0.270	0.153	3.75	NA	NA	NA	
12/15/16	0.759	0.0263	0.453	0.117	5.08	1.73	< 0.0630	NA	
MW-303	03/02/12	3.13	0.0759	0.760	0.232	12.3	NA	NA	NA
	06/13/12	2.90	0.0957	0.884	0.268	12.5	NA	NA	NA
	09/25/12	1.83	0.0635	0.474	0.146	9.14	NA	NA	NA
	11/28/12	1.94	0.0873	1.18	0.319	12.6	NA	NA	NA
	02/21/13	2.34	0.0955	1.29	0.338	12.8	0.674	< 0.10	NA
	05/15/13	1.90	0.0864	0.983	0.272	10.6	NA	NA	NA
	11/04/13	0.884	0.0278	0.219	0.0544	6.11	NA	NA	NA
	04/23/14	1.58	0.0710	1.114	0.224	11.8	NA	NA	NA
	07/24/14	0.808	0.0471	0.653	0.161	9.76	0.622	< 0.094	NA
	11/04/14	1.42	0.0618	0.924	0.180	11.5	1.00	1.15	NA
	05/20/15	0.669	0.0432	0.713	0.157	7.90	NA	NA	NA
	12/08/15	1.19	0.0710	1.330	< 0.300	7.60	2.45	< 0.398	NA
	05/04/16	0.704	0.0625	1.82	0.287	8.60	NA	NA	NA
	12/12/16	0.831	0.0482	1.450	0.176	8.31	2.52	< 0.0602	NA
MW-304	03/01/12	0.686	0.0351	0.214	0.264	5.64	NA	NA	NA
	06/12/12	1.04	0.0408	0.270	0.218	5.98	NA	NA	NA
	09/25/12	0.630	0.0240	0.198	0.105	3.93	NA	NA	NA
	11/28/12	0.411	0.0244	0.306	0.252	5.89	NA	NA	NA
	02/22/13	0.507	0.0225	0.208	0.149	5.56	0.762	0.186 J	NA
	05/14/13	0.645	0.0283	0.209	0.144	4.73	NA	NA	NA
	09/05/13	0.862	0.0188	0.0849	0.0616	3.09	NA	NA	NA
	11/05/13	0.695	0.0163	0.0629	0.0540	2.67	NA	NA	NA
	01/16/14	0.790	0.0194	0.0472	0.0571	4.89	NA	NA	NA
	04/23/14	0.778	0.0248	0.185	0.147	5.93	NA	NA	NA
	07/24/14	0.437	0.0173	0.109	0.0666	3.59	0.557	< 0.094	NA
	11/03/14	1.11	0.0421	0.48	0.2140	3.32	0.366	< 0.094	NA
	05/20/15	0.486	0.0136	0.115	0.0373	3.30	NA	NA	< 0.010
	12/10/15	0.775	0.0312	0.336	0.1140	4.37	1.55	< 0.387	NA
05/04/16	0.527	0.0187	0.355	0.0559	4.05	NA	NA	NA	
12/15/16	0.749	0.0271	0.586	0.0664	5.75	1.78	0.0686 J	NA	
MW-305	03/01/12	1.14	0.0227	0.0389	0.0375 J	5.84	NA	NA	NA
	06/11/12	1.34	0.0221	0.0517	0.0331 J	5.97	NA	NA	NA
	09/26/12	1.27	0.0229	0.0388	0.0355 J	5.89	NA	NA	NA
	11/28/12	0.286	0.0061	0.0032 J	0.0140	1.53	NA	NA	NA
	05/15/13	0.397	0.0263	0.290	0.0867	6.28	NA	NA	NA
	11/07/13	0.0844	0.0250	0.216	0.0919	3.59	NA	NA	NA
	04/23/14	0.0884	0.0139	0.0941	0.0454	2.82	NA	NA	NA
	11/06/14	0.0419	0.0052	0.0020	0.0306	1.16	NA	NA	NA
05/21/15	0.120	0.0101	0.191	0.108	2.81	NA	NA	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
Cleanup Level*		0.071	200	29	NE	1	10	10	0.0058
MW-306	03/01/12	0.606	0.0150	0.0353	0.718	4.74	NA	NA	NA
	06/11/12	0.393	0.0115	0.0509	0.763	5.09	NA	NA	NA
	09/26/12	1.05	0.0261	0.135	0.147	6.56	NA	NA	NA
	11/28/12	0.393	0.0125	0.0183	0.0895	3.06	NA	NA	NA
	05/15/13	0.746	0.0472	0.837	3.70	18.5	NA	NA	NA
	11/07/13	0.101	0.0502	0.482	2.65	12.8	NA	NA	NA
	04/23/14	0.0762	0.0345	0.325	1.97	11.0	NA	NA	NA
	11/06/14	0.119	0.0226	0.302 J	0.939 J	5.59	NA	NA	NA
05/21/15	0.106	0.0354 J	0.874	5.15	20.6	NA	NA	NA	
MW-307	11/26/12	2.15	0.0858	0.833	0.513	10.9	NA	NA	NA
	02/22/13	0.497	0.0358	0.226	0.145	6.02	0.604	< 0.094	NA
	05/15/13	0.437	0.0461	0.167	0.120	4.56	NA	NA	NA
	09/05/13	0.643	0.0645	0.154	0.131	5.30	NA	NA	NA
	11/06/13	0.568	0.0448 J	0.104	0.0912	4.39	NA	NA	NA
	04/22/14	0.520	0.0408	0.241	0.152	5.68	NA	NA	NA
	11/04/14	0.596	0.0390	0.176	0.095	5.16	0.632	< 0.095	NA
	03/09/15	0.444	0.0358	0.271	0.104	5.41	NA	NA	NA
	05/19/15	0.306	0.0273	0.140	0.067	3.44	0.479	< 0.096	NA
	07/29/15	0.298	0.0245	0.109	0.043	4.09	NA	NA	NA
	12/09/15	0.699	0.0585	0.334	0.131	5.03	1.63	< 0.392	NA
	02/23/16	0.498	0.0417	0.578	0.110 J	4.98	NA	NA	NA
	05/03/16	0.469	0.0338	0.456	0.0981	5.04	1.55	< 0.0597	NA
08/30/16	0.261	0.0299	0.222	0.1950	5.13	NA	NA	NA	
12/13/16	0.275	0.0255	0.302	0.102	4.02	1.34	0.0812 J	NA	
MW-308	11/26/12	0.144	0.0010 J	0.0072	0.0013 J	0.778	NA	NA	NA
	02/22/13	0.668	0.0078 J	0.0443	0.0059 J	3.48	0.354	< 0.10	NA
	05/15/13	0.392	0.0052 J	0.0427	< 0.0046	2.54	NA	NA	NA
	11/06/13	0.237	0.0033 J	0.0056	0.0026 J	1.65	NA	NA	NA
	04/22/14	0.0165	< 0.00020	0.00036 J	< 0.00046	0.146	NA	NA	NA
	11/04/14	0.132	0.0012	0.0044	0.00058	0.782	< 0.048	< 0.095	NA
	03/09/15	0.121 J	0.0020	0.00064 J	0.0013 J	1.10	NA	NA	NA
	05/19/15	0.213	0.0013 J	< 0.00050	< 0.0012	0.973	NA	NA	NA
	07/29/15	0.242	0.0017 J	0.0014 J	< 0.0012	1.77	NA	NA	NA
	12/09/15	0.146	0.0036	0.0284	0.00527	1.19	NA	NA	NA
	02/23/16	0.00711	< 0.0000380	0.000101 J	< 0.0000160	0.0619	NA	NA	NA
	05/03/16	0.281	0.000903 J	0.00376	0.000680 J	1.41	NA	NA	NA
08/30/16	0.196	< 0.00312	< 0.00198	< 0.00162	1.48	NA	NA	NA	
12/13/16	0.0309	< 0.000312	0.000529 J	< 0.000442	0.207	NA	NA	NA	
MW-309	11/28/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	02/21/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0790 J	< 0.10	NA
	05/16/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	11/06/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	04/23/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	07/24/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.102	< 0.094	NA
	11/03/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.095	NA
	05/20/15	< 0.00020	< 0.00020	0.00027 J	< 0.00046	0.0542 J	NA	NA	NA
	12/08/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.241	< 0.402	NA
	05/04/16	< 0.0000930	< 0.000312	0.000337 J	< 0.000162	< 0.100	NA	NA	NA
	12/12/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	0.0834 J	< 0.0595	NA

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
Cleanup Level*		0.071	200	29	NE	1	10	10	0.0058
MW-310	11/28/12	0.860	0.0265	0.211	0.147	5.74	NA	NA	NA
	02/21/13	1.80	0.0768	0.506	0.180	8.37	0.603	< 0.10	NA
	05/14/13	0.993	0.0703	0.654	0.175	6.49	NA	NA	NA
	09/05/13	0.960	0.0598	0.310	0.110	5.51	NA	NA	NA
	11/05/13	0.772	0.0409	0.226	0.0846	4.92	NA	NA	NA
	01/16/14	0.821	0.0414	0.189	0.0775	5.94	NA	NA	< 0.001 ¹
	04/23/14	0.796	0.0432	0.187	0.0607	5.88	NA	NA	NA
	07/24/14	0.920	0.0489	0.368	0.0647	6.36	0.605	< 0.094	NA
	11/04/14	0.739	0.0387	0.132	0.0538	5.15	0.613	< 0.094	NA
	03/09/15	0.736	0.0475	0.189	0.0606	4.71	NA	NA	NA
	05/21/15	0.641	0.0464	0.169	0.0572	4.39	NA	NA	< 0.010
	07/28/15	0.714	0.0428	0.181	0.0488	3.72	NA	NA	NA
	12/10/15	0.405	0.0396	0.077	0.0564	3.89	2.75	< 0.390	NA
02/23/16	0.755	0.0436	0.303	0.0615	4.86	NA	NA	NA	
05/02/16	0.655	0.0349	0.324	0.0721	4.82	NA	NA	NA	
08/29/16	0.734	0.0608	0.209	0.0885	5.38	NA	NA	NA	
12/15/16	0.673	0.0504	0.289	0.0747	5.92	1.72	< 0.0624	NA	
MW-311	11/05/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.095	< 0.010
	03/09/15	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	06/11/15	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	07/28/15	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA
	12/10/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	NA	NA	NA
	02/23/16	< 0.0000320	< 0.0000380	< 0.0000860	< 0.0000160	< 0.0178	NA	NA	NA
	05/04/16	0.000716	< 0.000312	< 0.000198	< 0.000162	0.0260 J	NA	NA	NA
	08/29/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000162	< 0.0178	NA	NA	NA
12/15/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	NA	NA	NA	
MW-312	11/05/14	0.239	0.0058	0.0065	0.0102	1.64	1.13	0.132 J	< 0.010
	03/09/15	0.357	0.0044 J	0.0086	0.0050 J	1.91	NA	NA	NA
	06/11/15	0.204	0.0034 J	0.0023 J	0.0027 J	1.35	NA	NA	NA
	07/28/15	0.313	0.0041 J	0.0030 J	0.0032 J	1.65	NA	NA	NA
	12/10/15	0.072	0.0033	0.0022	0.0046	1.26	NA	NA	NA
	02/23/16	0.327	0.0035	0.0076	0.0042	1.96	NA	NA	NA
	05/04/16	0.414	0.00399	0.00662	0.00376	2.22	NA	NA	NA
	08/29/16	0.370	0.00457 J	0.00354 J	0.00394 J	2.30	NA	NA	NA
12/15/16	0.356	0.00336 J	0.00556 J	< 0.000442	2.27	NA	NA	NA	
MW-313	08/29/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000162	< 0.0178	0.218	< 0.0603	NA
	12/12/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.100	0.207	< 0.0598	NA
MW-314	08/30/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000162	0.182	0.293	< 0.0599	NA
	12/14/16	0.00432	0.000374 J	< 0.000198	< 0.000442	0.298	0.401	0.0679 J	NA
MW-315	08/29/16	0.0965	0.00265	0.000548 J	0.00135 J	0.453	1.55	< 0.0600	NA
	12/12/16	0.0174	0.00361	0.00230	0.00408	1.17	1.29	0.0871 J	NA

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
SH-04	01/13/04	1.20	0.21	0.140	2.11	15.0	4.7	< 2.5	NA
	04/20/04	1.50	0.49	0.640	5.79	26.0	6.2	< 10	NA
	07/27/04	1.30	0.13	0.550	1.78	15.0	5.4	0.53	NA
	04/20/05	0.98	0.061	0.360	1.07	11.0	4.2	< 1.5	NA
	04/25/06	1.25	0.09	0.650	2.31	20.0	8.2	2.52	NA
	10/30/07	0.88	0.032	0.315	0.08	<5.0	NA	NA	NA
	05/20/08	1.10	0.05	0.520	0.66	8.9	4.80	0.92	NA
	11/20/08	0.79	0.032	0.230	0.04	6.6	2.70	< 0.5	NA
	04/08/09	0.870	0.04	0.250	0.190	9.2	4.70	< 0.1	NA
	11/16/09	0.48	0.023	0.068	0.02	4.9	3.70	< 0.1	NA
	04/27/10	0.710	0.03	0.270	0.130	7.3	4.70	0.39	NA
	10/25/10	0.580	0.019	0.180	0.0130	4.0	2.80	< 0.1	NA
	05/23/11	0.655	0.015	0.151	0.0340	5.4	1.84	0.13	NA
	10/27/11	0.393	0.0200	0.0926	0.0279	5.35	1.22	< 0.19	NA
	03/01/12	0.614	0.0227	0.0932	0.0124 J	5.53	NA	NA	NA
	06/11/12	0.426	0.0142	0.112	0.0198 J	6.00	1.49	0.393	NA
	09/25/12	0.124	0.0184	0.461	0.139	6.52	NA	NA	NA
	11/25/12	0.0730	0.0079 J	0.609	0.326	8.15	0.762	< 0.098	NA
	05/15/13	0.0016 J	0.00050	0.0042	0.0032 J	2.16	0.376	< 0.096	NA
	11/04/13	0.0032	0.00043 J	0.0071	0.0050	1.05	0.134	< 0.094	NA
04/24/14	0.0091	0.00053 J	0.00090 J	0.0014 J	0.938	0.469	0.0944 J	NA	
11/06/14	0.0249	0.0023	0.0173	0.0072	0.984	0.608	< 0.094	NA	
05/21/15	0.0094	0.00048 J	0.0035	0.0021	0.780	0.171	< 0.094	NA	
12/08/15	0.0155	0.0012	0.0036	0.0041	0.927	1.740	0.422	NA	
05/05/16	0.000454	< 0.000312	0.000939 J	0.000887 J	0.941	0.230	< 0.0601	NA	
12/14/16	0.00534	0.000990 J	0.0199	0.0123	0.843	1.00	0.102 J	NA	
TES-MW-1	01/14/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/20/04	0.0067	< 0.001	0.011	0.043	< 0.25	< 0.25	< 0.5	NA
	04/20/04	0.0075	< 0.001	0.013	0.049	< 0.25	< 0.25	< 0.5	NA
	07/28/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	10/18/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/25/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	01/25/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	< 0.25	< 0.5	NA
	04/19/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.25	< 0.5	NA
	07/13/05	0.001	< 0.001	0.006	0.0189	0.10	< 0.25	< 0.5	NA
	10/20/05	0.0039	< 0.001	0.013	0.0437	0.23	< 0.25	< 0.5	NA
	01/27/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	< 0.05	< 0.240	< 0.481	NA
	11/18/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.25	< 0.5	NA
	11/18/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	10/26/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	< 0.1	< 0.1	NA
	05/24/11	< 0.0003	< 0.0005	< 0.0003	< 0.0007	< 0.050	NA	NA	NA
	10/27/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	< 0.10	< 0.20	NA
	11/26/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.050	< 0.10	NA
	11/06/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.095	NA
	11/04/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.095	NA
	12/09/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.234	< 0.390	NA
12/13/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	< 0.0466	< 0.0699	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
	Cleanup Level*	0.071	200	29	NE	1	10	10	0.0058
TX-03A	01/13/04	2.9	0.018	0.038	0.091	2.7	0.86	< 0.5	NA
	04/19/04	4.4	0.047	0.12	0.11	12	1.3	< 0.5	NA
	07/27/04	1.7	0.011	0.016	0.037	5.2	0.81	< 0.5	NA
	10/18/04	3.2	0.024	0.062	0.093	7.5	1.2	< 0.5	NA
	01/24/05	2.5	0.02	< 0.01	0.065	8.2	0.54	< 0.5	NA
	04/19/05	2.5	0.021	0.026	0.049	6.1	0.47	< 0.5	NA
	07/12/05	3.1	0.024	0.044	0.054	10	0.32	< 0.5	NA
	10/31/07	2.2	0.023	0.060	0.050	<5.0	NA	NA	NA
	05/20/08	0.9	0.007	0.016	0.010	3.0	NA	NA	NA
	11/20/08	2.1	0.019	0.038	0.018	4.5	NA	NA	NA
	04/08/09	1.2	< 0.025	0.028	< 0.025	3.5	NA	NA	NA
	11/17/09	1.0	0.008	0.016	0.011	2.4	NA	NA	NA
	04/27/10	1.7	0.010	0.009	0.010	4.6	NA	NA	NA
	10/25/10	1.7	0.011	0.067	0.013	3.3	NA	NA	NA
	05/23/11	1.78	<0.025	0.044	<0.035	7.5	NA	NA	NA
	10/27/11	3.44	0.0712	0.147	0.111	8.51	NA	NA	NA
	03/01/12	1.74	0.0261	0.0272	0.0345 J	5.58	NA	NA	NA
	06/12/12	1.57	0.0200 J	0.0139 J	0.0300 J	6.78	NA	NA	NA
	09/25/12	1.7	0.0298	0.0410	0.0501	5.53	NA	NA	NA
	11/28/12	1.18	0.0188 J	0.0232	0.0357 J	4.91	NA	NA	NA
	02/21/13	2.81	0.0403	0.0421	0.0489 J	8.20	0.320	< 0.10	NA
	05/15/13	2.15	0.0459 J	0.189	0.0643 J	3.11	NA	NA	NA
	11/05/13	2.72	0.0343 J	0.0364 J	0.0411 J	6.01	NA	NA	NA
	04/23/14	1.22	0.0171	0.0251	0.0270	5.76	NA	NA	NA
	07/24/14	1.64	0.0317	0.0698	0.0520	7.55	0.382	< 0.094	NA
11/04/14	0.941	0.0137	0.0366	0.0269	5.76	0.448	< 0.094	NA	
03/09/15	1.860	0.0246 J	0.0581	0.0390 J	7.16	NA	NA	NA	
05/21/15	1.150	0.0144 J	0.0462	0.0260 J	3.40	NA	NA	NA	
07/28/15	1.720	0.0213 J	0.1180	0.0355 J	5.42	NA	NA	NA	
12/10/15	0.635	0.0126	0.0260	0.0253	3.32	1.34	< 0.391	NA	
02/23/16	1.78	0.0274	0.0882	0.0385	5.17	NA	NA	NA	
05/02/16	1.54	0.0370	0.208	0.0503	6.30	NA	NA	NA	
08/29/16	0.844	0.0257	0.246	0.0530	5.89	NA	NA	NA	
12/15/16	0.995	0.0197 J	0.0697	0.0357 J	4.81	1.73	0.125 J	NA	
TX-04	01/13/04	0.025	0.0055	< 0.001	0.01940	0.650	0.59	< 0.5	NA
	04/21/04	0.0025	0.0017	< 0.001	0.0031	0.47	2.200	< 0.75	NA
	07/27/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	1.50	< 0.5	NA
	10/18/04	< 0.001	< 0.001	< 0.001	0.0022	0.28	1.2	< 0.5	NA
	01/24/05	0.0310	0.0071	< 0.001	0.020	0.87	0.64	< 0.5	NA
	04/20/05	0.014	0.00360	< 0.001	0.0085	0.54	0.73	< 0.5	NA
	07/12/05	< 0.001	< 0.001	< 0.001	0.00140	0.340	0.82	< 0.5	NA
	10/18/05	< 0.001	< 0.001	< 0.001	< 0.001	0.20	1.100	< 0.5	NA
	01/25/06	0.00127	0.001	< 0.0005	0.00151	0.206	0.84	< 0.476	NA
	11/18/08	< 0.005	< 0.005	< 0.005	< 0.005	0.076	< 0.25	< 0.5	NA
	11/16/09	< 0.0005	< 0.001	< 0.001	< 0.001	0.17	0.13	< 0.1	NA
	10/25/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.17	< 0.1	NA
	05/23/11	< 0.0003	< 0.0005	< 0.0003	< 0.0007	0.055	NA	NA	NA
	10/26/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.20	0.0966	< 0.20	NA
	11/26/12	0.0013	0.00038 J	< 0.00020	0.00052 J	0.0980 J	0.0807 J	< 0.10	NA
	11/04/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.0492 J	< 0.095	NA
	11/06/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	< 0.048	< 0.096	NA
	12/08/15	0.000268	< 0.0010	< 0.0010	< 0.0030	< 0.100	< 0.245	< 0.408	NA
12/12/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	0.0762 J	< 0.0608	NA	

Table 6
BTEX, Petroleum Hydrocarbons, and Lead in Groundwater
Shell Harbor Island Terminal
Seattle, Washington

Well	Sample Date	Chemical (mg/L)							
		Benzene	Toluene	Ethylbenzene	Total Xylenes (mixed isomers)	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Motor Oil Range Hydrocarbons	Total Lead
Cleanup Level*		0.071	200	29	NE	1	10	10	0.0058
TX-06A	01/14/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	5.8	< 1	NA
	04/21/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	3.4	< 0.75	NA
	07/27/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	3.6	< 0.5	NA
	10/18/04	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	4.1	< 0.5	NA
	01/24/05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.25	2.7	< 0.5	NA
	04/20/05	< 0.001	< 0.001	< 0.001	< 0.001	0.18	6.3	< 1.5	NA
	07/13/05	< 0.001	< 0.001	< 0.001	< 0.001	0.26	2.5	< 0.5	NA
	10/18/05	< 0.001	< 0.001	< 0.001	< 0.001	0.072	0.93	< 0.5	NA
	01/26/06	< 0.0005	< 0.0005	< 0.0005	< 0.001	0.126	1.57	< 0.476	NA
	11/18/08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	0.49	< 0.5	NA
	11/17/09	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.24	< 0.1	NA
	10/28/10	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.1	0.72	< 0.1	NA
	10/25/11	< 0.0010	< 0.0010	< 0.0010	< 0.0020	0.0519	0.499	< 0.21	NA
	11/25/12	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.50	0.716	< 0.098	NA
	11/07/13	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.358	< 0.095	NA
11/06/14	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	0.758	0.184	NA	
12/08/15	< 0.00020	< 0.0010	< 0.0010	< 0.0030	< 0.100	1.03	< 0.388	NA	
	12/12/16	< 0.0000930	< 0.000312	< 0.000198	< 0.000442	< 0.0178	0.433	0.0707 J	NA
MW-1	07/28/15	< 0.00020	< 0.00020	< 0.00020	< 0.00046	< 0.050	NA	NA	NA

Note:

 = Indicates data collected during this progress report period

* = Cleanup levels per the Cleanup Action Plan (Ecology, 1998)

¹ = Dissolved lead result

Bold = indicate detected concentration greater than cleanup level

BTEX = benzene, toluene, ethylbenzene, and total xylenes

J = indicates an estimated value

< = not detected at or above the indicated limit. Beginning June 12, 2012, limits shown are laboratory Method Detection Limits (MDLs). Prior to June 12, 2012, limits shown are laboratory Reporting Limits (RLs).

mg/L = milligrams per liter

NA = not analyzed

NE = not established

**Table 7
Carcinogenic PAHs in Groundwater
Shell Harbor Island Terminal
Seattle, Washington**

Well	Sample Date	Chemical (mg/L)						
		Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Indeno(1,2,3-cd)pyrene
Cleanup Level*		0.000031	0.000031	0.000031	0.000031	0.000031	0.000031	0.000031
MW-213	01/14/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/20/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	07/28/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/19/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	01/25/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/19/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	07/12/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/20/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	01/26/06	< 0.0000943	< 0.0000943	< 0.0000943	< 0.0000943	< 0.0000943	< 0.0000943	< 0.0000943
	10/30/07	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	11/19/08	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	04/07/09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	11/18/09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/26/10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/28/10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	05/24/11	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
	10/25/11	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
	06/12/12	< 0.000050	< 0.000041	< 0.000035	< 0.000039	< 0.000045	< 0.000035	< 0.000035
	11/29/12	< 0.000053	< 0.000041	< 0.000035	< 0.000039	< 0.000045	< 0.000035	< 0.000035
	05/15/13	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
11/05/13	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000043	< 0.000033	< 0.000033	
04/23/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000043	< 0.000033	< 0.000033	
11/05/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033	
05/19/15	< 0.0014	< 0.0011	< 0.0013	< 0.0013	< 0.0016	< 0.0012	< 0.0013	
12/09/15	< 0.0000948	< 0.0000948	< 0.0000948	< 0.0000948	< 0.0000948	< 0.0000948	< 0.0000948	
05/03/16	< 0.0000920	< 0.0000101	< 0.0000101	< 0.0000138	< 0.0000644	< 0.0000120	< 0.0000202	
12/13/16	0.0000122	< 0.0000887	< 0.0000108	< 0.0000148	< 0.0000690	< 0.0000128	< 0.0000217	

**Table 7
Carcinogenic PAHs in Groundwater
Shell Harbor Island Terminal
Seattle, Washington**

Well	Sample Date	Chemical (mg/L)						
		Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Indeno(1,2,3-cd)pyrene
Cleanup Level*		0.000031	0.000031	0.000031	0.000031	0.000031	0.000031	0.000031
MW-214	01/30/03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/17/03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	07/17/03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/16/03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	01/14/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/20/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	07/28/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/19/04	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	01/25/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/19/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	07/12/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/20/05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	01/26/06	< 0.000099	< 0.000099	< 0.000099	< 0.000099	< 0.000099	< 0.000099	< 0.000099
	10/30/07	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	05/05/08	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	11/19/08	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	04/07/09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	11/18/09	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	04/26/10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	10/28/10	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
05/24/11	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	
10/25/11	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	
06/12/12	< 0.000051	< 0.000040	< 0.000034	< 0.000038	< 0.000044	< 0.000034	< 0.000034	
11/29/12	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033	
05/15/13	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033	
11/05/13	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033	
04/23/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000043	< 0.000033	< 0.000033	
11/05/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033	
05/19/15	< 0.0013	< 0.0010	< 0.0012	< 0.0013	< 0.0015	< 0.0012	< 0.0013	
12/09/15	< 0.0000908	< 0.0000908	< 0.0000908	< 0.0000908	< 0.0000908	< 0.0000908	< 0.0000908	
05/04/16	< 0.0000926	< 0.0000102	< 0.0000102	< 0.0000139	< 0.0000648	< 0.0000120	< 0.0000204	
12/14/16	0.00000994	< 0.0000883	< 0.0000108	< 0.0000147	< 0.0000687	< 0.0000128	< 0.0000216	
MW-301	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
	05/21/15	< 0.0014	< 0.0011	< 0.0013	< 0.0013	< 0.0016	< 0.0012	< 0.0013
MW-302	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
	05/21/15	< 0.0013	< 0.0010	< 0.0012	< 0.0013	< 0.0015	< 0.0012	< 0.0013
MW-303	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000043	< 0.000033	< 0.000033
	05/20/15	< 0.0014	< 0.0011	< 0.0013	< 0.0013	< 0.0016	< 0.0012	< 0.0013
MW-304	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
	05/20/15	< 0.0013	< 0.0010	< 0.0012	< 0.0013	< 0.0015	< 0.0012	< 0.0013
MW-309	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
	05/20/15	< 0.0014	< 0.0011	< 0.0013	< 0.0014	< 0.0016	< 0.0012	< 0.0013
MW-310	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
	05/21/15	< 0.0013	< 0.0010	< 0.0012	< 0.0013	< 0.0015	< 0.0012	< 0.0013
MW-311	11/05/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
MW-312	11/05/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
TX-03A	07/24/14	< 0.000050	< 0.000039	< 0.000033	< 0.000037	< 0.000042	< 0.000033	< 0.000033
	05/21/15	< 0.0014	< 0.0010	< 0.0013	< 0.0013	< 0.0016	< 0.0012	< 0.0013

Note:

 = Indicates data collected during this progress report period

* = Cleanup levels per the Cleanup Action Plan (Ecology, 1998)

J = indicates an estimated value

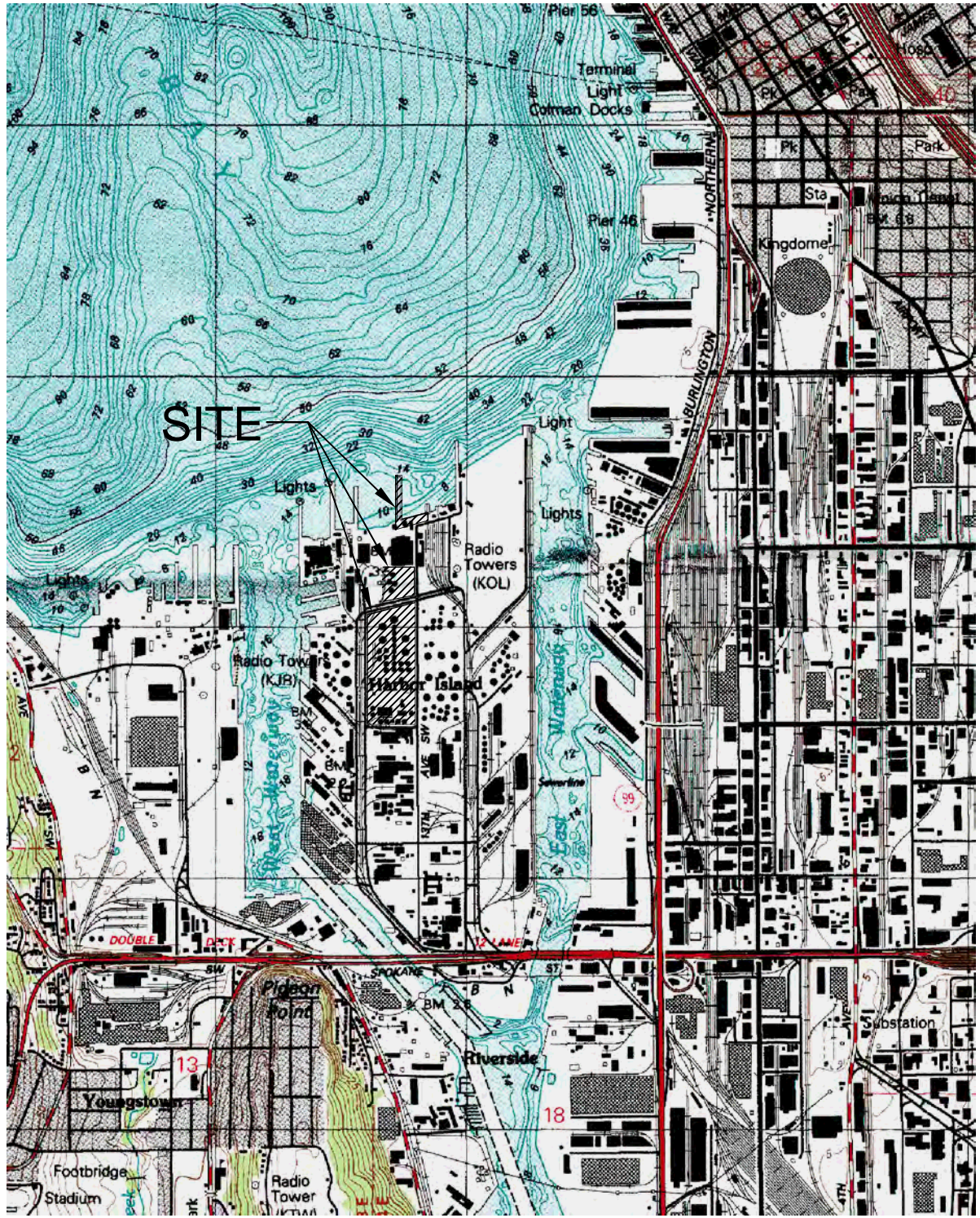
< = not detected at or above the indicated limit. Beginning June 12, 2012, limits shown are laboratory Method Detection Limits (MDLs). Prior to June 12, 2012, limits shown are laboratory Reporting Limits (RLs).

ID = identification

mg/L = milligrams per liter

PAHs = polycyclic aromatic hydrocarbons

Figures



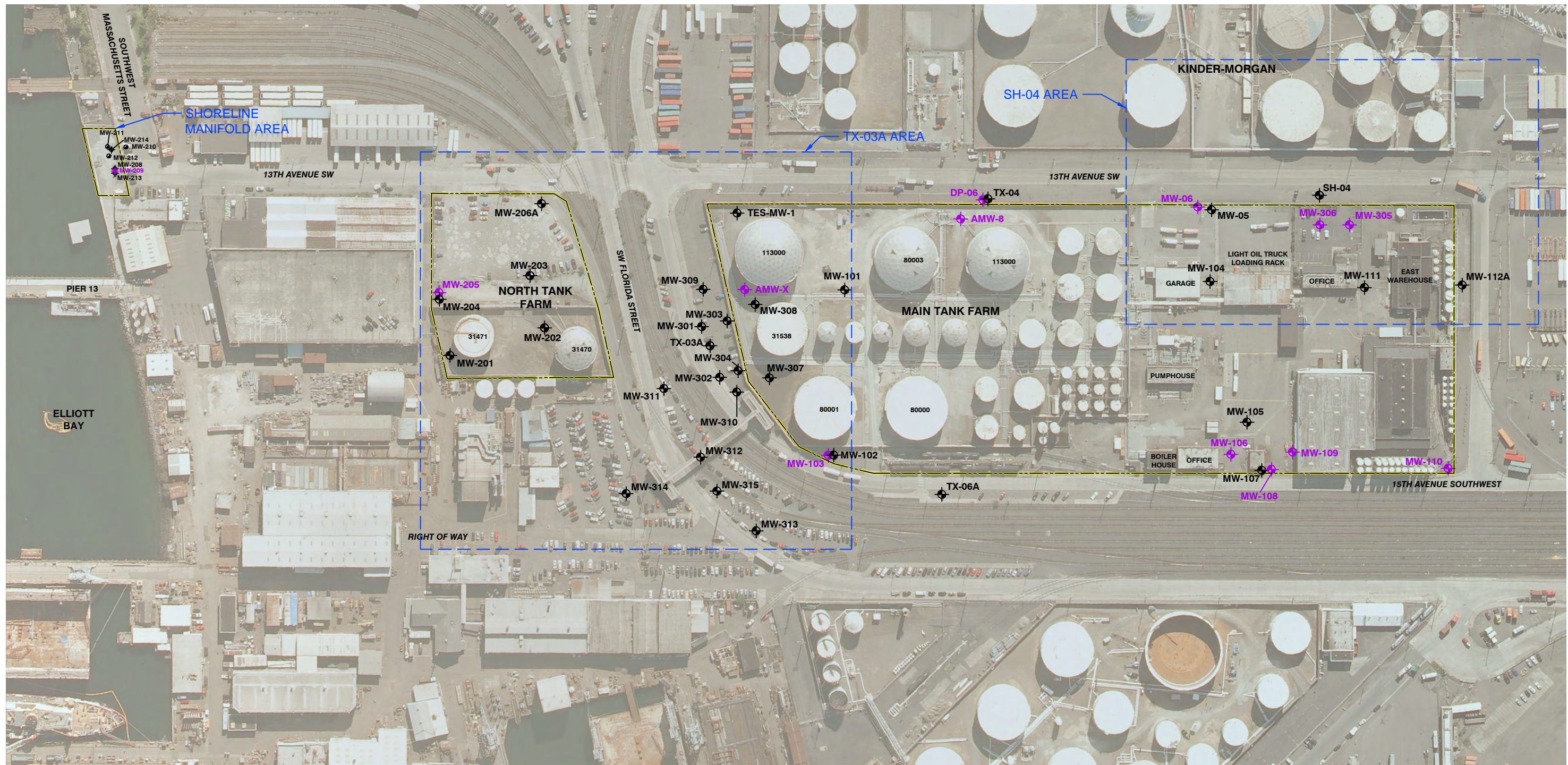
SOURCE: SEATTLE SOUTH, WASHINGTON USGS TOPOGRAPHIC QUADRANGLE 1983.

SITE VICINITY MAP

SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON

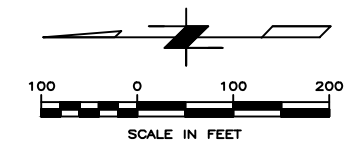
FIGURE 1





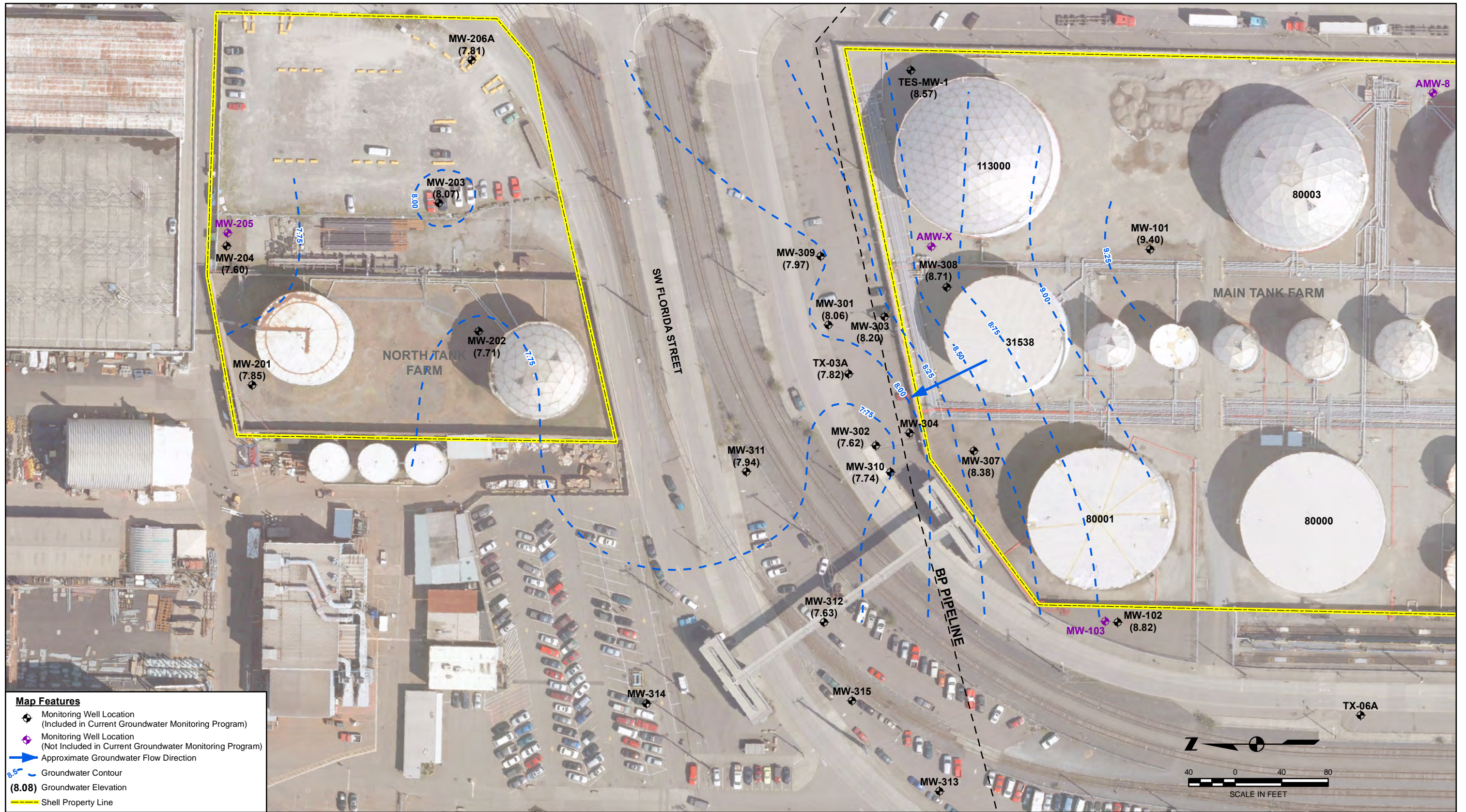
Map Features

- MW-212 Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- MW-210 Product Recovery / Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- MW-103 Monitoring Well Location (Not Included in Current Groundwater Monitoring Program)
- Shell Property Line



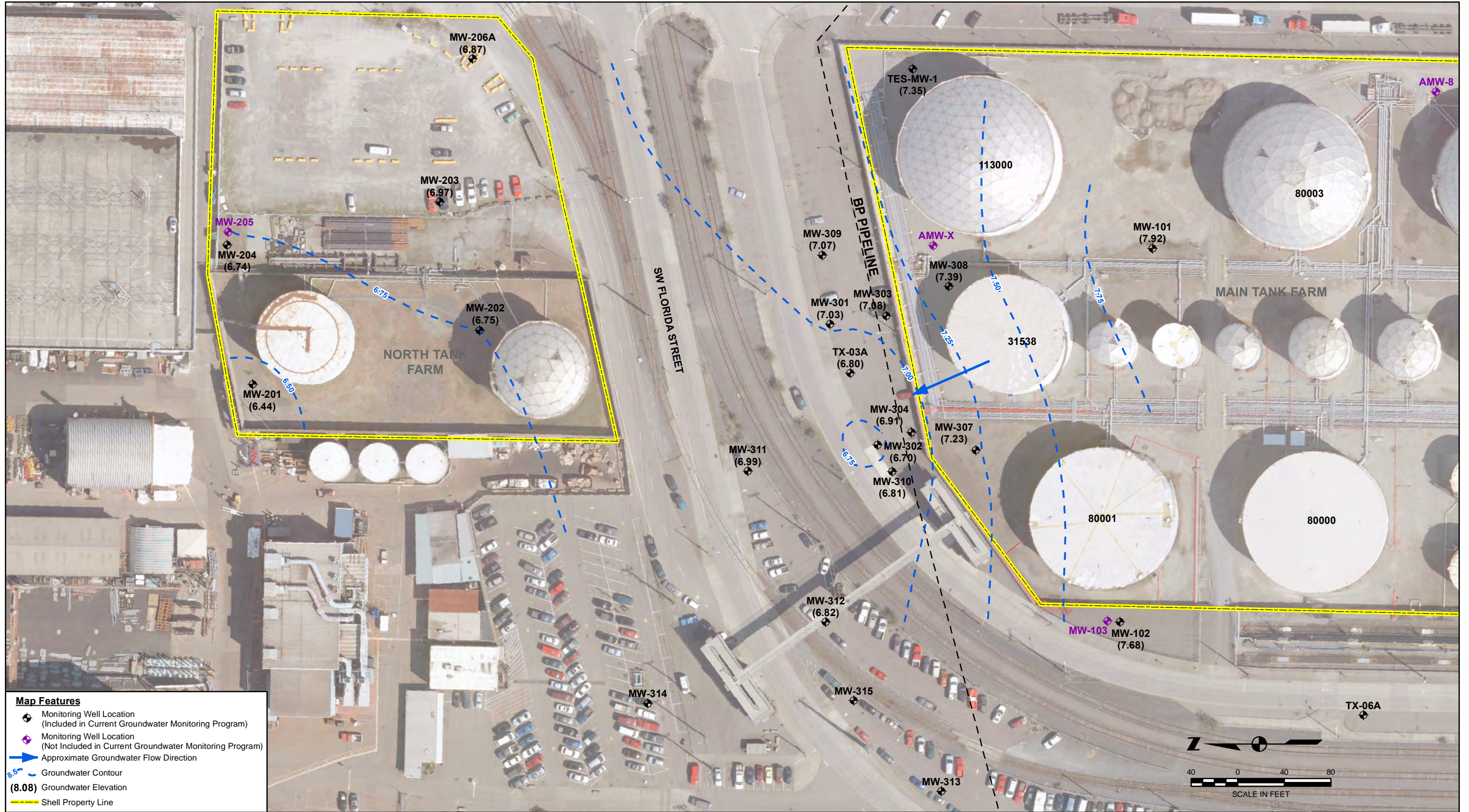
SITE MAP
SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON

FIGURE 2



TX-03A AREA GROUNDWATER SURFACE CONTOUR MAP – FEBRUARY 2016

SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON



Map Features

- ◆ Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- ◆ Monitoring Well Location (Not Included in Current Groundwater Monitoring Program)
- ➔ Approximate Groundwater Flow Direction
- 6.75 Groundwater Contour
- (8.08) Groundwater Elevation
- Shell Property Line

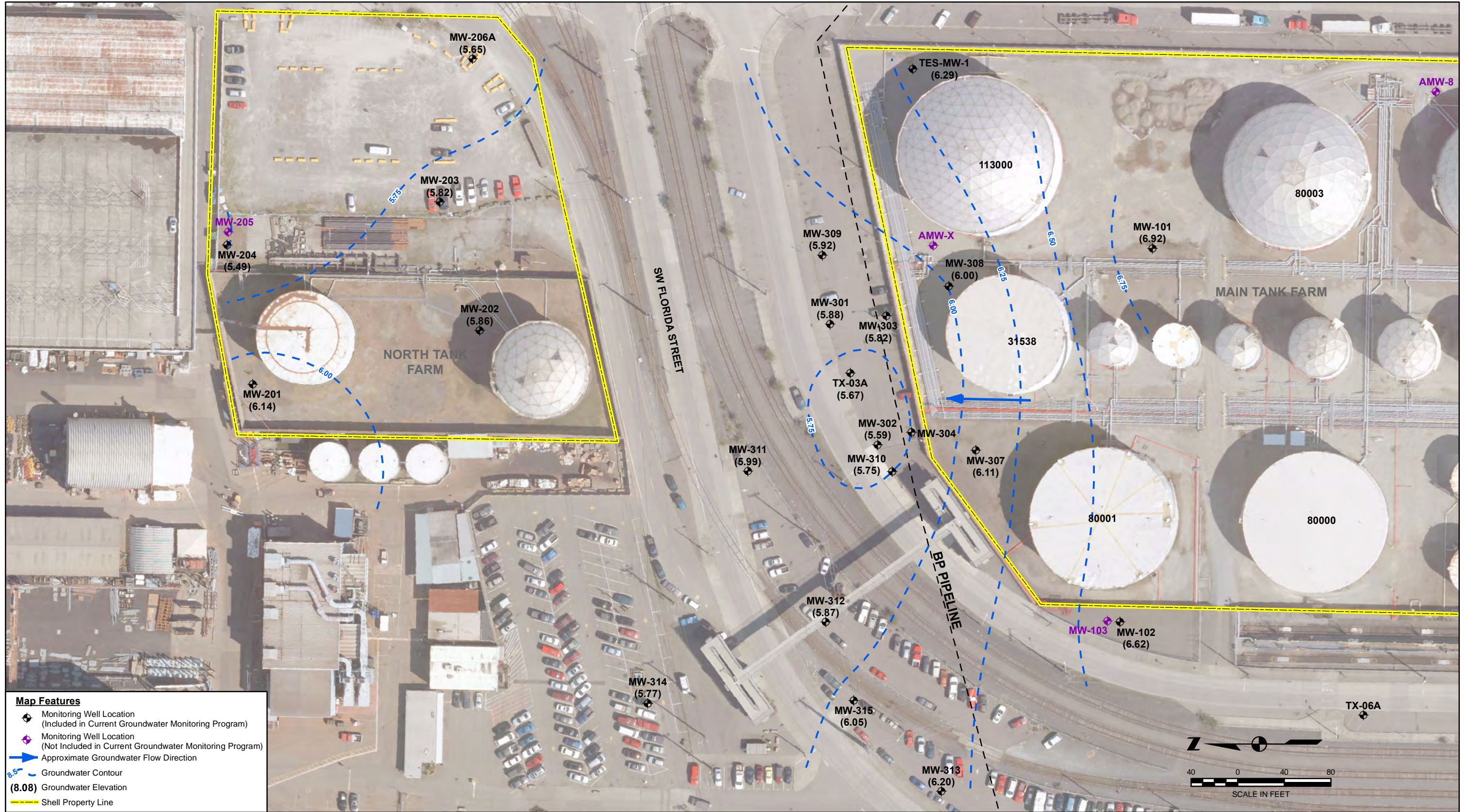
Source: USGS, 2012.

TX-03A AREA GROUNDWATER SURFACE CONTOUR MAP – MAY 2016

SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON



FIGURE 4



Map Features

- ◆ Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- ◆ Monitoring Well Location (Not Included in Current Groundwater Monitoring Program)
- ➔ Approximate Groundwater Flow Direction
- 6.00 Groundwater Contour
- (8.08) Groundwater Elevation
- Shell Property Line



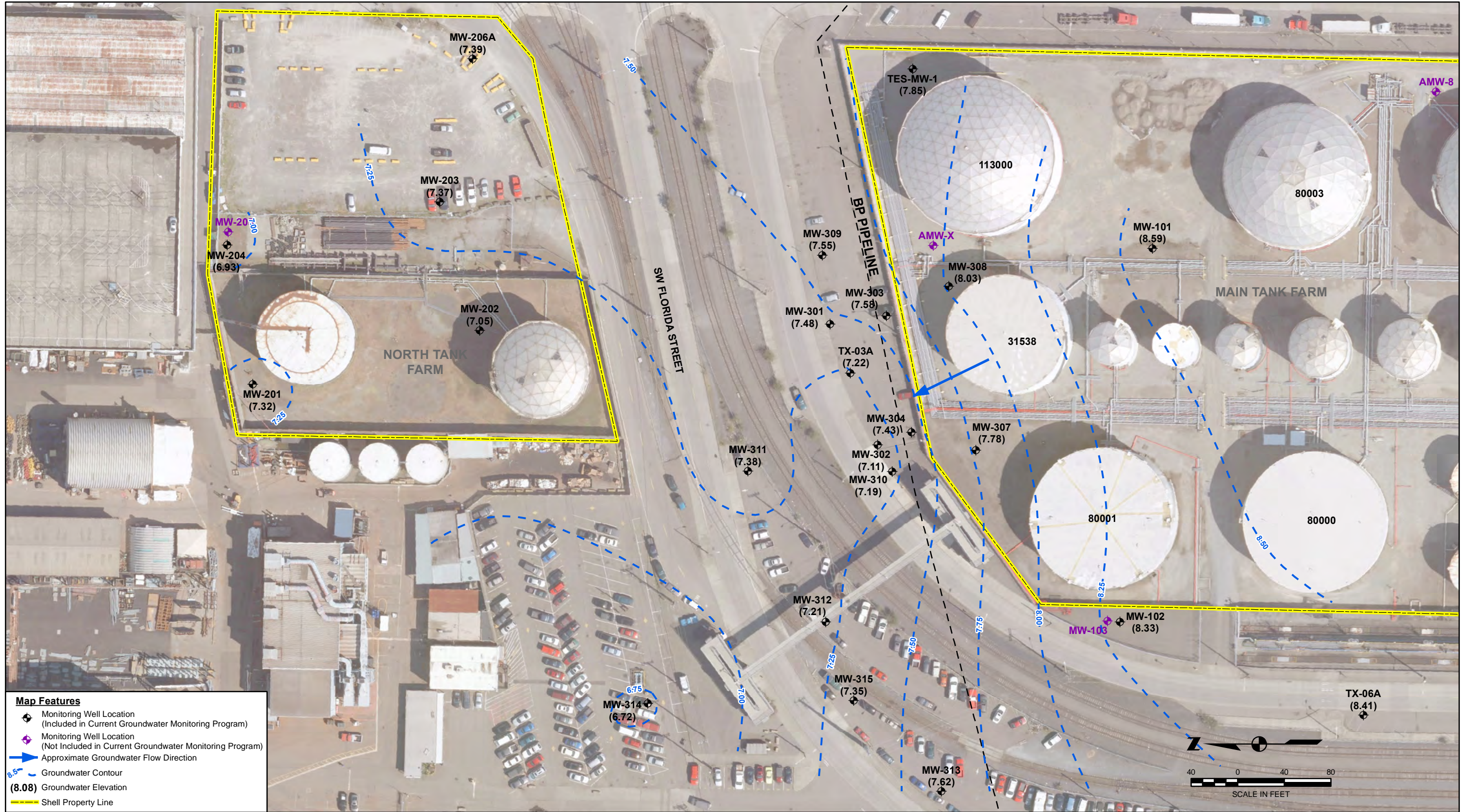
Source: USGS, 2012.

TX-03A AREA GROUNDWATER SURFACE CONTOUR MAP – AUGUST 2016

SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON



FIGURE 5



Map Features

- ◆ Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- ◆ Monitoring Well Location (Not Included in Current Groundwater Monitoring Program)
- ➔ Approximate Groundwater Flow Direction
- 8.08 Groundwater Contour
- (8.08) Groundwater Elevation
- Shell Property Line

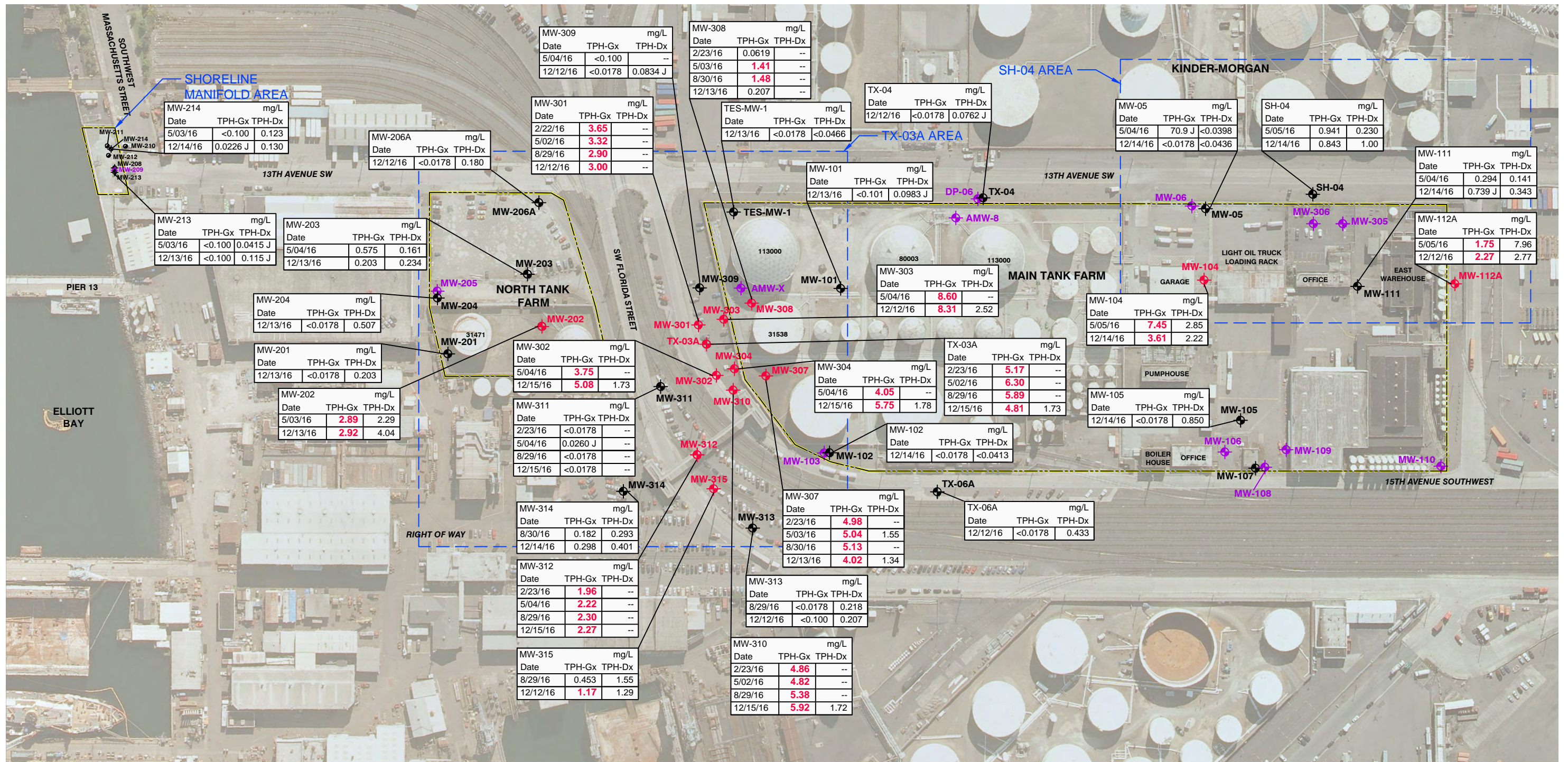
Source: USGS, 2012.

TX-03A AREA GROUNDWATER SURFACE CONTOUR MAP – DECEMBER 2016

SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON



FIGURE 6



Map Features

- MW-212 Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- MW-210 Product Recovery / Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- MW-103 Monitoring Well Location (Not Included in Current Groundwater Monitoring Program)
- MW-315 Monitoring Well Location (with Gasoline Detection above the Cleanup Level)
- Shell Property Line

Analyte	
TPH-Gx	Gasoline
TPH-Dx	Diesel

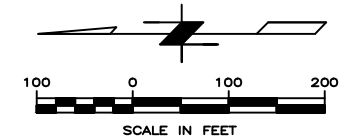
mg/L Milligrams per Liter

RED Indicates Detected Concentration Greater than Cleanup Level

< Not Detected at or above the Method Detection Limit

-- Not Analyzed

J Reported Value is Estimated

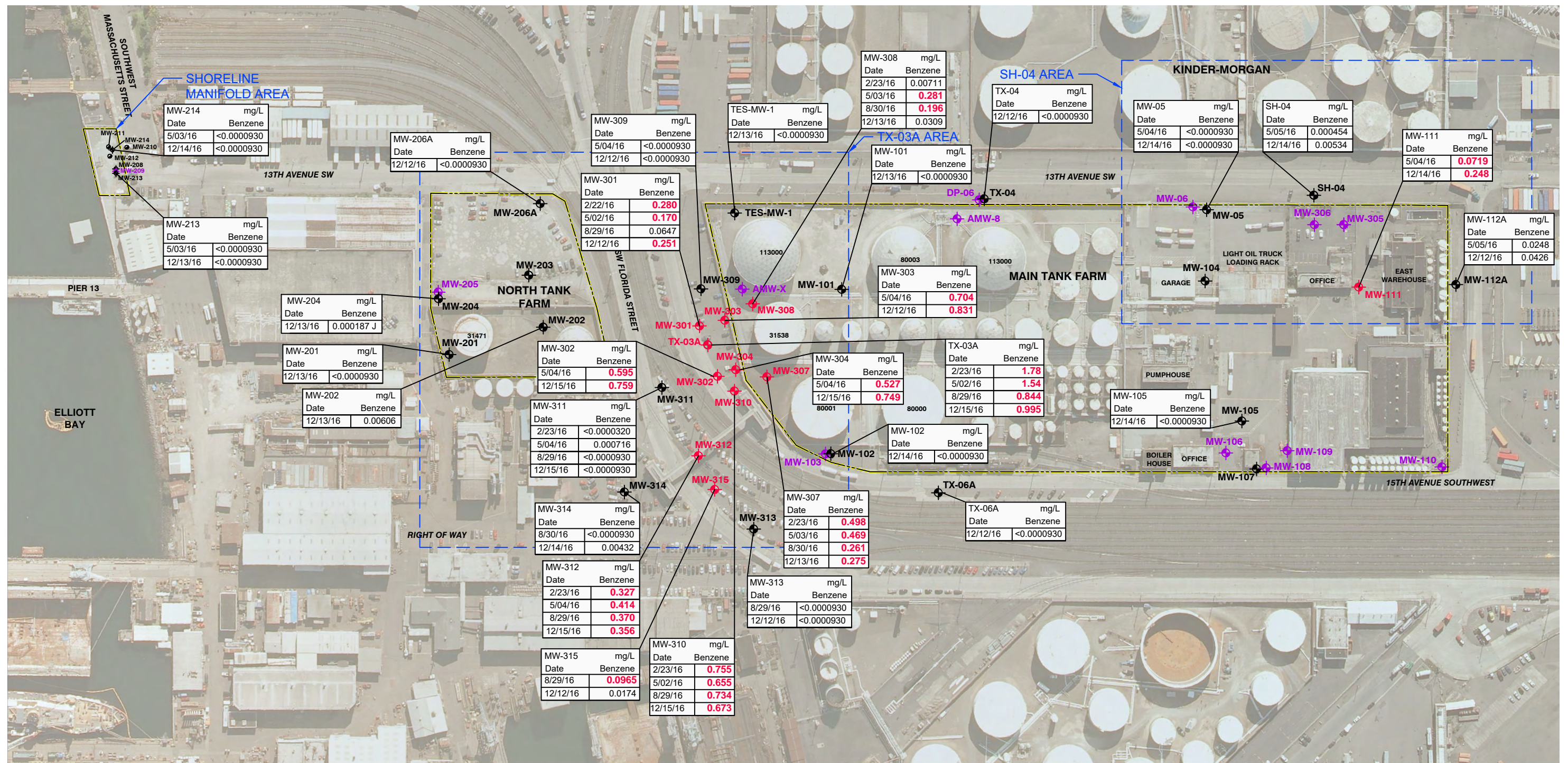


GASOLINE AND DIESEL CONCENTRATIONS - 2016

SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON

FIGURE 7





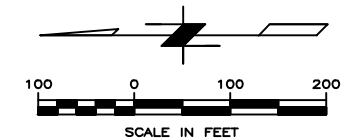
Map Features

- MW-212 Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- MW-210 Product Recovery / Monitoring Well Location (Included in Current Groundwater Monitoring Program)
- MW-103 Monitoring Well Location (Not Included in Current Groundwater Monitoring Program)
- MW-315 Monitoring Well Location (with Gasoline Detection above the Cleanup Level)
- Shell Property Line

Benzene Cleanup Level = 0.071 mg/L

mg/L Milligrams per Liter

- RED** Indicates detected Concentration Greater than Cleanup Level
- < Not Detected at or above the Method Detection Limit
- Not Analyzed
- J Reported Value is Estimated



BENZENE CONCENTRATIONS - 2016

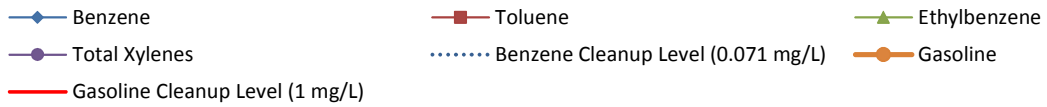
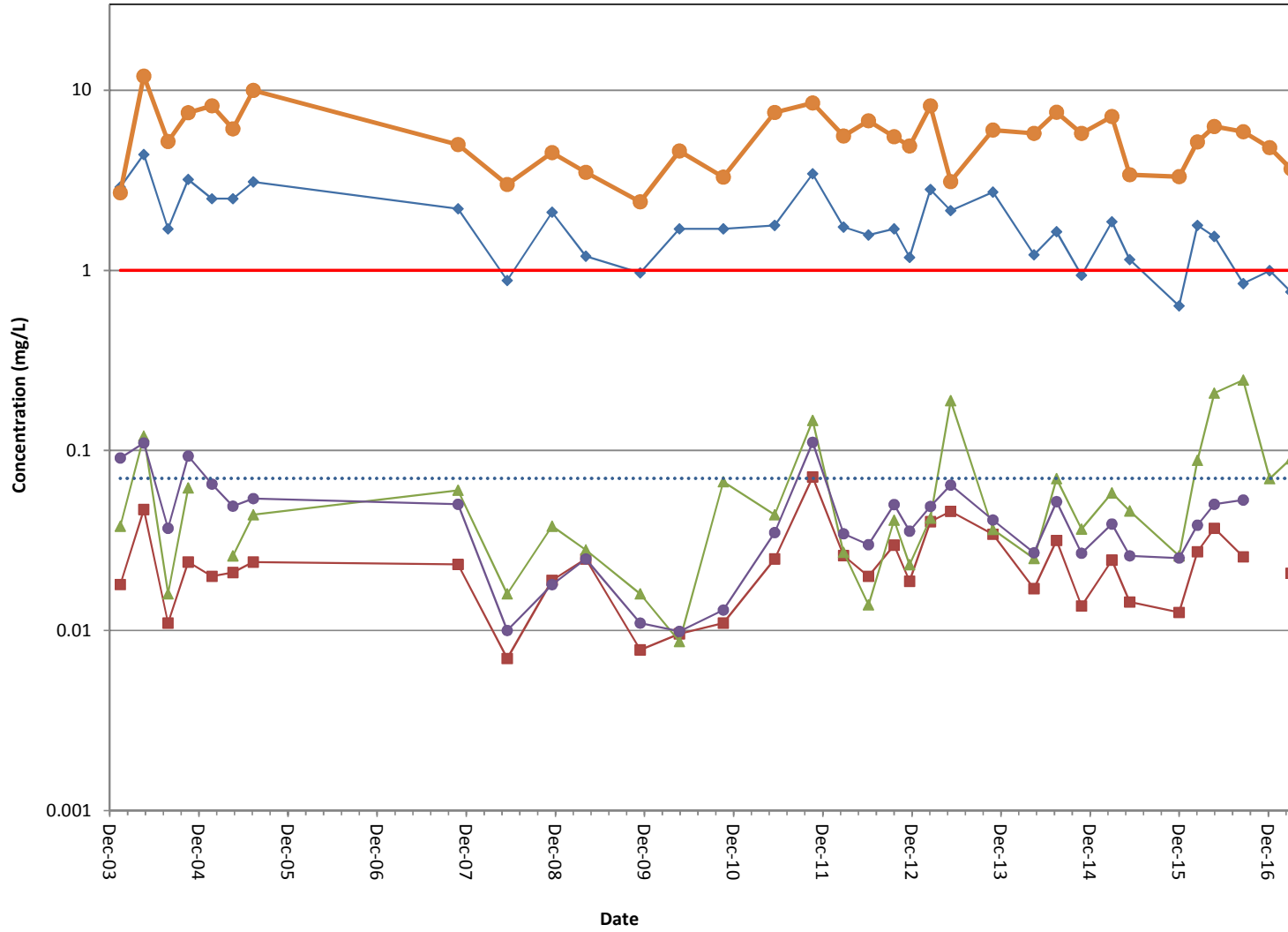
SHELL HARBOR ISLAND TERMINAL
ANNUAL COMPLIANCE MONITORING REPORT
SEATTLE, WASHINGTON



FIGURE 8

Figure 9: TX-03A Area Monitoring Well TX-03A BTEX and Gasoline Concentrations

Shell - Harbor Island Terminal



Appendix A

Field Sampling Data Sheets



Monitoring Well Gauging Field Log- Shoreline

Date: 2/23/16
Job No.: 60411076
SAP: 3547032
Incident No 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: MARK TAUSCHER

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	1052	4.18	-	
MW-210 212	1053	4.38	-	socks dirty, but not really stinky with potato water Absorbant Sock - replaced
MW-211	1051	4.45	-	
MW-212 210	1110	5.82	5.23	very oily sock Absorbant Sock - replaced



Monitoring Well Gauging Field Log- Shoreline

Date: 4/22/16
Job No.: 60411076
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel:

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	0820	4.90	—	
MW-210	0826	5.96	5.83	<i>replaced sock</i> Absorbant Sock
MW-211	0824	4.67	—	
MW-212	0822	5.37	—	<i>replaced sock</i> Absorbant Sock



Monitoring Well Gauging Field Log- Shoreline

Date: 5/3/16
Job No.: 60411076
SAP: 3547032
Incident No 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: MARK TAUSCHER

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	1615	5.27	—	
MW-210	1622	6.42	6.19	sock changed Absorbant Sock
MW-211	1617	5.63	—	
MW-212	1619	6.00	—	Clean sock left in place Absorbant Sock

ALL caps removed @ ~1400 socks/baskets removed at that time. left to recover



Monitoring Well Gauging Field Log- Shoreline

Date: 6-2-16
Job No.: 60411076
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel:

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	0824	5.34	—	
MW-210	0838	6.44	—	strong odor changed sock Absorbant Sock
MW-211	0835	5.77	—	
MW-212	0833	6.18	—	changed sock Absorbant Sock



Monitoring Well Gauging Field Log- Shoreline

Date: 7-14-16
Job No: 60411076
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: Dave Lewis

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	0912	5.58	—	
MW-210	⁰⁹¹⁹ 0912	6.67	—	replaced sock Absorbant Sock
MW-211	0918	6.02	—	
MW-212	0916	6.27	—	Replaced Sock Absorbant Sock



Monitoring Well Gauging Field Log- Shoreline

Date: 8/18/16
Job No.: 60411076
SAP: 3547032
Incident No 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: TAUSCHER

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	1342	5.80	-	
MW-210	1352	6.78		NO Product detected - Petro odor moderate - changed sock Absorbant Sock
MW-211	1345	6.16	-	
MW-212	1348	6.44		NO sock Fuel detected - sock clean Absorbant Sock left in place

High TIDE
Conditions



Monitoring Well Gauging Field Log- Shoreline

Date: 9/8/16
Job No: ~~60411976~~
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: Dave Lewis

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW 208	0938	5.88	—	
MW-210	0944	6.78	—	strong odor replaced sock Absorbant Sock
MW-211	0940	6.22	—	
MW 212	0942	6.55	—	replaced sock Absorbant Sock



Monitoring Well Gauging Field Log- Shoreline

Date: 10/21/16
Job No: 60411076
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: Dave Lewis

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	0759 0855	5.40	—	
MW-210	0809	6.32	trace	replace sock Absorbant Sock
MW-211	0759 0804	6.01	—	
MW-212	0759 0859	6.10	—	replace sock Absorbant Sock



Monitoring Well Gauging Field Log- Shoreline

Date: 11-17-16
Job No: 60411076
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: Dave Lewis

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW 208	0814	3.67	—	
MW 210	0820	5.43	4.49	replace sock Absorbant Sock
MW 211	0818	3.86	—	
MW 212	0816	4.68	—	replace sock Absorbant Sock



Monitoring Well Gauging Field Log- Shoreline

Date: 12-1-16
Job No.: 60411076
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: Dave Lewis

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-208	0817	3.93	—	
MW-210	0826	6.00	4.94	change sock Absorbant Sock
MW-211	0820	4.14	—	
MW-212	0823	4.88	—	change sock Absorbant Sock



Monitoring Well Gauging Field Log

Date: 2/23/16
Job No.: 49241236
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: MARK TAUSCHER

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-101	0948	8.81	-	
MW-102	1135	6.78	-	
MW-201	1157	12.33	-	
MW-202	1200	12.15	-	
MW-203	1205	5.92	-	
MW-204	1155	9.67	-	
MW-206A	1206	8.09	-	
MW-301	1223	4.50	-	
MW-302	1229	5.23	-	
MW-303	1221	4.44	-	
MW-304	-	-	-	RV PARKED ON WELL
MW-307	0812	7.24	-	
MW-308	0858	6.88	-	
MW-309	1219	4.70	-	
MW-310	1227	5.77	-	
MW-311	1249	6.97	-	
MW-312	1238	6.68	-	
TES-MW-1	0945	7.58	-	
TX-03A	1225	4.44	-	



Monitoring Well Gauging Field Log

Date: 5/3/16
Job No.: 49241236
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: MARK TAUSCHER

Covered
by truck

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-101	1027	10.29	-	
MW-102	1637	7.92	-	
MW-201	1243	13.74	-	
MW-202	1146	13.11	-	
MW-203	1252	7.02	-	
MW-204	1247	10.53	-	
MW-206A	1254	9.03	-	
MW-301	1307	5.53	-	
MW-302	1317	6.15	-	
MW-303	1448	5.56	-	5/4/16
MW-304	1318	5.79	-	Petro odor - slight
MW-307	0826	8.39	-	
MW-308	0920	8.20	-	
MW-309	1309	5.60	-	
MW-310	1311	6.70	-	
MW-311	1326	7.92	-	
MW-312	1323	7.49	-	
TES-MW-1	1024	8.80	-	
TX-03A	1308	5.46	-	



Monitoring Well Gauging Field Log

Date: 8/30/16
Job No.: 60483182
SAP: 3547032
Incident No: 300036
Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
Personnel: MARK TAUSCHER

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-101	0957	11.29	-	
MW-102	1009	8.98	-	
MW-201	1013	14.04	✓	
MW-202	1014	14.00	-	
MW-203	1019	8.17	✓	
MW-204	1016	11.78	-	
MW-206A	1021	10.25	✓	
MW-301	1025	6.68	-	
MW-302	1029	7.26	✓	
MW-303	1030	6.82	✓	
MW-304	-	-	-	Covered by car
MW-307	0912	9.51	-	
MW-308	0812	9.59	-	
MW-309	1031	6.75	-	
MW-310	1028	7.76	-	
MW-311	1040	8.92	✓	
MW-312	1039	8.44	-	
MW-313	1046	7.05	-	
MW-314	1130	7.72	✓	
MW-315	1049	8.56	✓	
TES-MW-1	0955	9.86	-	
TX-03A	1027	6.59	-	



Monitoring Well Gauging Field Log

Date: 12/14/16
 Job No.: 60483182
 SAP: 3547032
 Incident No: 300036
 Location: 2555 13th Ave SW Seattle (Harbor Island Terminal)
 Personnel: MARK TAUSCHER

Well ID	Time Gauged	Depth to Water	Depth to Product	Comments
MW-101	1236	9.62	-	
MW-102	0807	7.27	-	
MW-201	1332	12.86	-	
MW-202	1330	12.81	-	
MW-203	1336	6.62	-	
MW-204	1334	10.34	-	
MW-206A	1336	8.51	-	
MW-301	1343	5.08	-	
MW-302	1354	5.74	-	
MW-303	1346	5.06	-	
MW-304	1355	5.27	-	
MW-307	1232	7.84	-	
MW-308	1230	7.56	-	
MW-309	* 1115	5.12	-	* Covered by van - DTW from 12/12/16
MW-310	1356	6.32	-	
MW-311	1309	7.53	-	
MW-312	1306	7.10	-	
MW-313	1311	5.63	-	
MW-314	0735	6.77	-	
MW-315	1313	7.26	-	
TES-MW-1	1227	8.30	-	
TX-03A	1351	5.04	-	
2nd and 4th Quarters only				
MW-05	1125	4.78	-	
MW-111	0937	4.04	-	
MW-112A	12.54	5.69	-	
SH-04	0836	8.34	-	
MW-213	1314 ¹³¹⁷	5.63 ^{5.22}	-	TIME 1317 DTW = 5.22
MW-214	1305	5.58	-	
4th Quarter Only				
MW-105	1037	4.15	-	
TX-04	1252	8.97	-	
TX-06A	1255	3.26	-	

MW-104 0950 4.78 -

Monitoring Well Sampling Field Log

Well Number: **MW-301**
Date: **2/22/16**

Page 1 of ____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13'
Flow-Thru h Cell:	YD1 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Overcast 50°
Comments:	
Initial DTW: 4.50	
HANNA TURBIDITY METER	

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5-15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
VOA ↔	2 1	HCL	BTX	N
VOA ↔	2 1	HCL	GHX	N

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1038	Pump On		Initial 4.50		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria	
1040	0	200	4.50	12.65	479	4.07	6.23	-78.6	24.2	AC	
1045	1	200	4.50	12.51	457	0.81	6.27	-106.4	16.1	Clear	
1050	2	200	4.50	12.39	451	0.60	6.36	-114.9	15.8	Clear	
1055	3	225	4.50	12.21	447	0.47	6.57	-128.4	15.9	Clear	
1100	4.5	225	4.50	12.39	446	0.44	6.52	-126.0	15.7	Clear	
1105	5.5	225	4.50	12.42	449	0.35	6.57	-130.1	15.9	Clear	
1110	6.5	225	4.50	12.32	449	0.34	6.50	-127.1	15.1	Clear	
1115	SAMPLE										
Start Sampling			1115								
End Sampling			1117	Sample Number:	MW-301				Sample Time:	1115	
			Final 4.50								

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-307**
 Date: **2/23/16**

Page 1 of _____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disinfectable materials
Purge Water Disposal:	On site treatment
Field Conditions:	SUNNY 45°
Comments:	
Initial DTW: 7.24	
HANNAU TURBIDITY METER	

Well Information		Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen
	(ft bgs)	(ft btc)	(ft bgs) (ft btc)
2	15		5
Screen Interval (ft bgs)			
5 - 15			

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	BTEX	N
1	VOA	HCL	GVX	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0812	Pump On		7.24 ^{Initial}	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
0815	0	250	7.40	10.66	223	3.16	6.04	2.4	31.6	AC
0820	1.25	250	7.36	10.48	222	0.77	6.01	-26.6	24.3	AC
0825	2.50	250	7.37	10.37	214	0.39	6.12	-53.1	17.6	clear
0830	3.75	250	7.36	10.43	217	0.37	6.15	-57.8	14.5	clear
0835	5.0	250	7.34	10.36	222	0.29	6.20	-64.6	12.7	clear
0840	6.25	250	7.32	10.37	223	0.28	6.20	-66.9	11.1	clear
0845	7.5	250	7.32	10.43	225	0.27	6.21	-68.9	9.98	clear
0850	SAMPLE									
Start Sampling			0850							
End Sampling			0853							
				7.32 ^{Final}	Sample Number: MW-307		Sample Time: 0850			

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-308**

Page 1 of

Date: **2/23/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Diposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	SUNNY 50°
Comments:	
Initial DTW:	6.88
HANNAH TURBIDITY METER	

Well Information		Stick-up or Flush (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
1	VOA	HCL	BTEX	N	
1	VOA	HCL	GHX	N	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0858	Pump On		Initial 6.88		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
0900	0	250	7.25	10.46	638	5.68	6.40	-29.1	17.6	Clear
0905	1.25	250	7.15	10.29	631	0.64	6.64	-34.3	14.8	Clear
0910	2.50	250	7.13	10.20	636	0.49	6.68	-33.2	13.9	Clear
0915	3.25	250	7.12	10.18	644	0.41	6.73	-33.9	12.7	Clear
0920	4.75	250	7.13	10.14	649	0.36	6.75	-34.5	-	Clear
0925	5.0	250	7.13	10.14	653	0.35	6.76	-35.0	10.4	Clear
0930	6.25	250		10.09	657	0.32	6.78	-36.3	9.17	Clear
0935	SAMPLE									
Start Sampling		0935								
End Sampling		0938		Sample Number: MW-308			Sample Time: 0935			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-310**
 Date: **2/22/16**

Page 1 of ____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 55°
Comments:	
Initial DTW:	5.78
HANNAH TURBIDITY METER	

Well Information		Stick-up or Flush (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				
Number	Type	Preservative	Analytical Parameters	Filtered?
1	VOA	HCL	BTEX	N
1	VOA	HCL	Cr	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1258	Pump On		^{Initial} 5.78	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1300	0	250	5.82	11.79	393	2.15	6.21	-46.2	10.4	AC
1305	1.25	250	5.82	11.79	392	0.66	6.20	-73.4	10.7	clear
1310	2.50	250	5.82	11.78	376	0.51	6.32	-87.8	3.71	clear
1315	3.75	250	5.81	11.68	359	0.36	6.35	-92.6	5.56	clear
1320	5	250	5.81	11.71	358	0.35	6.38	-96.4	4.20	clear
1325	6.25	250	5.80	11.72	358	0.31	6.40	-98.1	3.81	clear
1330	7.5	250	5.80	11.72	358	0.29	6.40	-98.5	3.83	clear
1335	SAMPLE									
Start Sampling			1335							
End Sampling			1338	Sample Number:	MW-310	Sample Time:	1335			
			^{Final} 5.80							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of ____

Mw-311

Well Number: **Mw-311**
Date: **2/22/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Thru h Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 55°
Comments:	
Initial DTW: 6.98	
HANNAH TURBIDITY METER	

Well Information			Stick-up or Flush (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				
Number	Type	Preservative	Analytical Parameters	Filtered?
1	VOA	HCL	ISTEX	N
1	VOA	HCL	GV	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1348	Pump On		6.98 ^{Initial}		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1350	0	250	7.02	13.65	655	9.19	6.22	-56.0	6.32	clear
1355	1.25	250	7.03	13.83	632	0.48	6.38	-89.9	5.73	clear
1400	2.50	250	7.03	13.83	606	0.36	6.40	-95.1	5.10	↓ clear
1405	3.75	250	7.03	13.85	586	0.32	6.43	-98.8	4.97	
1410	5	250	7.02	13.84	586	0.28	6.45	-101.6	4.36	
1415	6.25	250	7.02	13.84	583	0.26	6.45	-103.1	4.19	
1420	SAMPLE									
MT										
Start Sampling			1420							
End Sampling			1425	Sample Number: Mw-311			Sample Time: 1420			
			7.02 ^{Final}							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-312**
 Date: **2/23/16**

Page 1 of ____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	SUNNY 55°
Comments:	
Initial DTW:	6.68

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				
Number	Type	Preservative	Analytical Parameters	Filtered?
1	VOA	HCL	BTEX	2
1	VOA	HCL	CIX	2

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1238	Pump On		Initial 6.68		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria	
1240	0	250	6.72	13.64	590	7.42	6.76	-38.9	51.3	cloudy	
1245	1.25	250	6.70	13.66	615	0.77	6.64	-98.0	21.8	Ac	
1250	2.5	250	6.70	13.67	609	0.51	6.64	-107.5	14.1	clear	
1255	3.75	250	6.71	13.73	596	0.29	6.65	-113.4	10.4	clear	
1300	5.0	250	6.71	13.69	583	0.25	6.65	-113.8	9.99	clear	
1305	6.25	250	6.71	13.70	577	0.22	6.65	-114.3	9.17	clear	
1310	7.5	250	6.71	13.69	578	0.22	6.63	-113.5	8.84	clear	
1315	SAMPLE										
Start Sampling			1315								
End Sampling			1320	Sample Number:	MW-312			Sample Time:	1315		
			Final 6.72								

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **TX-03A**

Page 1 of ____

Date: **TX-03A 2/22/11**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	14
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Overcast 50°
Comments:	
Initial DTW:	4.45
HANNAH TURBIDITY METER	

Well Information			Stick-up or Flush (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	16		6		6 - 16

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				
Number	Type	Preservative	Analytical Parameters	Filtered?
1	VOA	HCL	BTX	N
1	VOA	HCL	Cr	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1137	Pump On		Initial 4.45	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria	
1140	0	250	4.45	12.61	467	2.89	6.32	-77.6	9.06	Clear	
1145	1.25	250	4.47	12.80	476	0.57	6.36	-101.8	8.87	Clear	
1150	2.5	250	4.47	12.79	480	0.51	6.36	-104.4	8.78	Clear	
1155	3.75	250	4.47	12.77	482	0.41	6.37	-107.1	10.2	Clear	
1200	5.0	250	4.47	12.77	484	0.33	6.39	-107.1	9.91	Clear	
1205	6.25	250	4.47	12.63	482	0.31	6.31	-106.5	7.19	Clear	
1210	7.50	250	4.48	12.73	484	0.30	6.34	-109.1	7.22	Clear	
1215	SAMPLE										
Start Sampling			1215								
End Sampling			1218	Sample Number:	TX-03A			Sample Time:	1215		

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: MW-104
 Date: 5/5/16

Page 1 of _____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	Y21 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 70°
Comments:	
Initial DTW:	5.20
changed 2 plug	

Well Information			Stick-up or <u>Flush</u> (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	14.5		5		5 - 14.5
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					
Number	Type	Preservative	Analytical Parameters		Filtered?
VOL	3	HCL	GIX		
250 AMB	1	HCL	DX		
250 POLY	1	HNO3	LEAD		

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0933	Pump On		^{Initial} 5.20	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	← Stabilization Criteria
0935	0	200	5.23	17.17	448	7.27 ↓	6.34	-55.1	41.8	cloudy
0940	1	200	5.24	16.94	443	2.36	5.98	-62.2	22.2	AC
0945	2	200	5.24	16.92	440	1.42	6.07	-78.8	16.4	AC
0950	3	200	5.24	16.98	432	1.12	6.14	-89.5	9.09	clear
0955	4	200	5.24	17.05	422	0.89	6.18	-96.9	8.89	clear
1000	5	200	5.24	17.11	419	0.80	6.19	-100.8	5.88	"
1005	6	200	5.25	17.12	423	0.69	6.19	-103.7	4.47	"
1010	7	200	5.25	17.11	421	0.68	6.19	-104.8	4.41	"
1015	8	200	5.25	17.11	420	0.65	6.19	-105.1	4.31	clear
1020	SAMPLE									
Start Sampling			1020							
End Sampling			1029	Sample Number: MW-104			Sample Time: 1020			
			^{Final} 5.25							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of ____

Well Number: **MW-202**
Date: **5/3/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Diposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	SUNNY 70°
Comments:	
Initial DTW:	13.11 BTCL
<p>-NOTE - many small black particles in suspension in water to start</p>	

Well Information		Stick-up or Flush (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth	Top of Screen		Screen Interval	
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	(ft bgs)
2	14.5	5		5 - 14.5	
<p>CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft</p>					

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	GX	N	
1	250 AMB	HCL	DX	N	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1146	Pump On		13.11 ^{Initial}		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1150	0	200	13.21	14.98	318	1.34	6.13	7.1	45.6	Turbid
1155	1	200	13.30	14.85	296	0.34	6.00	-15.2	36.6	"
1200	2	200	13.30	16.33	297	0.19	6.11	-38.3	45.4	"
1205	3	200	13.31	15.29	290	0.16	6.14	-46.5	41.2	"
1210	4	200	13.32	15.17	251	0.45	6.07	-27.4	20.0	AC
1215	5	200	13.32	15.85	235	0.44	6.17	-41.7	14.1	Clear
1220	6	200	13.33	15.83	234	0.40	6.20	-43.5	17.4	Clear
1225	7	200	13.32	15.89	233	0.39	6.21	-44.8	17.2	Clear
1230	8	200	13.31	15.95	232	0.36	6.20	-45.6	16.9	Clear
1235	SAMPLE									
Start Sampling			1235							
End Sampling			1239							
			13.29 ^{Final}	Sample Number:		MW-202		Sample Time:		1235

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: MW-203
Date: 5/4/16

Page 1 of ____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 60°
Comments:	
Initial DTW:	7.06
Duplicate collected	

Well Information			Stick-up or Flush (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)	
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)		
2	14.5		5		5 - 14.5	
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft						
Sample Containers						Filtered?
Number	Type	Preservative	Analytical Parameters			
3	VOA	HCL	CIX			N
1	250 AMB	HCL	DX			N

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
0750			Initial								
0755	Pump On				±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	↔ Stabilization Criteria	
0800	0	200	8.89	12.83	273	5.87	7.31	-99.9	46.1	AC	
0805	1	150	9.02	12.84	258	5.76	6.92	-92.7	36.6	AC	
0810	1.75	150	9.58	12.95	257	5.69	6.71	-101.7	15.0	clear	
0815	2.4	125	9.51	13.02	260	5.65	6.58	-97.0	23.5	clear	
0820	3	125	9.76	12.99	256	5.52	6.50	-102.9	15.5	clear	
0825	3.6	125	9.74	13.03	257	5.34	6.48	-103.4	19.3	clear	
0830	4.2	120	9.73	12.93	264	5.01	6.44	-107.9	15.9	clear	
0835	4.8	120	9.74	12.95	265	4.96	6.43	-107.9	16.2	clear	
0840	5.4	120	9.73	12.93	266	4.91	6.42	-108.0	14.5	clear	
0840	SAMPLE										
Start Sampling			0840	MW-203-DUP							
End Sampling			0847	Sample Number:			MW-203	Sample Time: 0840			
Final											

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of ____

Well Number: **MW-301**
Date: **5/2/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI-356
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 80°
Comments:	
Initial DTW:	5.00 ^{MT} 5.50

Well Information				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOA	HCL	BTEX, Crx	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1245	Pump On		Initial							
1248	0	200	5.57	17.91	272	4.88 ↓	6.37	-50.2	29.3	<= Stabilization Criteria
1253	1	200	5.56	17.75	262	0.48	6.62	-76.7	22.1	clear
1258	2	200	5.56	17.28	252	0.34	6.35	-95.5	12.0	clear
1303	2.8	160	5.56	17.24	250	0.31	6.42	-105.3	8.14	clear
1308	3.6	160	5.55	17.57	253	0.31	6.57	-117.2	7.93	clear
1313	4.4	160	5.55	17.55	254	0.30	6.59	-118.1	6.78	clear
1318	5.2	160	5.54	17.58	257	0.29	6.60	-119.6	6.74	clear
1320	SAMPLE									

Start Sampling	1320	Sample Number:	MW-301	Sample Time:	1320
End Sampling					
	Final 5.55				

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of _____

Well Number: **Mw-302**

Date: **5/4/16**

Project Information		Well Information		Stick-up or Flush (circle one)	
Project Name: Shell Harbor Island	URS Project Number: 60411076	Well Diameter (in): 2	Drilled Well Depth (ft bgs): 15	Top of Screen (ft bgs): 5	Screen Interval (ft bgs): 5 - 15
Sampling Information		CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft			
Field Team: MARK TAUSCHER	Purge Method: P-Pump	Sample Containers			
Pump Intake Depth (ft btc): 13	Flow-Through Cell: YSI 556	Number: 3	Type: VOA	Preservative: HCL	Analytical Parameters: TEXT, Crx
Sampling Method: LOW FLOW	Decontamination Method: Disposable materials				Filtered? N
Purge Water Disposal: On site treatment	Field Conditions: Overcast 60°				
Comments:	Initial DTW: 6.16				

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0902	Pump On		6.16 ^{initial}	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
0905	0	200	6.19	13.56	353	5.36	6.28	-96.8	14.5	clear
0910	1	200	6.19	13.58	356	4.57	6.37	-114.1	-	clear
0915	2	200	6.19	13.58	374	4.46	6.42	-110.2	10.7	cleaned sensors (DO is HIGH)
0920	3	200	6.19	13.50	363	4.20	6.65	-109.9	13.4	clear
0925	4	200	6.19	13.58	360	4.75	6.55	-112.2	13.9	clear
0930	5	200	6.18	13.63	365	4.90	6.56	-115.0	13.5	clear
0935	6	200	6.18	13.52	370	4.91	6.47	-114.9	3.04	clear
0940	7	200	6.18	13.60	371	4.92	6.51	-116.5	2.49	clear
0945	SAMPLE									
<i>MT</i>										
Start Sampling	0945									
End Sampling	0949									
			Final							Sample Number: MW-302
										Sample Time: 0945

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of _____

Well Number: **MW-303**
Date: **5/4/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YS1 556
Sampling Method:	LOW FLOW
Decontamination Method:	Diposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 60°
Comments:	
Initial DTW:	5.56

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	BTEX / CIX		N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1448	Pump On		Initial 5.56	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1450	0	200	5.60	12.67	216	3.47	6.56	-97.7	37.5	AC / cloudy
1455	1	200	5.59	11.80	104	2.35	6.23	-61.6	21.3	AC
1500	2	200	5.59	11.80	96	2.35	6.27	-62.4	12.1	Clear
1505	3	200	5.59	11.80	94	2.35	6.33	-66.3	9.86	Clear
1510	4	200	5.59	11.82	93	2.73	6.37	-69.8	16.2	Clear
1515	5	200	5.59	11.84	92	2.82	6.40	-72.8	10.3	Clear
1520	6	200	5.59	11.90	91	2.92	6.42	-73.9	9.31	Clear
1525	SAMPLE									
Start Sampling		1525								
End Sampling		1530	Sample Number: MW-303							
		5.59	Sample Time: 1525							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-304**
Date: **5/4/16**

Page 1 of _____

Project Information		Well Information		Stick-up or <u>Flush</u> (circle one)	
Project Name: Shell Harbor Island		Well Diameter (in): 2	Drilled Well Depth (ft bgs) (ft btc): 15		Top of Screen (ft bgs) (ft btc): 5
URS Project Number: 60411076					Screen Interval (ft bgs): 5 - 15
Sampling Information		CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft			
Field Team: MARK TAUSCHER		Sample Containers			
Purge Method: P-Pump		Number: 3	Type: VOA	Preservative: HCL	Analytical Parameters: BTEX / GX
Pump Intake Depth (ft btc): 13					Filtered? N
Flow-Through Cell: YSI 55C					
Sampling Method: LOW FLOW					
Decontamination Method: Diposable materials					
Purge Water Disposal: On site treatment					
Field Conditions: overcast 60°					
Comments:					
Initial DTW: 5.79					

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1357			Initial							<= Stabilization Criteria	
	Pump On				±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%		
1400	0	200	5.80	13.40	350	4.50 ↓	6.08	-73.2	19.9	AC	
1405	1	200	5.80	13.06	334	3.35	6.16	-90.2	14.6	AC	
1410	2	200	5.80	13.02	334	3.18	6.19	-92.8	12.5	clear	
1415	3	200	5.80	12.97	335	2.65	6.25	-96.2	9.76	clear	
1420	4	200	5.80	12.94	337	2.12	6.31	-100.1	9.43	clear	
1425	5	200	5.80	12.90	337	1.98	6.33	-101.6	9.94	clear	
1430	6	200	5.81	12.89	337	1.96	6.30	-100.5	7.33	clear	
1435	7	200	5.81	12.90	337	1.95	6.35	-103.1	6.29	clear	
1440	SAMPLE										
Start Sampling		1440									
End Sampling		1444		Sample Number: MW-304				Sample Time: 1440			
			Final								

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of ____

Well Number: **MW-307**

Date: **5/3/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13'
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Overcast 65°
Comments:	
Initial DTW:	8.39 BTOL

Well Information		Stick-up or Flush (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	BTEX, Gx		N
1	ZSO AMB	HCL	Dx		N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0826	Pump On		Initial							← Stabilization Criteria
0830	0	150	8.52	13.00	219	4.34 ↓	5.76	49.7	29.4	AC
0835	0.75	150	8.50	13.14	218	0.94	5.71	6.7	27.7	AC
0840	1.5	150	8.51	12.83	215	0.70	5.87	-27.6	20.9	clear
0845	2.25	150	8.50	12.73	214	0.53	5.94	-40.9	19.1	clear
0850	3	150	8.49	12.75	210	0.37	6.03	-53.9	12.4	clear
0855	3.75	150	8.50	12.72	210	0.38	6.05	-53.9	9.88	clear
0900	4.5	150	8.50	12.71	211	0.39	6.05	-54.0	9.27	clear
0905	SAMPLE									

Start Sampling	0905									
End Sampling	0910									
			Final							
			8.50							
Sample Number:			MW-307			Sample Time: 0905				

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface CI = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of _____

Well Number: **MW-308**
Date: **5/3/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Diposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 65°
Comments:	
Initial DTW:	8.20 BTOL

Well Information					Stick-up or Flush	(circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)		
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)			
2	15		5		5 - 15		

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOA	HCL	BTEX, Cm	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
0920	Pump On		8.20 ^{initial}	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	↔ Stabilization Criteria	
0925	0	150	8.41	13.36	522	3.85↓	6.11	-7.8	36.7	cloudy	
0930	.75	150	8.54	13.33	558	0.79	6.25	-19.8	19.7	clear	
0935	1.50	150	8.50	13.25	557	0.50	6.36	-26.4	11.1	clear	
0940	2.25	150	8.46	13.47	539	0.41	6.44	-31.7	8.36	clear	
0945	3.0	150	8.45	13.51	522	0.39	6.48	-34.8	10.2	clear	
0950	3.75	150	8.45	13.47	493	0.39	6.49	-36.1	9.77	clear	
0955	4.5	150	8.44	13.45	473	0.36	6.51	-38.1	7.26	clear	
1000	5.25	150	8.43	13.50	452	0.35	6.51	-39.4	7.25	clear	
1003	5.7	150	8.42	13.51	441	0.34	6.52	-41.3	6.99	clear	
1006	6.15	150	8.42	13.51	438	0.33	6.52	-41.6	6.95	clear	
1009	6.70	150	8.42	13.49	431	0.31	6.52	-42.7	7.44	clears	
1010	SAMPLE										

Start Sampling: 1010 End Sampling: 1014 Sample Number: MW-308 Sample Time: 1010
Final DTW: 8.42

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-309**

Page 1 of _____

Date: **5/4/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Overcast 60°
Comments:	
Initial DTW: 5.62	

Well Information		Stick-up or <u>Flush</u> (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VQA	HCL	STEX, Cr	

* Emptied cell to remove solids. Water was running clear, but fines in the cell kept turbidity high.

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1400	Pump On		^{Initial} 5.62		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1405	0	200	5.65	14.46	169	3.11	6.45	-74.2	97.1	very turbid
1410	1	200	5.65	14.83	209	2.70	6.47	-92.6	85.3	"
1615	2	200	5.65	14.83	209	2.81	6.47	-94.2	84.2	AC
1620	3	200	5.65	14.87	211	2.86	6.48	-95.7	72.4	AC * EMPTY
1625	4	200	5.65	14.87	210	2.94	6.48	-98.6	18.7	clear
1628	4.6	200	5.65	14.84	209	2.80	6.50	-101.4	13.1	clear
1631	5.2	200	5.65	14.84	208	2.80	6.50	-102.7	8.08	clear
1635	SAMPLE									

Flow through

Start Sampling **1635**
 End Sampling **1640**
 Sample Number: **MW-309**
 Sample Time: **1635**

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of _____

Well Number: **MW-310**

Date: **5/2/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 80°
Comments:	
Initial DTW:	6.69

Well Information		Stick-up <input checked="" type="radio"/> Flush <input type="radio"/> (circle one)		Screen Interval (ft bgs)
Well Diameter (in)	Drilled Well Depth (ft bgs)	Top of Screen (ft bgs)		
2	15	5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOA	HCL	BTEX, Gx	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1340	Pump On		^{Initial} 6.69	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	← Stabilization Criteria
1343	0	200	6.72	15.54	300	2.43 ↓	6.07	4.9	31.1	cloudy
1348	1	200	6.72	14.91	261	0.58	5.93	-25.2	25.7	AC
1353	2	200	6.73	16.19	273	0.45	6.03	-48.9	21.4	AC
1358	3	200	6.73	16.25	282	0.41	6.64	-66.4	10.8	clear
1403	4	200	6.72	15.84	270	0.38	6.17	-66.2	9.94	clear
1408	5	200	6.72	15.74	271	0.35	6.15	-66.8	8.73	clear
1413	6	200	6.71	15.68	270	0.34	6.18	-67.1	8.56	clear
1415	SAMPLE									

Start Sampling **1415**
 End Sampling **1420** Sample Number: **MW-310** Sample Time: **1415**
 Final DTW: **6.72**

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-311**

Date: **5/4/16**

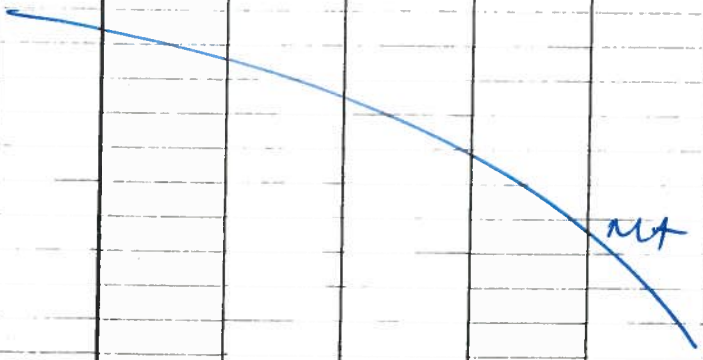
Page 1 of ____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 60°
Comments:	
Initial DTW:	7.92

Well Information				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	BTX, GIX		N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1759	Pump On		7.92							
1805	0	200	7.96	14.57	562	1.34	6.39	-101.7	21.2	clear
1810	1	200	7.95	14.51	560	1.25	6.43	-104.9	16.1	clear
1815	2	200	7.96	14.47	561	1.14	6.46	-106.3	9.88	clear
1820	3	200	7.95	14.43	563	1.10	6.48	-108.1	7.53	clear
1823	3.6	200	7.95	14.45	562	1.05	6.48	-108.4	7.19	clear
1826	4.2	200	7.95	14.42	564	1.02	6.49	-109.3	6.22	clear
1830	SAMPLE									



Start Sampling	1830	Sample Number: MW-311	Sample Time: 1830
End Sampling	1840		

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-312**

Page 1 of ____

Date: **5/4/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 60°
Comments:	
Initial DTW:	7.51

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5-15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	BTEX, Gx		N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1711	Pump On		7.51	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1715	0	200	7.60	15.01	578	6.58	6.37	-91.6	25.9	AC
1720	1	200	7.57	17.42	556	2.92	6.35	-106.3	24.3	14.72 H ₂ O
1725	2	200	7.57	14.67	543	2.57	6.49	-115.1	10.3	clear
1730	3	200	7.57	14.69	540	1.78	6.59	-120.9	7.77	clear
1735	4	200	7.57	14.71	541	1.67	6.60	-121.2	4.50	clear
1738	4.6	200	7.57	14.69	541	1.53	6.61	-121.5	4.42	clear
1741	5.2	200	7.57	14.77	540	1.29	6.64	-123.3	4.24	"
1744	5.8	200	7.57	14.79	539	1.21	6.63	-122.2	4.18	clear
1747	6.4	200	7.57	14.77	539	1.19	6.63	-122.1	4.05	clear
Start Sampling		1750								
End Sampling		1755								
Final			Sample Number:		Sample Time: 1750					

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of _____

Well Number: **TX-03A**
Date: **5-2-16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	14 Ft.
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 80°
Comments:	
Initial DTW:	5.44

Well Information			Stick-up or <u>Flush</u> (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	16		6		6 - 16
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	GTX, BTEX		N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1140	Pump On		Initial		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1145	0	200	5.45	16.99	482	2.19	6.34	-81.4	17.9	clear
1150	1	200	5.47	15.38	473	0.46	6.18	-84.1	11.2	clear
1155	2	200	5.47	15.35	471	0.45	6.19	-85.3	4.83	clear
1200	3	200	5.46	15.38	470	0.40	6.25	-90.6	4.77	clear
1205	4	200	5.47	15.22	449	0.30	6.32	-96.6	4.49	clear
1210	5	200	5.47	15.04	418	0.23	6.36	-102.9	4.31	clear
1215	6	200	5.46	15.08	418	0.22	6.36	-103.1	3.98	clear
1220	7	200	5.46	15.06	418	0.22	6.36	-103.1	3.96	clear
1225	SAMPLE									

Start Sampling: **1225**
End Sampling: **1228**
Sample Number: **TX-03A**
Sample Time: **1225**
Final DTW: **5.46**

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **Mw-05**
 Date: **5/4/16**

Page 1 of _____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Overcast 60°
Comments:	
Initial DTW:	5.22

Well Information				Stick-up or Flush (circle one)	(circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VQA	HCL	BTEX, Gtx	N
1	250 AMB	HCL	Dx	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1153	Pump On		5.22 ^{Initial}		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1155	0	200	5.29	14.65	371	5.74	6.04	86.6	63.8	cloudy
1200	1	200	5.35	14.57	372	5.32	6.00	92.9	55.5	cloudy
1205	2	200	5.35	14.36	363	5.67	7.19	54.9	62.1	AC
1210	3	200	5.35	14.34	364	4.73	6.44	69.9	41.7	AC
1215	4	200	5.35	14.35	359	4.55	6.31	62.6	38.9	AC
1220	5	200	5.35	14.36	358	4.50	6.30	60.0	31.7	AC
1225	6	200	5.35	14.36	357	4.33	6.29	55.7	28.5	clear
1230	7	200	5.35	14.35	357	4.05	6.27	47.7	23.0	clear
1235	8	200	5.35	14.34	357	3.92	6.26	43.4	20.7	clear
1240	9	200	5.35	14.30	357	3.81	6.25	40.4	16.5	clear
1245	10	200	5.35	14.31	357	3.37	6.26	35.2	11.9	clear
1248	10.6	200	5.36	14.29	356	3.40	6.27	33.1	12.8	clear
1251	11.2	200	5.36	14.30	357	3.38	6.26	31.6	9.99	clear
1255	SAMPLE									
Start Sampling			1255							
End Sampling			1302	Sample Number:	MW-05	Sample Time:	1255			
Final										

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-111**
 Date: **5/4/16**

Page 1 of _____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 60°
Comments:	
Initial DTW:	4.30

Well Information		Stick-up or <u>Flush</u> (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	14.5		5		5 - 14.5

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOL	HCL	BTEX Gx	N
1	250 AMS	HCL	Dx	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1018	Pump On		4.30 ^{initial}	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria	
1020	0	200	4.32	14.90	141	7.68	6.54	8.3	91.4	turbid	
1025	1	200	4.32	14.92	135	5.79	6.43	8.9	85.5	"	
1030	2	200	4.33	14.94	131	4.81	6.36	13.3	80.7	"	
1035	3	200	4.33	15.04	128	4.49	6.34	17.9	33.9	AC	
1040	4	200	4.33	15.09	127	4.38	6.32	20.1	32.8	AC	
1045	5	200	4.33	15.14	130	4.18	6.29	20.6	31.5	AC	
1050	6	200	4.33	15.10	137	4.25	6.25	14.7	-		
1055	7	200	4.33	15.09	137	4.21	6.26	14.1	38.6	AC	
1100	8	200	4.32	15.10	138	4.07	6.27	12.5	33.1	AC	
1105	9	200	4.32	15.15	140	3.89	6.27	10.2	29.3	clear	
1110	10	200	4.32	15.19	146	3.75	6.29	6.2	27.2	clear	
1115	11	200	4.33	15.20	148	3.67	6.29	4.6	23.2	clear	
1120	SAMPLE										

Start Sampling: **1120**
 End Sampling: **1129**
 Sample Number: **MW-111**
 Sample Time: **1120**

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-112A**

Page 1 of _____

Date: **5/5/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 65°
Comments:	
Initial DTW:	6.01

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOA	HCL	BTEX Gx		
1	250 AMB	HCL	Dx		

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0832	Pump On		6.01							
0835	0	200	6.08	14.40	520	3.19	6.17	-58.3	10.1	clear
0840	1	200	6.08	14.43	537	2.33	6.22	-70.3	11.0	clear
0845	2	200	6.08	14.31	502	1.49	6.36	-84.5	13.6	clear
0850	3	200	6.08	14.34	473	1.10	6.41	-87.4	4.79	"
0855	4	200	6.09	14.23	448	0.89	6.39	-86.0	5.61	"
0900	5	200	6.09	14.25	448	0.88	6.39	-86.1	4.06	"
0905	6	200	6.09	14.28	448	0.87	6.41	-87.0	4.41	clear
0910	SAMPLE									

Start Sampling	0910									
End Sampling	0910									
			6.09							
Sample Number:										
Sample Time:	0910									

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **SH-04**

Page 1 of _____

Date: **5/5/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	14
Flow-Through Cell:	YSI-556
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	Sunny 60°
Comments:	
Initial DTW:	8.58 BTWC

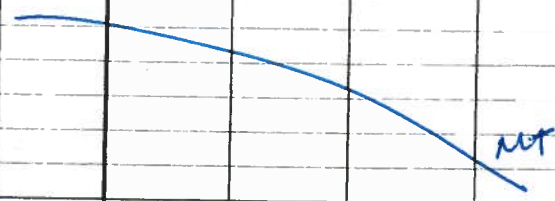
Well Information				Stick-up or Flush	(circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	16		6		6-16

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOA	HCL	BTX, GTX DX	
1	250 AMB	HCL		

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0727	Pump On		Initial: 8.58		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
0730	0	200	8.59	13.88	154	2.99	6.24	-16.1	4.42	clear
0735	1	200	8.60	14.03	146	2.06	6.07	-34.5	9.75	clear
0740	2	200	8.58	14.17	145	1.90	6.14	-47.7	8.70	"
0745	3	200	8.59	14.25	144	1.81	6.27	-61.2	7.75	"
0750	4	200	8.59	14.24	139	1.74	6.32	-70.7	7.38	"
0755	5	200	8.59	14.17	134	1.64	6.33	-77.7	6.97	clear
0800	6	200	8.59	14.22	132	1.61	6.30	-83.6	6.54	clear
0805	7	200	8.59	14.12	131	1.62	6.37	-91.1	8.90	clear
0810	8	200	8.59	14.10	130	1.59	6.40	-97.0	7.66	clear
0813	8.6	200	8.59	14.21	130	1.51	6.48	-105.7	7.11	clear
0816	9.2	200	8.59	14.19	130	1.53	6.47	-106.3	4.99	clear
0819	9.8	200	8.58	14.18	129	1.43	6.47	-107.3	8.73	clear
0820	SAMPLE									



Start Sampling: **0820**
 End Sampling: _____
 Sample Number: **SH-04**
 Sample Time: **0820**

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of _____

Well Number: **MW-213**
Date: **5/3/16**

Project Information		Well Information		Stick-up or Flush (circle one)	
Project Name: Shell Harbor Island	Well Diameter (in): 2	Drilled Well Depth (ft bgs): 40		Top of Screen (ft bgs): 30	
URS Project Number: 60411076	Well Diameter (in): 2	Drilled Well Depth (ft btc): 40	Top of Screen (ft bgs): 30	Screen Interval (ft bgs): 30 - 40	
Sampling Information		CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft			
Field Team: MARK TAUSCHER	Sample Containers				
Purge Method: P-Pump	Number	Type	Preservative	Analytical Parameters	Filtered?
Pump Intake Depth (ft btc): 35'	3	VOA	HCL	GIX BTEX	N
Flow-Through Cell: YSI-556	1	250 AMB	HCL	Dx	N
Sampling Method: LOW FLOW	2	250 AMB	None	PAH	N
Decontamination Method: Disposable materials					
Purge Water Disposal: On site treatment					
Field Conditions: Sunny 70°					
Comments:					
Initial DTW: 5.99					
High Tide, coming in					

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1401	Pump On		Initial		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1405	0	200	6.00	15.10	6175	6.40	6.63	-33.0	29.7	AC
1410	1	200	6.00	14.67	6881	5.11	7.08	-46.9	3.55	Clear
1415	2	200	5.98	14.56	7269	5.14	7.24	-43.1	3.73	Clear
1420	3	200	5.93	14.79	7652	5.04	7.36	-36.3	3.14	Clear
1425	4	200	5.91	14.61	7774	5.06	7.44	-31.2	3.36	Clear
1430	5	200	5.90	14.60	7862	5.00	7.48	-27.8	2.89	Clear
1435	6	200	5.88	14.55	8372	3.91	7.54	-40.0	0.0	Clear
1440	7	200	5.86	14.47	9392	0.89	7.89	-124.9	0.0	Clear
1445	8	200	5.84	14.42	11120	0.18	8.18	-270.0	0.0	Clear
1450	9	200	5.83	14.40	11280	0.17	8.19	-280.1	0.0	Clear
1455	10	200	5.81	14.47	11700	0.15	8.24	-308.9	0.0	Clear
1500	11	200	5.80	14.59	12060	0.14	8.26	-321.7	0.0	Clear
1505	11.75	150	5.78	14.65	12240	0.14	8.26	-327.6	0.0	slowed pump
1510	12.50	150	5.78	14.63	12400	0.13	8.26	-332.2	0.0	Clear
1515	13.25	150	5.78	14.65	12440	0.13	8.26	-330.0	0.0	Clear
1520	SAMPLE									
Start Sampling			1520							
End Sampling			1529	Sample Number: MW-213		Sample Time: 1520				
Final										

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-214**
 Date: **5/3/16**

Page 1 of _____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	35
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	Diposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	SUNNY 75°
Comments:	
Initial DTW:	5.82
High tide	

Well Information		Stick-up or Flush (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	40		30		30-40

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOA	HCL	6x, BTEX	N
1	250 AMB	HCL	DX	N
2	250 AMB	none	PAH	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1522	Pump On		5.82 ^{initial}	-	±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1525	0	150	5.83	15.69	6392	6.32	8.60	-280.1	14.8	clear
1530	1	200	5.88	14.94	9617	0.82	8.40	-338.8	7.69	clear
1535	2	200	5.87	14.96	10250	0.35	8.29	-347.9	0.0	clear
1540	3	200	5.88	14.97	10520	0.31	8.24	-352.8	0.0	clear
1545	4	200	5.88	15.00	10730	0.34	8.19	-357.6	0.0	clear
1550	5	200	5.88	14.97	10770	0.36	8.18	-361.0	0.0	clear
1555	6	200	5.88	14.92	10910	0.42	8.16	-362.8	0.0	clear
1600	7	200	5.86	14.91	10960	0.44	8.16	-363.0	0.0	clear
1605	SAMPLE									
Start Sampling		1605								
End Sampling		1614		Sample Number: MW-214			Sample Time: 1605			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-308**

Page 1 of ____

Date: **8/30/16**

Project Information	
Project Name	Stark Shell Seattle Terminal
URS Project Number	
Sampling Information	
Field Team	M. TAUSCHER
Purge Method	P-PUMP
Pump Intake Depth (ft btc)	13 BGS
Flow-Through Cell	HORIBA U-52
Sampling Method	LOW FLOW
Decontamination Method	on site treatment
Purge Water Disposal	Along w/ DI
Field Conditions	overcast 66°
Comments:	
Initial DTW:	9.59

Well Information		<input checked="" type="radio"/> Stick-Up or Flush (circle one)		(circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5-15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
2	VOA	HCL	BTEX / GIX		N

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
0812	Pump On		9.59		±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria	
0815	0	200	9.66	19.24	261	2.45	6.53	149	44.4	Ac	
0820	1	200	9.71	17.83	240	2.43	6.53	74	19.7	Clear	
0825	2	200	9.79	17.35	232	2.39	6.53	73	14.2	Clear	
0830	3	200	9.84	17.22	219	2.18	6.77	69	9.67	Clear	
0835	4	200	9.87	17.10	218	1.94	6.80	64	11.7	Clear	
0840	5	200	9.86	17.02	224	1.73	7.00	57	0.0	Clear	
0845	6	200	9.85	16.98	227	1.59	7.00	54	0.0	Clear	
0850	7	200	9.85	16.98	228	1.52	7.00	53	0.0	Clear	
0855	8	200	9.84	16.93	224	1.43	7.00	50	0.0	Clear	
0900	SAMPLE										
Start Sampling	0900										
End Sampling	0904		Sample Number:	MW-308				Sample Time:	0900		

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-312**

Page 1 of ___

Date: **8/29/16**

Project Information	
Project Name	Shell Seattle Terminal
URS Project Number	
Sampling Information	
Field Team	M. TAUSCHER
Purge Method	P-PUMP
Pump Intake Depth (ft b/c)	13
Flow-Through Cell	HORIBA U-52
Sampling Method	LOW FLOW
Decontamination Method	Alcanox w/ D1
Purge Water Disposal	on site + treatment
Field Conditions	Sunny 83°
Comments:	
Initial DTW:	8.43

Well Information		Stick-up or <u>Flush</u> (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		5 - 15
	(ft bgs)	(ft b/c)	(ft bgs)	(ft b/c)	
2	15		5		

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
2	VOA	HCL	BTEX / Crx	N

* Stopped pump to move out of way

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft b/c)	Temp. (°C)	Conductivity (uS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1408	Pump On		8.43 ^{ind}	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1411	0	200	8.46	20.91	514	3.11	6.91	51	0.0	clear
1421	2	200	8.45	21.32	527	1.46	6.87	16	0.0	clear
1431	4	200	8.46	21.73	521	1.34	6.87	33	0.0	clear
1441	5	200	8.44	22.69	518	2.71	6.89	23	0.0	HAD TO move truck
1446	6	200	8.43	23.13	507	1.46	6.88	28	0.0	clear
1451	7	200	8.43	23.31	503	1.43	6.90	29	0.0	clear
1456	8	200	8.43	23.96	496	1.52	6.91	31	0.0	clear
1501	9	200	8.43	24.27	508	1.57	6.91	30	0.0	clear
1506	10	200	8.43	24.42	498	1.33	6.92	32	0.0	clear
1511	11	200	8.43	24.39	484	1.04	6.89	31	0.0	clear
1516	12	200	8.44	24.35	481	1.03	6.89	29	0.0	clear
1521	13	200	8.44	24.31	480	1.01	6.89	28	0.0	clear
1525	SAMPLE									
Start Sampling		1525								
End Sampling		1529		Sample Number: MW-312			Sample Time: 1525			

Notes: AC = almost clear b/c = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-313**
 Date: **8/29/16**

Page 1 of ___

Project Information
Project Name: Shell Seattle Terminal
URS Project Number:
Sampling Information
Field Team: M. TAUSCHER
Purge Method: P-PUMP
Pump Intake Depth (ft btc): 13
Flow-Through Cell: HORIBA U-52
Sampling Method: LOW FLOW
Decontamination Method: Alcanox w/DI
Purge Water Disposal: on site treatment
Field Conditions:
Comments:
Initial DTW: 7.05

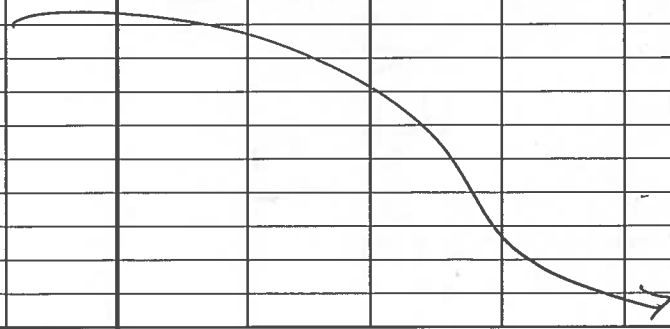
Well Information		Stick-up or <u>Flush</u> (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
2	VOA	HCL	CX / BTEX	N	
1	Z50 AMU	HCL	NWTPH-DX	N	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1739	Pump On		7.05		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1741	0	200	7.09	22.18	487	2.34	6.87	-2	83.0	Cloudy
1746	1	200	7.09	21.73	487	1.31	6.88	6	61.4	Cloudy
1751	2	200	7.09	21.49	465	1.20	6.88	10	14.8	Clear
1756	3	200	7.08	21.73	472	1.14	6.87	13	3.48	Clear
1801	4	200	7.08	21.73	482	1.11	6.89	16	0.0	Clear
1806	5	200	7.07	21.88	491	1.10	6.88	19	0.0	Clear
1811	6	200	7.07	21.99	488	1.08	6.88	21	0.0	Clear
1816	7	200	7.07	21.96	489	1.07	6.88	23	0.0	Clear
1820	SAMPLE									

conductivity = 491 uS/cm



Start Sampling: **1820**
 End Sampling: **1829**
 Sample Number: **MW-313**
 Sample Time: **1820**

- Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-315**
 Date: **8/29/16**

Page 1 of ____

Project Information
Project Name: Shell Seattle Terminal
URS Project Number:
Sampling Information
Field Team: TAUSCHER
Purge Method: P-PUMP
Pump Intake Depth (ft btc): 13
Flow-Through Cell: HORIBA U-52
Sampling Method: LOW FLOW
Decontamination Method: Alcanox w/ PI
Purge Water Disposal: on site treatment.
Field Conditions: Sunny 87°
Comments:
Initial DTW: 8.55

Well Information		Stick-up or Flush (circle one)		(circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5-15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
2	VOA	HCL	BTEX / Cx		N
1	250 AMB	HCL	Dx		N

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp (°C)	Conductivity (uS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1542	Pump On		8.55 ^{Initial}	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	= Stabilization Criteria	
1545	0	200	8.58	20.33	562	2.19	6.88	-23	33.4	AC	
1550	1	200	8.57	20.17	569	1.12	6.87	-6	31.1	AC	
1555	2	200	8.59	20.16	567	1.10	6.87	-3	16.1	AC	
1600	3	200	8.59	20.41	565	1.08	6.87	-1	14.4	AC	
1605	4	200	8.59	20.50	561	1.06	6.87	0	12.1	AC/CLEAR	
1610	5	200	8.59	20.51	561	1.05	6.86	1	9.93	Clear	
1615	6	200	8.59	20.56	558	1.04	6.86	2	8.44	Clear	
1620	SAMPLE										
Start Sampling			1620								
End Sampling			1628	Sample Number:	MW-315				Sample Time:	1620	

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface CI = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **TX-03A**
 Date: **8/29/16**

Page 1 of ____

Project Information
Project Name: Shell Seattle Terminal
URS Project Number:
Sampling Information
Field Team: M. TAUSCHER
Purge Method: P-PUMP
Pump Intake Depth (ft b/c): 14
Flow-Through Cell: HOEBA U-52
Sampling Method: LOW FLOW
Decontamination Method: Alcohol w/ DI
Purge Water Disposal: on site treatment
Field Conditions: Sunny 80°
Comments:
Initial DTW: 6.59

Well Information		Stick-up or <u>Flush</u> (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft b/c)	(ft bgs)	(ft b/c)	
2	16		6		6-16
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
2	VOA	HCL	BTEX / NUTPH-6x	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft b/c)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1058	Pump On		6.59		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1101	0	200	6.61	18.38	466	4.87	6.74	73	0.0	Clear
1106	1	200	6.60	18.25	463	4.08	6.91	66	0.0	Bubble on DO sensor
1111	2	200	6.60	18.53	464	3.33	6.91	55	0.0	Clear
1116	3	200	6.59	18.62	457	2.93	6.91	47	0.0	Clear
1121	4	200	6.59	18.55	447	2.65	6.90	37	0.0	Clear
1126	5	200	6.59	18.47	433	2.55	6.88	31	0.0	Clear
1131	6	200	6.59	18.52	424	2.50	6.87	29	0.0	"
1136	7	200	6.59	18.55	412	2.43	6.85	26	0.0	"
1141	8	200	6.60	18.63	399	2.34	6.85	21	0.0	Clear
1146	9	200	6.60	18.63	398	2.32	6.84	20	0.0	Clear
1151	10	200	6.60	18.69	395	2.27	6.84	18	0.0	Clear
1155	SAMPLE									
Start Sampling		1155								
End Sampling		1201		Sample Number: TX-03A			Sample Time: 1155			

Notes: AC = almost clear b/c = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-101**

Page 1 of ____

Date: **12/13/16**

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	Lo flo peri pump
Pump Intake Depth (ft btc):	15 ft TOC
Flow-Through Cell:	Horiba
Sampling Method:	Lo flo peri pump
Decontamination Method:	alcohol spray
Purge Water Disposal:	O/W separator
Field Conditions:	cloudy 35° wind
Comments:	
Initial DTW:	9.64
<p>Monument is 5.5 ft. above ground</p>	

Well Information				Stick-up or Flush (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)		
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)			
2"	15		5		5 - 14.5		
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft							

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40 ml VOA	HCL	NWTPH-6V	
1	"	"	BTEX	
1	.25 Lamber	"	NWTPH-DX	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial		MS/cm ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
0832	0	150	9.68	7.80	0.235	3.84	6.84	-144	3.6	clear
0837		150	9.68	7.99	0.238	2.49	6.80	-62	0.7	
0842		200	9.68	8.08	0.238	2.29	6.79	-66	0.0	
0847		200	9.68	8.14	0.240	1.98	6.85	-69	0.0	
0850		200	9.68	8.26	0.243	1.79	6.80	-72	0.0	
0853		200	9.68	8.32	0.243	1.70	6.81	-74	0.0	
0856		200	9.68	8.35	0.244	1.67	6.81	-75	0.0	
Start Sampling										
End Sampling										
					Sample Number: MW-101			Sample Time: 0900		
Final										

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-102**
 Date: **12/14/16**

Page 1 of 1

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	lo-flo peri pump
Pump Intake Depth (ft btc):	11'
Flow-Through Cell:	Nouba
Sampling Method:	lo-flo peripump
Decontamination Method:	alcohol spray
Purge Water Disposal:	o/w/s
Field Conditions:	cloudy 28°
Comments:	
Initial DTW:	7.27

Well Information		Stick-up or <u>Flush</u> (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 14.5
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40ml VOA	HCL	NWTPH-GX	
1	"	"	BTEX	
1	.25 Lamber	"	NWTPH-DX	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial		mg/cm ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
0807	0	100	7.50	8.40	0.424	5.33	7.80	39	5.0	Clear
0812		100	7.52	9.17	0.540	3.45	7.15	63	3.5	
0817		100	7.53	9.21	0.509	2.91	6.99	60	0.0	
0820		100	7.55	9.30	0.465	2.41	6.89	52	0.0	
0823		100	7.56	9.40	0.451	2.15	6.82	43	0.0	
0826		100	7.57	9.40	0.442	2.03	6.78	36	0.0	
0829		100	7.59	9.43	0.440	2.00	6.77	34	0.0	
0832		100	7.60	9.44	0.438	1.96	6.77	32	0.0	
Start Sampling										
End Sampling			Sample Number: MW-102				Sample Time: 0835			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-104**
 Date: **12/14/16**

Page 1 of 1

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	low flo peri pump
Pump Intake Depth (ft btc):	10'
Flow-Through Cell:	Homba
Sampling Method:	low flo peri pump
Decontamination Method:	alcohol spray
Purge Water Disposal:	o/w/s
Field Conditions:	sunny 35°
Comments:	
Initial DTW:	4.78

Well Information		Stick-up or <u>Flush</u> (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		(ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 14.5

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Number	Type	Preservative	Analytical Parameters	Filtered?
1	25 Lamber	HCL	MWTPH-DX	
1	40ml VOA	HCL	MWTPH-GX	
1	25 poly	HNO3	TOTAL LEAD	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial		MS/LM ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
0950	0	200	4.78	8.35	0.368	4.90	6.77	-35	0.14	Clear
0953		200	4.78	9.57	0.360	3.09	6.65	-45	1.3	
0956		200	4.78	10.24	0.358	2.34	6.56	-55	1.7	
0959		200	4.78	10.51	0.353	2.15	6.54	-58	0.8	
1002		200	4.78	10.92	0.341	1.94	6.52	-63	0.0	
1005		200	4.78	11.02	0.338	1.80	6.51	-66	0.0	
1008		200	4.78	10.93	0.344	1.78	6.50	-68	0.0	
1011		200	4.78	10.90	0.340	1.76	6.49	-70	0.0	
Start Sampling										
End Sampling			Sample Number: MW-104				Sample Time: 1015			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-202**

Date: **12/13/16**

Page 1 of _____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	overcast 35°
Comments:	
Initial DTW:	12.81
HANNAH TURBIDITY METER USED	
Ferrous Iron = 0.5 mg/L	

Well Information		Stick-up or Flush (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	5		5		5 - 14.5

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Number	Type	Preservative	Analytical Parameters	Filtered?
1	VBA	HCL	BTEX	N
1	VBA	HCL	CX	N
1	250 AMB	HCL	Dx	N
1	250 poly	Sulfuric	Nitrites - Nitates	N
1	250 poly	none	Anions, Ion, chloride	N
1	250 poly	nitric	metals	Y

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1113	Pump On		Initial	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria	
1115	0	200	12.88	10.09	233	3.99	6.51	-78.0	36.3	AC	
1120	1	200	12.89	10.22	230	1.45	6.45	-83.8	42.7	cloudy	
1125	2	200	12.89	10.57	228	0.87	6.83	-90.8	17.1	clear	
1130	3	200	12.90	10.66	228	0.80	6.39	-93.8	14.3	clear	
1135	4	200	12.90	10.60	227	0.61	6.37	-97.9	13.7	clear	
1140	5	200	12.90	10.49	225	0.53	6.34	-98.5	10.6	clear	
1145	5.75	150	12.90	10.64	225	0.47	6.35	-100.7	10.1	clear	
1150	6.5	150	12.90	10.58	223	0.45	6.35	-102.1	9.89	clear	
1155	7.25	150	12.89	10.56	223	0.41	6.33	-101.4	9.73	clear	
1200	8.0	150	12.90	10.66	223	0.39	6.33	-102.4	9.52	clear	
1200	SAMPLE										
Start Sampling			1200								
End Sampling			1211	Sample Number:		MW-202		Sample Time:			1200
Final											

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-203
 Date: 12/13/16

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	12
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	
Comments:	
Initial DTW:	6.62
HANNA TURBIDITY METER USED	
FERRUS IRON = 0.5 mg/L	

Well Information		Stick-up or <u>Flush</u> (circle one)		Screen Interval (ft bgs)
Well Diameter (in)	Drilled Well Depth (ft bgs)	Top of Screen (ft bgs)		
2	14.5	5		5 - 14.5

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	GX	N
1	250 AMIS	HCL	DX	N
1	250 poly	Sulfuric	Nitrates / Nitrites	N
1	250 poly	none	Ion, Anions, Chromate	N
1	250 poly	Nitric	metals	Y

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1355	Pump On		Initial 6.62	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	⇐ Stabilization Criteria	
1400	0	200	7.46	11.97	217	3.01	6.21	-171	20.0	clear	
1405	1	100	8.56	12.02	220	1.46	6.32	-52.1	13.9	clear	
1410	1.5	60	8.75	11.39	224	0.86	6.33	-72.9	8.77	clear	
1415	1.85	60	8.70	10.59	222	0.83	6.21	-75.0	9.31	clear	
1420	2.2	60	8.70	10.62	221	0.77	6.18	-77.6	11.31	clear	
1425	2.5	50	8.70	10.49	222	0.76	6.20	-81.9	8.44	clear	
1430	2.85	50	8.69	10.32	221	0.74	6.25	-87.1	8.37	clear	
1435	3.25	60		10.46	221	0.73	6.25	-88.0	9.60	clear	
1440	SAMPLE										
Start Sampling			1440								
End Sampling			1454	Sample Number:		MW-203		Sample Time:			1440
			Final								

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-204**

Date: **12/13/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	20-gal per pump
Pump Intake Depth (ft btc):	10.5 13'
Flow-Through Cell:	Horus
Sampling Method:	20-gal per pump
Decontamination Method:	alcohol spray
Purge Water Disposal:	oil separator
Field Conditions:	cloudy 40°
Comments:	
Initial DTW:	10.33

Well Information					
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 14.5

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40 mL VOA	HCl	NW TPH - GY	
1	"	"	BTEX	
1	.25 L Amber	"	NW TPH - DX	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial		ms/cm ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1132	0	100	10.45	7.81	0.167	4.05	5.99	48	14.2	clear
1137		100	10.45	9.09	0.169	1.96	5.81	35	8.8	
1142		150	10.48	9.69	0.170	1.52	5.85	30	5.1	
1145		150	10.49	10.24	0.171	1.25	5.84	26	4.5	
1148		150	10.50	10.59	0.172	1.07	5.84	24	4.0	
1151		150	10.51	10.67	0.173	1.04	5.84	22	4.0	
1154		150	10.52	10.72	0.173	0.99	5.84	21	4.0	

Start Sampling: _____ End Sampling: _____ Sample Number: **MW-204** Sample Time: **1155**

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-206-A**
 Date: **12/12/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	RAINY 40°
Comments:	
Initial DTW:	8.50
HANNA TURBIDITY METER USED	

Well Information					Stick-up or Flush (circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	14.5		5		5 - 14.5

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	BTEX	N
1	VOA	HCL	GVX	N
1	ZSU AMB	HCL	DX	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1138	Pump On		Initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1145	0	180	9.76	12.36	480	2.85	6.49	-76.9	-	very silty...
1150	1.5	120	10.04	11.96	482	1.63	6.53	-84.8	98.6	cloudy
1155	2.1	120	10.14	11.46	481	1.16	6.52	-90.1	29.3	AC/cloudy
1200	2.7	120	10.24	11.47	482	0.90	6.53	-94.6	14.7	clear
1205	3.3	120	10.26	11.32	481	0.81	6.57	-98.9	10.8	clear
1210	3.9	120	10.28	11.29	482	0.70	6.60	-103.8	10.0	clear
1215	4.5	120	10.29	11.24	481	0.69	6.61	-104.8	9.63	clear
1220	5.1	120	10.29	11.31	482	0.68	6.60	-104.9	9.44	clear
1225	SAMPLE									
Start Sampling	1225									
End Sampling	1233		Sample Number: MW-206A				Sample Time: 1225			
			Final	10.31						

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-301**

Date: **12/12/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	<i>Adewo M Tauscher</i>
Purge Method:	<i>lo-flo peri pump</i>
Pump Intake Depth (ft btc):	<i>10'</i>
Flow-Through Cell:	<i>Homba</i>
Sampling Method:	<i>lo-flo peri pump</i>
Decontamination Method:	<i>alcohol</i>
Purge Water Disposal:	<i>o/w separator</i>
Field Conditions:	<i>rain 40°</i>
Comments:	
Initial DTW:	<i>5.07</i>
<i>Strong petroleum odor</i>	

Well Information				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
<i>2"</i>	<i>15</i>	<i>15</i>	<i>5.0</i>	<i>5.0</i>	<i>5.0 - 15.0</i>
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
<i>1</i>	<i>40ml VOA</i>	<i>HCL</i>	<i>NWTPH-6X</i>	<i>N</i>	
<i>1</i>	<i>40ml VOA</i>	<i>HCL</i>	<i>BTEX</i>	<i>N</i>	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On	<i>1046</i>	<i>5.07</i>		<i>mS/cm</i>	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
<i>1053</i>	<i>0</i>	<i>150</i>	<i>5.08</i>	<i>8.37</i>	<i>0.436</i>	<i>11.35</i>	<i>7.34</i>	<i>-164</i>	<i>1.2</i>	<i>Clear</i>
<i>1056</i>		<i>150</i>	<i>5.09</i>	<i>8.94</i>	<i>0.383</i>	<i>5.68</i>	<i>6.91</i>	<i>-150</i>	<i>0.0</i>	
<i>1059</i>		<i>150</i>	<i>5.10</i>	<i>9.22</i>	<i>0.342</i>	<i>4.58</i>	<i>6.84</i>	<i>-148</i>	<i>0.0</i>	
<i>1102</i>		<i>150</i>	<i>5.11</i>	<i>9.52</i>	<i>0.350</i>	<i>3.76</i>	<i>6.79</i>	<i>-146</i>	<i>0.0</i>	
<i>1105</i>		<i>150</i>	<i>5.12</i>	<i>9.78</i>	<i>0.351</i>	<i>3.07</i>	<i>6.76</i>	<i>-144</i>	<i>0.0</i>	
<i>1108</i>		<i>150</i>	<i>5.13</i>	<i>9.93</i>	<i>0.351</i>	<i>2.75</i>	<i>6.75</i>	<i>-143</i>	<i>0.0</i>	
<i>1111</i>		<i>150</i>	<i>5.14</i>	<i>10.09</i>	<i>0.355</i>	<i>2.49</i>	<i>6.74</i>	<i>-142</i>	<i>0.0</i>	
<i>1114</i>		<i>150</i>	<i>5.15</i>	<i>10.13</i>	<i>0.356</i>	<i>2.40</i>	<i>6.74</i>	<i>-141</i>	<i>0.00</i>	
<i>1117</i>		<i>150</i>	<i>5.16</i>	<i>10.14</i>	<i>0.357</i>	<i>2.37</i>	<i>6.73</i>	<i>-140</i>	<i>0.00</i>	
Start Sampling										
End Sampling										
					Sample Number: <i>MW-301</i>			Sample Time: <i>1120</i>		

Notes: AC = almost clear

btc = below top of casing

DTW = depth to water

VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-302**

Date: **12/15/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	low-flow peri
Pump Intake Depth (ft btc):	11'
Flow-Through Cell:	Nombr
Sampling Method:	low-flow peri
Decontamination Method:	alcohol spray
Purge Water Disposal:	o/w/s
Field Conditions:	cloudy 35°
Comments:	
Initial DTW:	5.75
FE: 1.0 mg/L	

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5-15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
1	40ml VOA	HCL	NWTPH-GX		
1	"	"	BTEX		
1	25 amber	"	NWTPH-DX		
1	25 poly	none	anions 300.0		
1	"	H2SO4	nitrogen 353.2		
1	"	HNO3	DISS METALS		

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
	Pump On		Initial	-	ms/cm ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria	
1045	0	250	5.75	8.97	0.399	2.99	6.43	-31	1.3	Clear	
1049		250	5.75	10.42	0.381	1.32	6.53	-61	3.4		
1052		250	5.75	10.69	0.385	1.16	6.55	-73	3.0		
1055		250	5.75	10.81	0.386	1.10	6.57	-81	1.2		
1058		250	5.75	10.89	0.387	1.01	6.57	-85	0.0		
1101		250	5.75	10.93	0.388	0.95	6.58	-89	0.0		
Start Sampling											
End Sampling				Sample Number: MW-302				Sample Time: 1105			
			Final								

Notes: AC = almost clear

btc = below top of casing

DTW = depth to water

VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-304
Date: 12/15/14

Page 1 of 1

Project Information
Project Name:
URS Project Number:
Sampling Information
Field Team: DL MT
Purge Method: lo-flo peri pump
Pump Intake Depth (ft btc):
Flow-Through Cell: 1/2" by 1/2"
Sampling Method: lo-flo peri pump
Decontamination Method: alcohol spray
Purge Water Disposal: O/W/S
Field Conditions: cloudy 35°
Comments:
Initial DTW: 5.23
Fe: 0.15 mg/L
petroleum odor from casing.

Well Information				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
Sample Containers					
Number	Type	Preservative	Analytical Parameters		Filtered?
1	40ml VOA	HCL	NWTPH-6X		
1	"	HCL	BTEX		
1	25 Lamber	HCL	NWTPH-10X		
1	25 poly	H2SO4	Nitrogen 35		3.2
1	"	none	Ammonia 300		
1	"	HNO3	Diss. METALS		

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
			Initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
0810	0	150	5.23	6.71	0.866	10.47	7.30	-76	8.6	clear
0815		200	5.23	7.67	0.609	4.95	6.91	-80	3.7	
0820		200	5.23	8.53	0.441	3.49	6.73	-86	0.0	
0823		200	5.23	9.07	0.405	3.05	6.69	-88	0.00	
0826		200	5.23	9.17	0.372	2.79	6.67	-90	0.0	
0829		200	5.23	9.18	0.350	2.52	6.66	-91	0.0	
0812		200	5.23	9.20	0.342	2.40	6.65	-92	0.0	
Start Sampling										
End Sampling			Sample Number: MW-304				Sample Time: 0815			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-307**

Date: **12/13/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MAEK TAUSHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	overcast 35°
Comments:	
Initial DTW:	7.87
HANNA TURBIDITY METER USED	
Ferrous Iron = 1.5 mg/L	

Well Information		Stick-up or Flush (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	ISTEX	N
1	VOA	HCL	Gx	N
1	250 AMBS	HCL	Dx	N
1	250 poly	Sulfuric Acid	Nitrate-Nitrite	N
1	250 poly	NONE	Anions Ion, Chromium	N
1	250 poly	Metals Nitric	metals	Y

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0814	Pump On		Initial 7.87		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	⇐ Stabilization Criteria
0820	0	200	7.97	10.99	150	1.95	6.71	-77.1	24.1	clear
0830	2	200	7.96	10.68	144	0.96	6.46	-83.5	17.4	clear
0835	3	200	7.95	10.27	141	0.76	6.44	-84.1	11.8	clear
0840	4	200	7.95	10.29	140	0.64	6.44	-85.6	9.91	clear
0845	4.75	150	7.94	10.33	139	0.62	6.45	-86.4	9.03	clear
0850	5.5	150	7.94	10.48	139	0.59	6.48	-85.7	8.96	clear
0855	6.25	150	7.93	10.28	138	0.57	6.46	-87.4	8.09	clear
0900	SAMPLE									
Start Sampling	0900									
End Sampling	0912		Sample Number: MW-307				Sample Time: 0900			

Notes: AC = almost clear

btc = below top of casing

DTW = depth to water

VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-308**

Date: **12/13/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	Low flow
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	Overcast 35°
Comments:	
Initial DTW: 0755	
HANNA TURBIDITY METER USED	
Ferrous Iron: 1.5 mg/L	

Well Information				Stick-up or Flush	(circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	BTEX	N
1	VOA	HCL	CX	N
1	250 poly	Sulfuric	Nitrates-Nitrites	N
1	250 poly	NONE	Anions, Ion, chrome	N
1	250 poly	Nitric	metals	Y

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0923	Pump On		Initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
0925	0	250	7.63	9.65	412	6.11	6.36	3.8	14.3	clear
0930	1	200	7.74	10.06	510	3.07	6.65	-11.7	12.1	clear
0935	2	200	7.81	10.05	546	1.09	6.69	-7.2	17.7	clear
0940	3	200	7.86	10.08	553	0.95	6.69	-7.2	13.5	clear
0945	4	200	7.88	10.21	562	0.83	6.71	-9.1	9.74	clear
0950	4.75	150	7.89	10.06	564	0.68	6.72	-11.6	9.16	clear
0955	5.5	150	7.89	10.17	568	0.62	6.72	-13.2	8.87	clear
1000	6.25	150	7.89	10.26	574	0.55	6.75	-18.4	8.78	clear
1005	7.0	150	7.89	10.33	577	0.52	6.75	-21.8	8.61	clear
1010	7.75	150	7.88	10.31	577	0.51	6.75	-22.5	8.43	clear
1015	SAMPLE									
Start Sampling			1015							
End Sampling			1026	Sample Number: MW-308			Sample Time: 1015			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-309**
 Date: **12/12/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13'
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	RAINY 40°
Comments:	
Initial DTW:	5.12
HANNA TURBIDITY METER USED	

Well Information		Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen
	(ft bgs)	(ft btc)	(ft bgs) (ft btc)
2	15		5
Screen Interval (ft bgs): 5 - 15			

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	BTEX	N
1	VOA	HCL	GIX	N
1	HCLV	250 AMB	DX	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1032	Pump On		Initial 5.12	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1040	0	120	12.49	12.49	270	2.76	7.01	-89.2	16.8	AC
1045	.6	120	5.13	12.46	262	2.00	6.62	-114.4	12.3	clear
1050	1.2	120	5.13	12.03	257	1.36	6.54	-113.6	17.4	clear
1055	1.8	120	5.13	12.20	256	0.92	6.49	-112.9	14.4	clear
1100	2.4	120	5.13	12.05	255	0.84	6.50	-113.5	12.7	clear
1105	3.0	120	5.12	11.72	252	0.73	6.47	-111.8	9.86	clear
1110	3.6	120	5.13	11.68	262	0.71	6.45	-110.4	9.75	clear
1115	4.2	120	5.13	11.39	250	0.67	6.46	-110.3	9.47	clear
1120	SAMPLE									
1115										
Start Sampling			1115							
End Sampling			1124	Sample Number: MW-309			Sample Time: 1115			
			Final 5.13							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-310**

Date: **12/15/14**

Page 1 of ____

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	DL MT
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	1015
Flow-Through Cell:	Houba
Sampling Method:	LOW FLOW
Decontamination Method:	Diposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	cloudy 35°
Comments:	
Initial DTW:	6133
<p>Fe. 2.1 mg/L</p> <p>petroleum-like odor from casing</p>	

Well Information		Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen
	(ft bgs)	(ft btc)	(ft bgs) (ft btc)
	15		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40ml vial	HCL	NWIPH-GX	
1	"	"	BTEX	
1	2 Lamber	"	NWIPH-DX	
1	.25 poly	none	anions 300.0	
1	"	H2SO4	nitrogen 353.2	
1	"	HNO3	DISS METALS	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
0920	0	250	6.35	9.99	0.259	2.14	6.47	-42	1.2	Clean
0925		250	6.34	11.03	0.254	1.49	6.46	-55	0.0	
0930		250	6.37	11.56	0.253	1.31	6.47	-65	0.0	
0933		250	6.38	11.56	0.257	1.56	6.48	-69	0.0	
0936		250	6.39	11.60	0.258	1.25	6.49	-70	0.0	

Start Sampling	
End Sampling	Sample Number: MW-310 Sample Time: 0940

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-311**

Page 1 of ____

Date: **12/15/16**

Project Information	
Project Name:	Shell Harbor Island
URS Project Number:	60411076
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-Pump
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI-552
Sampling Method:	LOW FLOW
Decontamination Method:	Disposable materials
Purge Water Disposal:	On site treatment
Field Conditions:	overcast 30°
Comments:	
Initial DTW: 7.56	
HANNA TURBIDITY METER USED	
Ferrous Iron = 3.0 mg/L	

Well Information		Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen
	(ft bgs)	(ft btc)	(ft bgs) (ft btc)
2	15		5
Screen Interval (ft bgs)			
5 - 15			

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOL	HCL	ESTEX	
1	VOL	HCL	Cr	
1	250 poly	NONE	Anions, Ions, chromo	
1	250 poly	Sulfuric	Nitrate / Nitrite	
1	250 poly	Nitric	dissolved metals	Y

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0904			Initial							
	Pump On				±3%	≥greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
0910	0.5	200	7.57	13.63	256	0.81	6.70	-89.9	15.4	clear
0915	1.5	200	7.57	13.66	257	0.66	6.68	-91.3	12.7	clear
0920	2.5	200	7.57	13.77	265	0.46	6.64	-97.1	9.31	clear
0925	3.5	200	7.58	13.73	269	0.41	6.64	-100.5	8.86	clear
0930	4.5	200	7.58	13.51	270	0.40	6.56	-99.5	8.70	clear
0935	5.5	200	7.58	13.26	271	0.40	6.54	-101.3	8.64	clear
0940	6.5	200	7.58	13.18	271	0.52	6.57	-103.3	7.99	clear
0945	7.5	200	7.59	13.14	272	0.36	6.62	-106.6	-	oops
0950	8.5	200	7.59	13.06	271	0.40	6.65	-107.8	7.44	clear
0955	9.5	200	7.59	12.91	270	0.40	6.64	-107.3	7.38	clear
1000	SAMPLE									
Start Sampling			1000							
End Sampling			Sample Number: MW-311				Sample Time: 1000			
Final										

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-312**

Date: **12/15/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	ON SITE
Field Conditions:	overcast 30°
Comments:	
Initial DTW:	7.15
HANNA TURBIDITY METER USED	
Ferrous Iron = 4.0 mg/L	

Well Information		Stick-up or <u>Flush</u> (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	BTEX	N
1	VOA	HCL	Cu	N
1	250 poly	NONE	Sulfate / Iron / Ammonia	N
1	250 poly	Sulfuric	Nitrate / Nitrite	N
1	250 poly	Nitric	Dissolved metals	Y

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0742	Pump On		Initial	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
0745	0	200	7.16	14.06	459	1.96	6.64	-99.4	21.1	clear
0750	1	200	7.17	13.83	458	1.28	6.68	-111.7	18.4	clear
0755	2	200	7.17	13.79	454	0.79	6.69	-117.5	14.6	clear
0800	3	200	7.18	13.83	455	0.76	6.70	-117.6	12.5	clear
0805	4	200	7.18	13.70	457	0.66	6.69	-118.6	9.73	clear
0810	5	200	7.19	13.88	462	0.54	6.72	-120.2	9.13	clear
0815	6	200	7.19	13.84	461	0.54	6.72	-120.4	9.55	clear
0820	7	200	7.20	13.97	462	0.48	6.74	-121.9	9.01	clear
0825	8	200	7.19	13.89	458	0.44	6.74	-122.0	9.34	clear
0830	9	200	7.19	13.74	452	0.40	6.74	-121.8	9.47	clear
0835	SAMPLE									
Start Sampling			0835							
End Sampling			0848	Sample Number: MW-312			Sample Time: 0835			
Final										

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-313

Date: 12/12/16

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	MAN LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	Overcast 44°
Comments:	
Initial DTW:	5.62
HANNA TURBIDITY METER USED	
A TON OF IRON OR BIOLOGIC MATERIAL (ORANGE COLOR, CLUMPY) CAME UP AT FIRST. THEN ONLY OCCASIONALLY AFTER 10-15 MINUTES	

Well Information				Stick-up or <u>Flush</u> (circle one)	(circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
1	VOA	HCL	ISTEX	N	
1	VOA	HCL	Cx	N	
1	ZSO AM13	HCL	Dx	N	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1245	Pump On		Initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1250	0	200	5.64	14.49	436	4.28	6.93	-20.0	-	cloudy → EMPIRICAL FLOW CELL
1255	2	200	5.64	14.49	460	3.29	6.91	-6.4	22.6	IRON PRESENT
1300	3	200	5.63	14.39	466	1.11	6.87	-9.5	super-cloudy w/IRON	
1305	4	200	5.63	14.35	466	1.15	6.85	-23.2	74.3	cloudy
1310	4.5	100	5.63	13.88	465	1.15	6.82	-28.2	17.6	AC → IRON GONE
1315	5.0	100	5.63	13.63	467	1.08	6.78	-30.8	8.41	clear
1320	5.5	100	5.63	13.97	471	1.06	6.77	-31.3	9.77	clear
1325	6.0	100	5.63	14.13	474	1.04	6.82	-34.9	9.06	clear
1330	SAMPLE									

Start Sampling 1330
End Sampling 1335

Sample Number: MW-313 Sample Time: 1330

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-314
Date: 12/14/16

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	clear, 35°
Comments:	
Initial DTW:	6.77
HANNA TURBIDITY METER USED	

Well Information				Stick-up or <u>Flush</u> (circle one)	(circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
<u>2</u>	<u>15</u>		<u>5</u>		<u>5 - 15</u>

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
<u>1</u>	<u>VOA</u>	<u>HCL</u>	<u>BTEX</u>	<u>N</u>	
<u>1</u>	<u>VOA</u>	<u>HCL</u>	<u>CX</u>	<u>N</u>	
<u>1</u>	<u>250 AMP</u>	<u>HCL</u>	<u>DX</u>	<u>N</u>	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
<u>0735</u>	Pump On		Initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
<u>0740</u>	<u>0</u>	<u>200</u>	<u>6.78</u>	<u>12.55</u>	<u>435</u>	<u>2.40</u>	<u>6.72</u>	<u>-62.7</u>	<u>36.7</u>	<u>clear</u>
<u>0745</u>	<u>1</u>	<u>200</u>	<u>6.79</u>	<u>13.05</u>	<u>450</u>	<u>1.27</u>	<u>6.72</u>	<u>-74.4</u>	<u>27.9</u>	<u>clear</u>
<u>0750</u>	<u>2</u>	<u>200</u>	<u>6.79</u>	<u>13.43</u>	<u>464</u>	<u>0.85</u>	<u>6.72</u>	<u>-84.2</u>	<u>17.0</u>	<u>clear</u>
<u>0755</u>	<u>3</u>	<u>200</u>	<u>6.79</u>	<u>13.37</u>	<u>464</u>	<u>0.79</u>	<u>6.72</u>	<u>-84.9</u>	<u>12.4</u>	<u>clear</u>
<u>0800</u>	<u>4</u>	<u>200</u>	<u>6.80</u>	<u>13.28</u>	<u>465</u>	<u>0.60</u>	<u>6.73</u>	<u>-87.1</u>	<u>11.5</u>	<u>clear</u>
<u>0805</u>	<u>5</u>	<u>200</u>	<u>6.80</u>	<u>13.52</u>	<u>470</u>	<u>0.51</u>	<u>6.73</u>	<u>-88.9</u>	<u>9.66</u>	<u>clear</u>
<u>0810</u>	<u>6</u>	<u>200</u>	<u>6.80</u>	<u>13.45</u>	<u>471</u>	<u>0.52</u>	<u>6.73</u>	<u>-90.1</u>	<u>9.53</u>	<u>clear</u>
<u>0815</u>	<u>7</u>	<u>200</u>	<u>6.80</u>	<u>13.42</u>	<u>471</u>	<u>0.52</u>	<u>6.73</u>	<u>-90.3</u>	<u>9.44</u>	<u>clear</u>
<u>0820</u>	<u>SAMPLE</u>									

Start Sampling: 0820
End Sampling: 0826 Sample Number: MW-314 Sample Time: 0820

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **MW-315**

Page 1 of 1

Date: **12/12/16**

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	low-flow peri pump
Pump Intake Depth (ft btc):	11.25
Flow-Through Cell:	Homba
Sampling Method:	low-flow peri pump
Decontamination Method:	alcohol
Purge Water Disposal:	q/w separator
Field Conditions:	cloudy 45°
Comments:	
Initial DTW:	7.25

Well Information				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 15

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40ml VOA	HCL	NWTPH-GX	
1	40ml VOA	HCL	BTEX	
1	25 Lamber	HCL	NWTPH-DX	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On	1320	Initial 7.25	-	M _S /C _M ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1327	0	132T	7.27	11.20	0.502	4.57	6.47	-30	0.0	
1330		150	7.28	11.63	0.488	2.62	6.60	-77	0.0	
1333		150	7.29	11.78	0.487	1.94	6.65	-88	0.0	
1336		150	7.30	11.88	0.491	1.60	6.69	-94	0.0	
1339		150	7.31	11.96	0.490	1.54	6.71	-97	0.0	
1342		150	7.32	11.98	0.490	1.50	6.72	-99	0.0	
1345		150	7.33	12.07	0.488	1.45	6.74	-102	0.0	
Start Sampling										
End Sampling			Sample Number: MW 315				Sample Time: 1350			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **TX-03A**
 Date: **12/15/16**

Page 1 of ____

Project Information	
Project Name	Seattle Terminal (Shell)
URS Project Number	
Sampling Information	
Field Team	MARK TAUSCHER
Purge Method	P-PUMP
Pump Intake Depth (ft btc)	14
Flow-Through Cell	YSI 556
Sampling Method	LOW FLOW
Decontamination Method	
Purge Water Disposal	on site
Field Conditions:	overcast, 35°
Comments:	
Initial DTW:	5.09
HANNA TURBIDITY METER USED	
Removes Iron - 2.0 mg/L	

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	16		6		6-16

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				
Number	Type	Preservative	Analytical Parameters	Filtered?
1	VOA	HCL	BTEX	N
1	VOA	HCL	Cix	N
1	250AMB	HCL	Dx	N
1	250 poly	nitric	metals	Y
1	250 poly	sulfuric	nitrate/nitrite	N
1	250 poly	NONE	Anions, Ions, Chromium	N

Well Purge Data

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp (°C)	Conductivity (uS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1018	Pump On		Initial		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1020	0	250	5.11	13.41	288	4.06	6.18	-31.9	17.3	clear
1025	1	200	5.11	12.96	290	0.94	6.56	-94.6	11.9	clear
1030	2	200	5.10	12.89	294	0.64	6.52	-99.5	13.3	clear
1035	3	200	5.11	12.86	297	0.43	6.55	-106.3	12.2	clear
1040	4	200	5.11	12.47	294	0.36	6.52	-106.4	10.7	clear
1045	5	200	5.10	12.38	294	0.33	6.54	-106.2	9.32	clear
1050	6	200	5.10	12.23	294	0.31	6.53	-108.2	9.11	clear
1055	7	200	5.10	12.31	295	0.29	6.54	-109.9	8.97	clear
1100	SAMPLE									
Start Sampling			1100							
End Sampling			1113	Sample Number:		TX-03A		Sample Time: 1100		

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy
 bgs = below ground surface Cl = cloudy C = clear SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of 1

Well Number: MW-11

MW-05

Date: 12-14-16

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	lo-flo peri pump
Pump Intake Depth (ft btc):	10'
Flow-Through Cell:	Homba
Sampling Method:	lo-flo peri pump
Decontamination Method:	bleach spray
Purge Water Disposal:	o/w/s
Field Conditions:	cloudy 35°
Comments:	
Initial DTW:	4.78

Well Information		Stick-up or <u>Flush</u> (circle one)		(circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	15		5		5 - 14.5 / 15
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40mL BA	HCL	NWTPH-GX	
1	"	"	BTEX	
1	.25Lamba	"	NWTPH-DX	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial		ms/cm ±8%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1129	0	150	4.82	10.59	0.311	6.79	6.45	1	11.1	Clear
1130		150	4.83	11.84	0.306	6.50	6.25	32	6.2	
1133		150	4.84	11.92	0.307	6.01	6.49	36	6.0	
1136		150	4.85	12.00	0.308	6.01	6.48	39	0.0	
1139		150	4.87	12.16	0.308	6.09	6.47	42	0.0	
1142		150	4.88	12.20	0.308	6.00	6.46	45	0.0	
1145		150	4.89	12.22	0.308	5.94	6.45	47	0.0	
Start Sampling										
End Sampling			Sample Number: <u>MW-11</u> MW-05				Sample Time: <u>1150</u>			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-111
 Date: 12/14/16

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	ON SITE
Field Conditions:	SUNNY 35°
Comments:	
Initial DTW:	4.04
HANNA TURBIDITY METER USED	

Well Information			Stick-up or <u>Flush</u> (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	14.5		5		5 - 14.5
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	ISTEX	N
1	VOA	HCL	GX	N
1	250 µg/B	HCL	DX	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
0937	Pump On		Initial 4.04	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	⇐ Stabilization Criteria
0940	0	200	4.05	11.98	256	3.60	6.37	-48.6	12.7	clear
0945	1	200	4.05	12.52	268	1.06	6.46	-69.5	8.50	clear
0950	2	200	4.05	13.02	277	0.69	6.46	-76.8	6.36	clear
0955	3	200	4.06	13.15	282	0.53	6.45	-80.6	7.59	clear
1000	4	200	4.06	13.24	289	0.40	6.46	-85.7	7.29	clear
1005	5	200	4.07	13.31	290	0.38	6.46	-86.1	6.88	clear
1010	6	200	4.08	13.42	295	0.36	6.46	-87.2	6.51	clear
1015	7	200	4.08	13.40	295	0.35	6.45	-87.3	6.48	clear
1020	SAMPLE									

Start Sampling	1020	Sample Number:	MW-111	Sample Time:	1020
End Sampling	1026	Final			

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **SH-04**

Date: **12/14/16**

Page 1 of ____

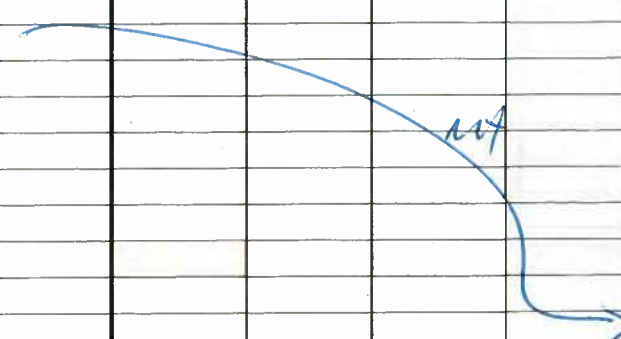
Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	14
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	ON SITE
Field Conditions:	SUNNY 35°
Comments:	
Initial DTW:	8.34
HANNA TURBIDITY METER USED	

Well Information		Stick-up or Flush (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2	16		6		6 - 16

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
1	VIA	HCL	ISTEX	N	
1	VIA	HCL	CA	N	
1	250mls	HCL	DA	N	

Well Purge Data											
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
0830	Pump On		Initial 8.34	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria	
0840	0	200	8.37	9.45	155	4.29	6.70	-30.4	31.4	clear	
0845	1	200	8.39	9.10	143	1.00	6.51	-34.2	20.8	clear	
0850	2	200	8.40	9.02	139	0.63	6.51	-44.7	10.3	clear	
0855	3	200	8.40	8.97	138	0.54	6.47	-45.8	9.33	clear	
0900	4	200	8.41	8.71	133	0.42	6.42	-48.8	6.71	clear	
0905	5	200	8.41	8.85	133	0.40	6.41	-48.0	6.33	clear	
0910	6	200	8.42	8.88	133	0.39	6.41	-48.2	7.21	clear	
0915	SAMPLE										
Start Sampling			0915								
End Sampling			0922	Sample Number:			SH04	Sample Time:			0915



Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-105
Date: 12/14/16

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MARK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	ON SITE
Field Conditions:	SUNNY 35°
Comments:	
Initial DTW: 4.15	
AANNA TURBIDITY METER USED	
- VERY BUSY TRUCK TRAFFIC!	

Well Information		Stick-up or <u>Flush</u> (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen	Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs) (ft btc)	
2	14.5		5	5 - 14.5

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers					Filtered?
Number	Type	Preservative	Analytical Parameters		
1	VVA	HCL	BTEX	N	
1	VVA	HCL	CIX	N	
1	250 AMB	HCL	DX	N	
1	250 poly	NITR	LEAD	N	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1037	Pump On		Initial	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1040	0	200	4.12	14.95	163	1.43	6.32	-27.8	14.7	clear
1045	1	200	4.12	14.76	161	0.51	6.19	-47.7	12.1	clear
1050	2	200	4.11	14.77	161	0.46	6.18	-51.0	10.4	clear
1055	3	200	4.11	14.62	160	0.38	6.17	-55.3	10.3	clear
1100	4	200	4.12	14.68	160	0.35	6.15	-56.1	9.86	clear
1105	5	200	4.12	14.66	160	0.33	6.14	-57.6	8.72	clear
1110	6	200	4.13	14.63	160	0.32	6.14	-58.1	8.67	clear
1115	SAMPLE									

Start Sampling: 1115 End Sampling: 1120 Sample Number: MW-105 Sample Time: 1115

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **TX-04**
Date: **12/12/16**

Page 1 of 1

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	10-flo peri pump
Pump Intake Depth (ft btc):	12.5
Flow-Through Cell:	Monba
Sampling Method:	10-flo peri pump
Decontamination Method:	dw separator donor
Purge Water Disposal:	dw separator
Field Conditions:	cloudy 45° windy
Comments:	
Initial DTW:	8.98

Well Information		Stick-up or Flush (circle one)			
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	16		6		6-14
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40 mL VOA	ACL	NWTPH-GX	
1	"	HCL	BTEX	
1	25 L amber	HCL	NWTPH-DX	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On	1423	Initial	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	≤ Stabilization Criteria
1432	0	200	8.98	10.37	0.348	4.31	6.99	-54	12.3	clear
1437		200	8.98	10.49	0.348	1.46	6.98	-84	3.4	
1442		200	8.98	10.54	0.347	1.09	7.00	-95	1.5	
1447		200	8.98	10.73	0.347	0.95	7.01	-103	0.0	
1452		200	8.98	10.69	0.351	0.88	7.02	-106	0.0	
1457		200	8.98	10.65	0.353	0.82	7.02	-108	0.0	
Start Sampling										
End Sampling			Sample Number: TX-04				Sample Time: 1457			
			Final							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: **TX-06A**

Date: **12/12/16**

Page 1 of ____

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	MAEK TAUSCHER
Purge Method:	P-PUMP
Pump Intake Depth (ft btc):	13
Flow-Through Cell:	YSI 556
Sampling Method:	LOW FLOW
Decontamination Method:	
Purge Water Disposal:	on site
Field Conditions:	Overcast 44°
Comments:	
Initial DTW:	3.25
HANNA TURBIDITY USED	
ORANGE IRON LIKE SUBSTANCE in water. SIMILAR TO MW-313, BUT DARKER AND MORE DENSE HERE.	

Well Information				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2'	15.8'		5'		5 - 15'

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	VOA	HCL	ISTEX	N
1	VOA	HCL	CrX	N
1	250 AMB	HCL	Dx	N

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
1347	Pump On		Initial 3.25	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1355	0	200	3.28	12.75	222	1.03	6.43	-67.0	71.8	Floating Iron bits (they actually sink)
1400	2	200	3.25	12.89	217	1.02	6.47	-86.3	12.2	clear
1405	2.6	120	3.25	12.22	213	0.66	6.47	-91.7	9.40	clear
1410	3.2	120	3.25	12.21	213	0.64	6.48	-92.0	13.2	clear
1415	3.8	120	3.26	12.01	213	0.56	6.55	-97.3	8.88	clear
1420	4.4	120	3.26	11.97	213	0.56	6.55	-97.6	8.73	clear
1425	5.0	120	3.26	11.95	212	0.55	6.55	-97.3	6.56	clear
1430	SAMPLE									
Start Sampling	1430									
End Sampling	1437		Sample Number: TX-06A				Sample Time: 1430			
			Final 3.26							

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Monitoring Well Sampling Field Log

Well Number: MW-214

Date: 12/14/16

Page 1 of 1

Project Information	
Project Name:	Seattle Terminal
AECOM Project Number:	
Sampling Information	
Field Team:	DL MT
Purge Method:	low-flo peri pump
Pump Intake Depth (ft btc):	35
Flow-Through Cell:	Homba
Sampling Method:	low flo peri pump
Decontamination Method:	Alconox Spray
Purge Water Disposal:	o/w/s
Field Conditions:	cloudy 35°
Comments:	
Initial DTW:	5.58

Well Information				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
	40		30		30 - 40
CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
1	40ml VOA	HCL	NWTPH-GP	
1	.25L Amber	HCL	NWSPH-DX	
1	40ml VOA	HCL	BTEX	
1	.25L poly	H2O2	PAH	
1	.25 poly	none	PAH	

Well Purge Data										
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
			Initial		mS/cm ±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
1305	0	200	5.58	9.95	0.310	8.39	6.96	24	0.0	clear
1308	1	200	5.58	10.11	0.308	8.00	6.96	26	0.0	
1311		200	5.58	10.29	0.309	7.75	6.97	30	0.0	
1314		200	5.58	10.43	0.310	7.39	6.98	33	0.00	
1317		200	5.58	10.56	0.311	7.22	6.98	36	0.00	
1320		200	5.58	10.50	0.312	7.24	6.98	39	0.0	

Start Sampling: End Sampling: Sample Number: MW-214 Sample Time: 1325

Notes: AC = almost clear btc = below top of casing DTW = depth to water VC = very cloudy

Appendix B Data Validation and Laboratory Analytical Reports

Final Data Review

The data quality review of 7 primary groundwater samples and one trip blank collected February 22 and February 23, 2015, at the Harbor Island site in Seattle, Washington has been completed. Samples were submitted to TestAmerica (TA) of Spokane, Washington. The samples submitted were analyzed for one or more of the following: benzene, toluene, ethylbenzene, m,p-Xylene, o-Xylene, and total xylene (BTEX; EPA Method 8260C), and volatile petroleum products (gasoline; Method NWTPH-Gx).

The review included the analytical data presented in TA report 590-2875-1. The data were reviewed based on *National Functional Guidelines for Superfund Organic Methods Data Review* (EPA, 2014) and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records, hold times, surrogate recoveries, laboratory control results, and method blank results. No data qualifiers were assigned as a result of this review.

The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable with the following note:

The samples were received by the laboratory above the recommended temperature of ≤ 6 degrees Celsius ($^{\circ}\text{C}$) at 6.7°C . As the cooler temperature only marginally exceeded the recommended temperature no bias is expected in the sample results; no qualification is necessary.

- Preservation – Acceptable
- Hold Times – Acceptable
- Method Blanks – Acceptable
- Trip Blanks - Acceptable
- Surrogates – Acceptable
- Laboratory Control Samples (LCS) – Acceptable
- Reporting Limits – Acceptable

Overall Assessment of Data

The completeness of the analytical reports for this quarter laboratory analysis is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Shell – 2016 First Quarter Progress Report – Harbor Island

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.

DNR Do Not Report. Another result is available that is more reliable.

References

EPA, 2014. National Functional Guidelines for Superfund Organic Methods Data Review. August.

Shell – 2016 Second Quarter Progress Report – Harbor Island

Laboratory & Report No.	Test America Laboratories, Inc, #590-3364-1
Report Date	May 17, 2016
Sampling Event	May 2 to May 5, 2016
Site Location	Seattle Terminal/Harbor Island, WA
AECOM Project No.	60483182.03001
Project Name	2 nd Quarter Groundwater Monitoring

Final Data Review

The following document summarizes the completed data quality review of 20 primary groundwater samples, one field duplicate groundwater sample, and one trip blank sample collected May 2, 2016 through May 5, 2016, at the Harbor Island site in Seattle, Washington. Samples were submitted to TestAmerica Laboratories, Inc. (TA) of Spokane, Washington and subsequently analyzed for one or more of the following:

- Volatile organic compounds (VOCs) Benzene, Ethylbenzene, Toluene, and o-, m,p- and total Xylenes (BTEX) using US Environmental Protection Agency (EPA) Method 8260B,
- Volatile petroleum products using Northwest (NW) total petroleum hydrocarbons (TPH) method for Gasoline (Method NWTPH-Gx),
- Semivolatile Petroleum Products using NWTPH method for Diesel Range Organics (DRO) (C10-C25) and Residual Range Organics (RRO) (C25-C36) (NWTPH-Dx),
- Semivolatile Organic Compounds (SVOC) using EPA Method 8270D – Selective Ion Monitoring (SIM), and
- Total lead (EPA Method 6020A).

All samples were analyzed at the TA laboratory in Spokane with the exception of the total lead analyses, which were completed by TA's Seattle location. The review included the analytical data presented in TA report J3364-1. The data were reviewed based on *National Functional Guidelines (NFGs) for Superfund Organic Methods Data Review* (EPA 2014), *NFGs for Inorganic Superfund Data Review* (EPA 2014), and standard laboratory quality control (QC) criteria. Items reviewed included: chain-of-custody (COC) records and holding times, along with results for method blanks, surrogate recoveries, matrix spike and matrix spike duplicates, laboratory control and laboratory control duplicates, trip blanks, and field duplicates. Data qualifiers assigned as a result of this review are included in Table 1.

The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable

Shell – 2016 Second Quarter Progress Report – Harbor Island

- Preservation – Acceptable
- Hold Times – Acceptable
- Method Blanks – Acceptable with the following exceptions:

Gasoline by Method NWTPH-Gx – Gasoline was detected in the method blanks associated with analysis batch 590-6539 at concentrations of 19.30 micrograms/liter ($\mu\text{g/L}$) and 20.86 $\mu\text{g/L}$. Both method blank detection concentrations were between the method detection limit (MDL) and method reporting limit (MRL). Associated results for samples MW-213 (590-3364-7), MW-214 (590-3364-8), MW-309 (590-3364-15), and MW-311 (590-3364-17) were previously qualified as estimated and flagged 'J' by the laboratory for concentration between the MDL and MRL; these results are qualified as non-detect and flagged 'U' at the MRL due to the method blank contamination. All other associated sample results were greater than five times the method blank concentrations; therefore, no qualification is necessary.

SVOCs by Method EPA 8270D-SIM – Anthracene was detected in the method blank associated with analysis batch 590-6503 at a concentration of 0.008857 $\mu\text{g/L}$, between the MDL and MRL. Associated results for samples MW-213 (590-3364-7) and MW-214 (590-3364-8) were previously qualified as estimated and flagged 'J' by the laboratory due to the detected concentrations between the MDL and MRL. As a result of method blank contamination, these two sample results are qualified as non-detect and flagged 'U' at the MRL. No other samples analyzed with 8270D-SIM contained detectible concentrations of anthracene, so no qualification is necessary.

- Trip Blanks - Acceptable
- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – TA did not evaluate project-specific sample volumes for MS/MSD analysis as no additional volume was collected during this sampling event; no qualification is necessary.
- Laboratory Duplicates – TA did not evaluate sample-specific laboratory duplicates; no qualification is necessary.
- Field Duplicates – Sample MW-203-Dup (590-3364-22) was submitted as a field duplicate of sample MW-203 (590-33640-9). Results are acceptable.
- Reporting Limits – Acceptable, some reporting limits were raised due to dilutions necessary to perform analyses. No qualification is required.
- Laboratory Notes – The laboratory noted that the detected hydrocarbons in the diesel range appear to be due to overlap from the gasoline range for samples MW-307 (590-3364-4), MW-203 (590-3364-9), MW-111 (590-3364-11), SH-04 (590-3364-18), MW-104 (590-3364-20), and MW-203-Dup (590-3364-22). These comments are available in the TA report. None of the DRO results were qualified based on the TA comments.

Shell – 2016 Second Quarter Progress Report – Harbor Island

Overall Assessment of Data

The completeness of the analytical reports for this quarter laboratory analysis is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable with the additional qualification recommended in this report. The data qualifiers assigned by the laboratory are shown on the laboratory reports. Additional qualifiers assigned during this data review are detailed in this report in Table 1 below.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
- DNR Do Not Report. Another result is available that is more reliable.

References

- EPA, 2014. National Functional Guidelines for Superfund Organic Methods Data Review. EPA-540-R-014-002. August.
- EPA, 2014. National Functional Guidelines for Inorganic Superfund Data Review. EPA-540-R-013-001. August.

Table 1 Sample Qualification Summary

Sample Number	Laboratory ID	Analyte	Data Qualifier (units = mg/L)	Reason for Qualification
MW-213	590-3364-7	Gasoline	< 0.100	Method Blank Contamination
MW-214	590-3364-8			
MW-05	590-3364-12			
MW-309	590-3364-15			
MW-311	590-3364-17			
MW-213	590-3364-7	Anthracene	< 0.0000828	
MW-214	590-3364-8		< 0.0000833	

mg/L = micrograms per liter

Laboratory Data Quality Review

Shell – 2016 Third Quarter Progress Report – Harbor Island

Laboratory & Report No.	Test America Laboratories, Inc, #590-4539-1
Report Date	September 12, 2016
Sampling Event	August 29 to August 30, 2016
Site Location	Seattle Terminal/Harbor Island, WA
AECOM Project No.	60483182.03001
Project Name	3 rd Quarter Groundwater Monitoring

Final Data Review

The following document summarizes the completed data quality review of 10 primary groundwater samples and one trip blank sample, collected August 29th to 30th, 2016, at the Harbor Island site in Seattle, Washington. Samples were submitted to TestAmerica Laboratories, Inc. (TA) in Spokane, Washington and subsequently analyzed for one or more of the following:

- Volatile organic compounds (VOCs) Benzene, Ethylbenzene, Toluene, and o-, m,p- and total Xylenes (BTEX) using US Environmental Protection Agency (EPA) Method 8260C,
- Volatile petroleum products using Northwest (NW) total petroleum hydrocarbons (TPH) method for Gasoline (Method NWTPH-Gx),
- Semivolatile petroleum products using NWTPH method for Diesel Range Organics (DRO) (C10-C26) and Residual Range Organics (RRO) (C25-C36) (Method NWTPH-Dx).

The analytical data in TA report 590-4359-1 were evaluated based on the EPA's *National Functional Guidelines (NFGs) for Superfund Organic Methods Data Review* (EPA 2014) and standard laboratory quality control (QC) criteria. Items reviewed included: chain-of-custody (COC) records and holding times, along with results for method blanks, surrogate recoveries, matrix spike and matrix spike duplicates, laboratory control and laboratory control duplicates, trip blanks, and field duplicates. The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable
- Preservation – Acceptable
- Hold Times – Acceptable
- Method Blanks – Acceptable
- Trip Blanks – Acceptable
- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – TA did not evaluate project-specific sample volumes for MS/MSD analysis as no additional volume was collected during this sampling event; no qualification is necessary.

- Laboratory Duplicates – TA did not evaluate sample-specific laboratory duplicates; no qualification is necessary.
- Field Duplicates – A field duplicate was not collected as part of this sampling event; no qualification is necessary.
- Reporting Limits – Acceptable, some reporting limits were raised due to dilutions necessary to perform analyses. No qualification is necessary.

Overall Assessment of Data

The completeness of the analytical reports for this quarter laboratory analysis is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. No data qualifiers were assigned as during this review. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
- DNR Do Not Report. Another result is available that is more reliable.

References

EPA, 2014. National Functional Guidelines for Superfund Organic Methods Data Review. EPA-540-R-014-002. August 2014.

Laboratory Data Quality Review

Shell – 2016 Fourth Quarter Progress Report – Harbor Island

Laboratory & Report No.	Test America Laboratories, Inc, #590-5225-1 Rev1 and #590-5249-1
Report Date	December 30, 2016 and January 27, 2017
Sampling Event	December 12 to December 15, 2016
Site Location	Seattle Terminal/Harbor Island, WA
AECOM Project No.	60528105.03001
Project Name	4 th Quarter Groundwater Monitoring

Final Data Review

The following document summarizes the completed data quality review of 32 primary groundwater samples and two trip blank samples, collected December 12th to 15th, 2016, at the Harbor Island site in Seattle, Washington. Samples were submitted to TestAmerica Laboratories, Inc. (TA) in Spokane, Washington and subsequently analyzed for one or more of the following:

- Volatile organic compounds (VOCs) Benzene, Ethylbenzene, Toluene, and o-, m,p- and total Xylenes (BTEX) using US Environmental Protection Agency (EPA) Method 8260C,
- Sulfate using EPA Method 300.0,
- Total Metals (Lead) using EPA Method 6020A,
- Dissolved Metals (Iron, and Manganese) using EPA Method 6020A,
- Nitrate-Nitrite as Nitrogen using EPA Method 353.2,
- Volatile petroleum products using Northwest (NW) total petroleum hydrocarbons (TPH) method for Gasoline (Method NWTPH-Gx),
- Semivolatile petroleum products using NWTPH method for Diesel Range Organics (DRO) (C10-C26) and Residual Range Organics (RRO) (C25-C36) (Method NWTPH-Dx), and
- Semivolatile Organic Compounds (SVOCs) using EPA Method 8270D SIM.

All analyses, with the exception of dissolved metals and nitrate, were performed by TA of Spokane, WA. The dissolved metals analyses reported in 590-5225-1 Rev 1 were performed by TA of Seattle, WA. The nitrate analyses were performed by TA of Nashville, TN. The analytical data in TA reports 590-5225-1 and 590-5249-1 were evaluated based on the EPA's *National Functional Guidelines (NFGs) for Inorganic Superfund Methods Data Review* (EPA 2016), EPA's *National Functional Guidelines (NFGs) for Superfund Organic Methods Data Review* (EPA 2016), and standard laboratory quality control (QC) criteria. Items reviewed included: chain-of-custody (COC) records and holding times, along with results for method blanks, surrogate recoveries, matrix spike and matrix spike duplicates, laboratory control and laboratory control duplicates, trip blanks, and field duplicates. Qualifiers assigned as a result of this data review are summarized in Table 1. The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable

- Preservation – Acceptable
- Hold Times – Acceptable
- Method Blanks – Acceptable with the following exceptions:

Gasoline using Method NWTPH-Gx – The method blank for batches 590-10122 and 590-10144 contained Gasoline at concentrations of 29.90 µg/L and 26.13 µg/L, respectively. The method blank concentrations were less than half of the method reporting limit (MRL); therefore, re-analysis of the associated samples was not performed. The laboratory flagged the affected results with a B. Associated detections below the MRL or less than five times (5x) the method blank concentration were qualified as non-detect and flagged (U) at the MRL or reported result, whichever was greater. Results that were greater than 5x the method blank concentration or reported as non-detect were not qualified.

SVOCs using Method 8270D – The method blank for preparation batch 590-10099 and analytical batch 590-10091 contained the following SVOCs:

Analyte	Concentration in Method Blank (µg/L)
Anthracene	0.01265
2-Methylnaphthalene	0.02618
Pyrene	0.008594
Benzo(a)anthracene	0.01026
Chrysene	0.008641
Acenaphthylene	0.01571
Benzo(a)pyrene	0.01247

All MB concentrations were less than half the MRL, so re-analysis was not performed. Associated detections in project samples below the MRL or less than 5x the method blank concentration were qualified as non-detect and flagged (U) at the MRL or reported result, whichever was greater. Results that were greater than 5x the method blank concentration or reported as non-detect were not qualified.

Dissolved Metals using Method 6020A – The method blank for preparation batch 490-396422 contained Manganese at a concentration of 0.001741 mg/L, which was less than the MRL. The associated samples were not re-extracted or re-analyzed because the results were greater than ten times (10x) the method blank concentration. No qualification of affected results was necessary.

- Trip Blanks – Acceptable
- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Additional volume for project specific MS/MSD analyses was not submitted to TA, however, TA did perform some MS/MSD analyses when sufficient volume was available. All reported MS/MSD results were acceptable.
- Laboratory Duplicates – Acceptable with the following exceptions:

VOCs using Method 8260B – The duplicate relative percent difference (RPD) calculated for the laboratory duplicate analysis performed on sample MW-203 (590-5225-19) of 24% exceeded the laboratory limit of 20%. The original and duplicate sample results were less than MRL, so no qualification is necessary.

- Field Duplicates – A field duplicate was not collected as part of this sampling event. No qualification is necessary.
- Reporting Limits – Acceptable, some reporting limits were raised due to dilutions necessary to perform analyses. No qualification is necessary.
- Laboratory Notes – The laboratory noted that the result reported for gasoline in sample MW-203 (590-5225-19) was partially due to the presence of a discrete peak. The result was previously qualified as non-detect at the MRL due to method blank contamination, further qualification is not necessary.

The laboratory noted that the detected hydrocarbons in the diesel range appear to be due to gasoline overlap in samples MW-303 (590-5225-4), MW-307 (590-5225-11), MW-101 (590-5225-12), MW-202 (590-5225-16), MW-203 (590-5225-19), SH-04 (590-5249-3), MW-104 (590-5249-4), MW-111 (590-5249-5), MW-304 (590-5249-10), MW-310 (590-5249-12), TX-03A (590-5249-14), and MW-302 (590-5249-15). No qualification is necessary; the laboratory notes are available in the laboratory reports.

Overall Assessment of Data

The completeness of the analytical reports for this quarter laboratory analysis is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. No data qualifiers were assigned as during this review. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
- DNR Do Not Report. Another result is available that is more reliable.

References

- EPA, 2016. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2016-001. September 2016.
- EPA, 2016. National Functional Guidelines for Superfund Organic Methods Data Review. EPA-540-R-2016-002. September 2016.

Summary

Table 1. Summary of Data Qualifications for 4th Quarter Groundwater Monitoring

Client Sample ID	Laboratory Sample ID	Analyte	Data (mg/L)	Qualifier	Rationale
MW-313	590-5225-5	Gasoline	0.100	U	Method Blank Contamination
MW-101	590-5225-12	Gasoline	0.101	U	
MW-213	590-5225-18	Gasoline	0.100	U	
		2-Methylnaphthalene	0.0000887	U	
		Acenaphthylene			
		Anthracene			
		Pyrene			
Benzo(a)pyrene					
MW-214	590-5249-8	2-Methylnaphthalene	0.0000976	U	
		Acenaphthylene	0.0000883	U	
		Anthracene			
		Benzo(a)pyrene			

Note:

mg/L = milligrams per liter

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-2875-1

TestAmerica Sample Delivery Group: 60411076

Client Project/Site: 2555 13th Avenue, Seattle (60411076)

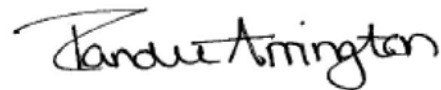
For:

AECOM, Inc.

111 SW Columbia Street, Suite 1500

Portland, Oregon 97201

Attn: Clifford Pearson



Authorized for release by:

3/3/2016 2:48:48 PM

Randee Arrington, Project Manager II

(509)924-9200

randee.arrington@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Detection Summary	6
Client Sample Results	8
QC Sample Results	13
QC Association	16
Chronicle	17
Definitions	19
Certification Summary	20
Chain of Custody	21
Receipt Checklists	22

Case Narrative

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Job ID: 590-2875-1

Laboratory: TestAmerica Spokane

Narrative

Receipt

The samples were received on 2/25/2016 1:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.7° C.

GC/MS VOA

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

VOA Prep

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

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

Sample Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-2875-1	MW-301	Ground Water	02/22/16 11:15	02/25/16 13:20
590-2875-2	MW-307	Ground Water	02/23/16 08:50	02/25/16 13:20
590-2875-3	MW-308	Ground Water	02/23/16 09:35	02/25/16 13:20
590-2875-4	MW-310	Ground Water	02/22/16 13:35	02/25/16 13:20
590-2875-5	MW-311	Ground Water	02/22/16 14:20	02/25/16 13:20
590-2875-6	MW-312	Ground Water	02/23/16 13:15	02/25/16 13:20
590-2875-7	TX-03A	Ground Water	02/22/16 12:15	02/25/16 13:20
590-2875-8	Trip Blanks	Water	02/22/16 00:00	02/25/16 13:20

Method Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK

Protocol References:

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 SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-301

Lab Sample ID: 590-2875-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	280		4.00	0.640	ug/L	20		8260C	Total/NA
Ethylbenzene	10.4		1.00	0.0860	ug/L	1		8260C	Total/NA
m,p-Xylene	7.14		2.00	0.124	ug/L	1		8260C	Total/NA
o-Xylene	0.313	J	1.00	0.0620	ug/L	1		8260C	Total/NA
Toluene	8.81		1.00	0.0380	ug/L	1		8260C	Total/NA
Xylenes, Total	7.46		3.00	0.0160	ug/L	1		8260C	Total/NA
Gasoline	3650		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 590-2875-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	498		20.0	3.20	ug/L	100		8260C	Total/NA
Ethylbenzene	578		100	8.60	ug/L	100		8260C	Total/NA
m,p-Xylene	110	J	200	12.4	ug/L	100		8260C	Total/NA
Toluene	41.7		1.00	0.0380	ug/L	1		8260C	Total/NA
Xylenes, Total	110	J	300	1.60	ug/L	100		8260C	Total/NA
Gasoline	4980		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 590-2875-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.11		0.200	0.0320	ug/L	1		8260C	Total/NA
Ethylbenzene	0.101	J	1.00	0.0860	ug/L	1		8260C	Total/NA
Gasoline	61.9	J	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 590-2875-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	775		20.0	3.20	ug/L	100		8260C	Total/NA
Ethylbenzene	303		100	8.60	ug/L	100		8260C	Total/NA
m,p-Xylene	58.2		2.00	0.124	ug/L	1		8260C	Total/NA
o-Xylene	3.26		1.00	0.0620	ug/L	1		8260C	Total/NA
Toluene	43.6		1.00	0.0380	ug/L	1		8260C	Total/NA
Xylenes, Total	61.5		3.00	0.0160	ug/L	1		8260C	Total/NA
Gasoline	4860		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-311

Lab Sample ID: 590-2875-5

No Detections.

Client Sample ID: MW-312

Lab Sample ID: 590-2875-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	327		4.00	0.640	ug/L	20		8260C	Total/NA
Ethylbenzene	7.59		1.00	0.0860	ug/L	1		8260C	Total/NA
m,p-Xylene	3.81		2.00	0.124	ug/L	1		8260C	Total/NA
o-Xylene	0.358	J	1.00	0.0620	ug/L	1		8260C	Total/NA
Toluene	3.54		1.00	0.0380	ug/L	1		8260C	Total/NA
Xylenes, Total	4.16		3.00	0.0160	ug/L	1		8260C	Total/NA
Gasoline	1960		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: TX-03A

Lab Sample ID: 590-2875-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1780		20.0	3.20	ug/L	100		8260C	Total/NA
Ethylbenzene	88.2		1.00	0.0860	ug/L	1		8260C	Total/NA
m,p-Xylene	36.6		2.00	0.124	ug/L	1		8260C	Total/NA
o-Xylene	1.89		1.00	0.0620	ug/L	1		8260C	Total/NA
Toluene	27.4		1.00	0.0380	ug/L	1		8260C	Total/NA
Xylenes, Total	38.5		3.00	0.0160	ug/L	1		8260C	Total/NA
Gasoline	5170		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: Trip Blanks

Lab Sample ID: 590-2875-8

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-301

Date Collected: 02/22/16 11:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-1

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	280		4.00	0.640	ug/L			03/02/16 13:13	20
Ethylbenzene	10.4		1.00	0.0860	ug/L			03/01/16 12:32	1
m,p-Xylene	7.14		2.00	0.124	ug/L			03/01/16 12:32	1
o-Xylene	0.313	J	1.00	0.0620	ug/L			03/01/16 12:32	1
Toluene	8.81		1.00	0.0380	ug/L			03/01/16 12:32	1
Xylenes, Total	7.46		3.00	0.0160	ug/L			03/01/16 12:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		03/01/16 12:32	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		03/02/16 13:13	20
4-Bromofluorobenzene (Surr)	111		68.7 - 141		03/01/16 12:32	1
4-Bromofluorobenzene (Surr)	108		68.7 - 141		03/02/16 13:13	20
Dibromofluoromethane (Surr)	92		71.2 - 143		03/01/16 12:32	1
Dibromofluoromethane (Surr)	103		71.2 - 143		03/02/16 13:13	20
Toluene-d8 (Surr)	84		74.1 - 135		03/01/16 12:32	1
Toluene-d8 (Surr)	99		74.1 - 135		03/02/16 13:13	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3650		100	17.8	ug/L			03/01/16 12:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		68.7 - 141		03/01/16 12:32	1

Client Sample ID: MW-307

Date Collected: 02/23/16 08:50

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-2

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	498		20.0	3.20	ug/L			03/02/16 13:34	100
Ethylbenzene	578		100	8.60	ug/L			03/02/16 13:34	100
m,p-Xylene	110	J	200	12.4	ug/L			03/02/16 13:34	100
o-Xylene	ND		100	6.20	ug/L			03/02/16 13:34	100
Toluene	41.7		1.00	0.0380	ug/L			03/01/16 12:53	1
Xylenes, Total	110	J	300	1.60	ug/L			03/02/16 13:34	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 140		03/01/16 12:53	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		03/02/16 13:34	100
4-Bromofluorobenzene (Surr)	123		68.7 - 141		03/01/16 12:53	1
4-Bromofluorobenzene (Surr)	107		68.7 - 141		03/02/16 13:34	100
Dibromofluoromethane (Surr)	88		71.2 - 143		03/01/16 12:53	1
Dibromofluoromethane (Surr)	100		71.2 - 143		03/02/16 13:34	100
Toluene-d8 (Surr)	110		74.1 - 135		03/01/16 12:53	1
Toluene-d8 (Surr)	102		74.1 - 135		03/02/16 13:34	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4980		100	17.8	ug/L			03/01/16 12:53	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-307

Date Collected: 02/23/16 08:50

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-2

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		68.7 - 141		03/01/16 12:53	1

Client Sample ID: MW-308

Date Collected: 02/23/16 09:35

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-3

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7.11		0.200	0.0320	ug/L			03/02/16 13:55	1
Ethylbenzene	0.101	J	1.00	0.0860	ug/L			03/02/16 13:55	1
m,p-Xylene	ND		2.00	0.124	ug/L			03/02/16 13:55	1
o-Xylene	ND		1.00	0.0620	ug/L			03/02/16 13:55	1
Toluene	ND		1.00	0.0380	ug/L			03/02/16 13:55	1
Xylenes, Total	ND		3.00	0.0160	ug/L			03/02/16 13:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		03/02/16 13:55	1
4-Bromofluorobenzene (Surr)	101		68.7 - 141		03/02/16 13:55	1
Dibromofluoromethane (Surr)	100		71.2 - 143		03/02/16 13:55	1
Toluene-d8 (Surr)	99		74.1 - 135		03/02/16 13:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	61.9	J	100	17.8	ug/L			03/02/16 13:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141		03/02/16 13:55	1

Client Sample ID: MW-310

Date Collected: 02/22/16 13:35

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-4

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	775		20.0	3.20	ug/L			03/02/16 14:17	100
Ethylbenzene	303		100	8.60	ug/L			03/02/16 14:17	100
m,p-Xylene	58.2		2.00	0.124	ug/L			03/01/16 13:36	1
o-Xylene	3.26		1.00	0.0620	ug/L			03/01/16 13:36	1
Toluene	43.6		1.00	0.0380	ug/L			03/01/16 13:36	1
Xylenes, Total	61.5		3.00	0.0160	ug/L			03/01/16 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 140		03/01/16 13:36	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/02/16 14:17	100
4-Bromofluorobenzene (Surr)	110		68.7 - 141		03/01/16 13:36	1
4-Bromofluorobenzene (Surr)	106		68.7 - 141		03/02/16 14:17	100
Dibromofluoromethane (Surr)	88		71.2 - 143		03/01/16 13:36	1
Dibromofluoromethane (Surr)	98		71.2 - 143		03/02/16 14:17	100
Toluene-d8 (Surr)	107		74.1 - 135		03/01/16 13:36	1
Toluene-d8 (Surr)	100		74.1 - 135		03/02/16 14:17	100

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-310

Date Collected: 02/22/16 13:35

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-4

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4860		100	17.8	ug/L			03/01/16 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		68.7 - 141		03/01/16 13:36	1

Client Sample ID: MW-311

Date Collected: 02/22/16 14:20

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-5

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0320	ug/L			03/02/16 14:38	1
Ethylbenzene	ND		1.00	0.0860	ug/L			03/02/16 14:38	1
m,p-Xylene	ND		2.00	0.124	ug/L			03/02/16 14:38	1
o-Xylene	ND		1.00	0.0620	ug/L			03/02/16 14:38	1
Toluene	ND		1.00	0.0380	ug/L			03/02/16 14:38	1
Xylenes, Total	ND		3.00	0.0160	ug/L			03/02/16 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		03/02/16 14:38	1
4-Bromofluorobenzene (Surr)	99		68.7 - 141		03/02/16 14:38	1
Dibromofluoromethane (Surr)	110		71.2 - 143		03/02/16 14:38	1
Toluene-d8 (Surr)	96		74.1 - 135		03/02/16 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			03/02/16 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141		03/02/16 14:38	1

Client Sample ID: MW-312

Date Collected: 02/23/16 13:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-6

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	327		4.00	0.640	ug/L			03/02/16 15:00	20
Ethylbenzene	7.59		1.00	0.0860	ug/L			03/01/16 14:18	1
m,p-Xylene	3.81		2.00	0.124	ug/L			03/01/16 14:18	1
o-Xylene	0.358	J	1.00	0.0620	ug/L			03/01/16 14:18	1
Toluene	3.54		1.00	0.0380	ug/L			03/01/16 14:18	1
Xylenes, Total	4.16		3.00	0.0160	ug/L			03/01/16 14:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 140		03/01/16 14:18	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		03/02/16 15:00	20
4-Bromofluorobenzene (Surr)	119		68.7 - 141		03/01/16 14:18	1
4-Bromofluorobenzene (Surr)	105		68.7 - 141		03/02/16 15:00	20
Dibromofluoromethane (Surr)	101		71.2 - 143		03/01/16 14:18	1
Dibromofluoromethane (Surr)	104		71.2 - 143		03/02/16 15:00	20

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-312

Date Collected: 02/23/16 13:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-6

Matrix: Ground Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	84		74.1 - 135		03/01/16 14:18	1
Toluene-d8 (Surr)	99		74.1 - 135		03/02/16 15:00	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1960		100	17.8	ug/L			03/01/16 14:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		68.7 - 141		03/01/16 14:18	1

Client Sample ID: TX-03A

Date Collected: 02/22/16 12:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-7

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1780		20.0	3.20	ug/L			03/02/16 15:21	100
Ethylbenzene	88.2		1.00	0.0860	ug/L			03/01/16 14:40	1
m,p-Xylene	36.6		2.00	0.124	ug/L			03/01/16 14:40	1
o-Xylene	1.89		1.00	0.0620	ug/L			03/01/16 14:40	1
Toluene	27.4		1.00	0.0380	ug/L			03/01/16 14:40	1
Xylenes, Total	38.5		3.00	0.0160	ug/L			03/01/16 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 140		03/01/16 14:40	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		03/02/16 15:21	100
4-Bromofluorobenzene (Surr)	115		68.7 - 141		03/01/16 14:40	1
4-Bromofluorobenzene (Surr)	102		68.7 - 141		03/02/16 15:21	100
Dibromofluoromethane (Surr)	98		71.2 - 143		03/01/16 14:40	1
Dibromofluoromethane (Surr)	100		71.2 - 143		03/02/16 15:21	100
Toluene-d8 (Surr)	96		74.1 - 135		03/01/16 14:40	1
Toluene-d8 (Surr)	98		74.1 - 135		03/02/16 15:21	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5170		100	17.8	ug/L			03/01/16 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		68.7 - 141		03/01/16 14:40	1

Client Sample ID: Trip Blanks

Date Collected: 02/22/16 00:00

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0320	ug/L			03/02/16 15:42	1
Ethylbenzene	ND		1.00	0.0860	ug/L			03/02/16 15:42	1
m,p-Xylene	ND		2.00	0.124	ug/L			03/02/16 15:42	1
o-Xylene	ND		1.00	0.0620	ug/L			03/02/16 15:42	1
Toluene	ND		1.00	0.0380	ug/L			03/02/16 15:42	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: Trip Blanks

Date Collected: 02/22/16 00:00

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		3.00	0.0160	ug/L			03/02/16 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		03/02/16 15:42	1
4-Bromofluorobenzene (Surr)	103		68.7 - 141		03/02/16 15:42	1
Dibromofluoromethane (Surr)	104		71.2 - 143		03/02/16 15:42	1
Toluene-d8 (Surr)	101		74.1 - 135		03/02/16 15:42	1

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

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

Lab Sample ID: MB 590-5614/6

Matrix: Water

Analysis Batch: 5614

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0320	ug/L			03/01/16 11:37	1
Ethylbenzene	ND		1.00	0.0860	ug/L			03/01/16 11:37	1
m,p-Xylene	ND		2.00	0.124	ug/L			03/01/16 11:37	1
o-Xylene	ND		1.00	0.0620	ug/L			03/01/16 11:37	1
Toluene	ND		1.00	0.0380	ug/L			03/01/16 11:37	1
Xylenes, Total	ND		3.00	0.0160	ug/L			03/01/16 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		03/01/16 11:37	1
4-Bromofluorobenzene (Surr)	117		68.7 - 141		03/01/16 11:37	1
Dibromofluoromethane (Surr)	99		71.2 - 143		03/01/16 11:37	1
Toluene-d8 (Surr)	85		74.1 - 135		03/01/16 11:37	1

Lab Sample ID: LCS 590-5614/1004

Matrix: Water

Analysis Batch: 5614

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.71		ug/L		107	80 - 140
Ethylbenzene	10.0	10.28		ug/L		102	80 - 120
m,p-Xylene	10.0	11.41		ug/L		114	80 - 120
o-Xylene	10.0	11.37		ug/L		114	80 - 120
Toluene	10.0	11.15		ug/L		111	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	109		70 - 140
4-Bromofluorobenzene (Surr)	107		68.7 - 141
Dibromofluoromethane (Surr)	95		71.2 - 143
Toluene-d8 (Surr)	96		74.1 - 135

Lab Sample ID: MB 590-5629/7

Matrix: Water

Analysis Batch: 5629

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0320	ug/L			03/02/16 12:39	1
Ethylbenzene	ND		1.00	0.0860	ug/L			03/02/16 12:39	1
m,p-Xylene	ND		2.00	0.124	ug/L			03/02/16 12:39	1
o-Xylene	ND		1.00	0.0620	ug/L			03/02/16 12:39	1
Toluene	ND		1.00	0.0380	ug/L			03/02/16 12:39	1
Xylenes, Total	ND		3.00	0.0160	ug/L			03/02/16 12:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/02/16 12:39	1
4-Bromofluorobenzene (Surr)	107		68.7 - 141		03/02/16 12:39	1
Dibromofluoromethane (Surr)	102		71.2 - 143		03/02/16 12:39	1
Toluene-d8 (Surr)	102		74.1 - 135		03/02/16 12:39	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

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

Lab Sample ID: LCS 590-5629/1005

Matrix: Water

Analysis Batch: 5629

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.41		ug/L		104	80 - 140
Ethylbenzene	10.0	9.507		ug/L		95	80 - 120
m,p-Xylene	10.0	9.577		ug/L		96	80 - 120
o-Xylene	10.0	9.894		ug/L		99	80 - 120
Toluene	10.0	9.909		ug/L		99	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 140
4-Bromofluorobenzene (Surr)	102		68.7 - 141
Dibromofluoromethane (Surr)	101		71.2 - 143
Toluene-d8 (Surr)	101		74.1 - 135

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

Lab Sample ID: MB 590-5615/6

Matrix: Water

Analysis Batch: 5615

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			03/01/16 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		68.7 - 141		03/01/16 11:37	1

Lab Sample ID: LCS 590-5615/1005

Matrix: Water

Analysis Batch: 5615

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	998	886.3		ug/L		89	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		68.7 - 141

Lab Sample ID: MB 590-5630/7

Matrix: Water

Analysis Batch: 5630

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			03/02/16 12:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		68.7 - 141		03/02/16 12:39	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
 SDG: 60411076

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

Lab Sample ID: LCS 590-5630/1006
 Matrix: Water
 Analysis Batch: 5630

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	998	1052		ug/L		105	80 - 120
Surrogate		%Recovery	LCS Qualifier				Limits
4-Bromofluorobenzene (Surr)		106					68.7 - 141

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

QC Association Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

GC/MS VOA

Analysis Batch: 5614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-2875-1	MW-301	Total/NA	Ground Water	8260C	
590-2875-2	MW-307	Total/NA	Ground Water	8260C	
590-2875-4	MW-310	Total/NA	Ground Water	8260C	
590-2875-6	MW-312	Total/NA	Ground Water	8260C	
590-2875-7	TX-03A	Total/NA	Ground Water	8260C	
LCS 590-5614/1004	Lab Control Sample	Total/NA	Water	8260C	
MB 590-5614/6	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 5615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-2875-1	MW-301	Total/NA	Ground Water	NWTPH-Gx	
590-2875-2	MW-307	Total/NA	Ground Water	NWTPH-Gx	
590-2875-4	MW-310	Total/NA	Ground Water	NWTPH-Gx	
590-2875-6	MW-312	Total/NA	Ground Water	NWTPH-Gx	
590-2875-7	TX-03A	Total/NA	Ground Water	NWTPH-Gx	
LCS 590-5615/1005	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
MB 590-5615/6	Method Blank	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 5629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-2875-1	MW-301	Total/NA	Ground Water	8260C	
590-2875-2	MW-307	Total/NA	Ground Water	8260C	
590-2875-3	MW-308	Total/NA	Ground Water	8260C	
590-2875-4	MW-310	Total/NA	Ground Water	8260C	
590-2875-5	MW-311	Total/NA	Ground Water	8260C	
590-2875-6	MW-312	Total/NA	Ground Water	8260C	
590-2875-7	TX-03A	Total/NA	Ground Water	8260C	
590-2875-8	Trip Blanks	Total/NA	Water	8260C	
LCS 590-5629/1005	Lab Control Sample	Total/NA	Water	8260C	
MB 590-5629/7	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 5630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-2875-3	MW-308	Total/NA	Ground Water	NWTPH-Gx	
590-2875-5	MW-311	Total/NA	Ground Water	NWTPH-Gx	
LCS 590-5630/1006	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
MB 590-5630/7	Method Blank	Total/NA	Water	NWTPH-Gx	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-301

Date Collected: 02/22/16 11:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	5629	03/02/16 13:13	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	5614	03/01/16 12:32	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5615	03/01/16 12:32	MRS	TAL SPK

Client Sample ID: MW-307

Date Collected: 02/23/16 08:50

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	43 mL	43 mL	5629	03/02/16 13:34	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	5614	03/01/16 12:53	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5615	03/01/16 12:53	MRS	TAL SPK

Client Sample ID: MW-308

Date Collected: 02/23/16 09:35

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	5629	03/02/16 13:55	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5630	03/02/16 13:55	MRS	TAL SPK

Client Sample ID: MW-310

Date Collected: 02/22/16 13:35

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	43 mL	43 mL	5629	03/02/16 14:17	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	5614	03/01/16 13:36	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5615	03/01/16 13:36	MRS	TAL SPK

Client Sample ID: MW-311

Date Collected: 02/22/16 14:20

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	5629	03/02/16 14:38	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5630	03/02/16 14:38	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Client Sample ID: MW-312

Date Collected: 02/23/16 13:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	5629	03/02/16 15:00	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	5614	03/01/16 14:18	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5615	03/01/16 14:18	MRS	TAL SPK

Client Sample ID: TX-03A

Date Collected: 02/22/16 12:15

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	43 mL	43 mL	5629	03/02/16 15:21	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	5614	03/01/16 14:40	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	5615	03/01/16 14:40	MRS	TAL SPK

Client Sample ID: Trip Blanks

Date Collected: 02/22/16 00:00

Date Received: 02/25/16 13:20

Lab Sample ID: 590-2875-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	5629	03/02/16 15:42	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Certification Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-2875-1
SDG: 60411076

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C569	01-06-17

Analysis Method	Prep Method	Matrix	Analyte
-----------------	-------------	--------	---------

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

LAB (LOCATION)

ACCOUNTS
 CALSCEGENCE
 ESTIMERICA (SPOKANE)
 Other

Please Check Appropriate Box:
 ENV. SERVICES
 MOTIVA RETAIL
 MOTIVA SDS/CM
 CONSULTANT
 SHELL RETAIL
 SHELL RETAIL
 LUBES
 SHELL PIPELINE
 OTHER

Print Bill To Contact Name:
 PO #
 SAP #
 INCIDENT # (ENV SERVICES)
 DATE: 2/23/16
 CHECK IF NO INCIDENT # APPLIES
 PAGE: 1 of 1



Shell Oil Products Chain Of Custody Record

AECOM

ADDRESS: 111 Southwest Columbia Street, Suite 1500, Portland, Oregon 97201
 PROJECT CONTACT (Agency or POC Report to): Clifford J Pearson
 TEL: 503-222-4292 FAX: 503-222-4292
 SALES/ROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND
 LA - RINCOB REPORT FORMAT UST AGENCY:
 DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY)
 TEMPERATURE ON RECEIPT °C Cooler #1 Cooler #2 Cooler #3

SHIP TO CONTACT EMAIL: Clifford.Pearson@aecom.com
 SITE ADDRESS Street and City: 2555 13th Avenue, Seattle
 STATE: WA ZIP: 98108
 PHONE NO: 503-222-7200
 EMAIL: Clifford.Pearson@aecom.com
 CONSULTANT PROJECT NO: 60411076

LAB USE ONLY
 FIELD SAMPLE IDENTIFICATION
 DATE TIME MATRIX PRESERVATIVE NO. OF CONT.
 HCL H2SO4 NONE OTHER
 MW-301 2/23/16 1115 WATER X 28
 MW-307 2/23/16 0850 WATER X 28
 MW-308 2/23/16 0955 WATER X 28
 MW-310 2/23/16 1335 WATER X 28
 MW-311 2/23/16 1420 WATER X 28
 MW-312 2/23/16 1515 WATER X 28
 TX-03A 2/22/16 1215 WATER X 28
 WATER X
 Trip Blank WATER X 18

SPECIAL INSTRUCTIONS OR NOTES:
 SHELL CONTRACT RATE APPLIES
 STATEMENT OF RESERVATION RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE LEAD DISK

UNIT COST REQUESTED ANALYSIS NON-UNIT COST
 NWTPH-Gx
 BTEX
 RBDM VOCs (6260B)

FIELD NOTES:
 TEMPERATURE ON RECEIPT °C
 Container PID Readings or Laboratory Notes

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	UNIT COST	REQUESTED ANALYSIS	NON-UNIT COST	DATE	TIME
	MW-301	2/23/16	1115	WATER	X	28	X			2/23/16	1530
	MW-307	2/23/16	0850	WATER	X	28	X			2/23/16	1320
	MW-308	2/23/16	0955	WATER	X	28	X				
	MW-310	2/23/16	1335	WATER	X	28	X				
	MW-311	2/23/16	1420	WATER	X	28	X				
	MW-312	2/23/16	1515	WATER	X	28	X				
	TX-03A	2/22/16	1215	WATER	X	28	X				
	WATER			WATER	X		X				
	Trip Blank			WATER	X	18	X				

Requested by (Signature): [Signature]

Received by (Signature): [Signature]

FEDER MAT Side

Requested by (Signature): [Signature]
 Date: 2/23/16
 Time: 1530

Date: 2/23/16
 Time: 1320



590-2875 Chain of Custody

6. POC (Rev)

06/2008 Revision

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-2875-1

SDG Number: 60411076

Login Number: 2875

List Number: 1

Creator: Arrington, Randee E

List Source: TestAmerica Spokane

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.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-3364-1

Client Project/Site: 2555 13th Avenue, Seattle (60411076)

Sampling Event: Quarterly Groundwater Monitoring

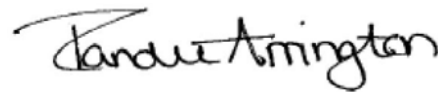
For:

AECOM, Inc.

111 SW Columbia Street, Suite 1500

Portland, Oregon 97201

Attn: Clifford Pearson



Authorized for release by:

5/17/2016 11:30:53 AM

Randee Arrington, Project Manager II

(509)924-9200

randee.arrington@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Detection Summary	6
Client Sample Results	10
QC Sample Results	24
QC Association	30
Chronicle	33
Definitions	38
Certification Summary	39
Chain of Custody	40
Receipt Checklists	43

Case Narrative

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Job ID: 590-3364-1

Laboratory: TestAmerica Spokane

Narrative

Receipt

The samples were received on 5/6/2016 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

GC/MS VOA

Method NWTPH-Gx: The method blank for analytical batch 590-6539 contained Gasoline above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-analysis of samples was not performed.

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

GC/MS Semi VOA

Method 8270D SIM: The method blank for preparation batch 590-6505 and analytical batch 590-6503 contained Anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

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

GC Semi VOA

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap in the following samples: MW-307 (590-3364-4), MW-203 (590-3364-9), MW-111 (590-3364-11), SH-04 (590-3364-18), MW-104 (590-3364-20) and MW-203-Dup (590-3364-22).

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

Metals

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

Organic Prep

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

VOA Prep

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

Sample Summary

Client: AECOM, Inc.

TestAmerica Job ID: 590-3364-1

Project/Site: 2555 13th Avenue, Seattle (60411076)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-3364-1	MW-310	Ground Water	05/02/16 14:15	05/06/16 10:47
590-3364-2	MW-301	Ground Water	05/02/16 13:20	05/06/16 10:47
590-3364-3	TX-03A	Ground Water	05/02/16 12:25	05/06/16 10:47
590-3364-4	MW-307	Ground Water	05/03/16 09:05	05/06/16 10:47
590-3364-5	MW-308	Ground Water	05/03/16 10:10	05/06/16 10:47
590-3364-6	MW-202	Ground Water	05/03/16 12:35	05/06/16 10:47
590-3364-7	MW-213	Ground Water	05/03/16 15:20	05/06/16 10:47
590-3364-8	MW-214	Ground Water	05/03/16 16:05	05/06/16 10:47
590-3364-9	MW-203	Ground Water	05/04/16 08:40	05/06/16 10:47
590-3364-10	MW-302	Ground Water	05/04/16 09:45	05/06/16 10:47
590-3364-11	MW-111	Ground Water	05/04/16 11:20	05/06/16 10:47
590-3364-12	MW-05	Ground Water	05/04/16 12:55	05/06/16 10:47
590-3364-13	MW-304	Ground Water	05/04/16 14:40	05/06/16 10:47
590-3364-14	MW-303	Ground Water	05/04/16 15:25	05/06/16 10:47
590-3364-15	MW-309	Ground Water	05/04/16 16:35	05/06/16 10:47
590-3364-16	MW-312	Ground Water	05/04/16 17:50	05/06/16 10:47
590-3364-17	MW-311	Ground Water	05/04/16 18:30	05/06/16 10:47
590-3364-18	SH-04	Ground Water	05/05/16 08:20	05/06/16 10:47
590-3364-19	MW-112A	Ground Water	05/05/16 09:10	05/06/16 10:47
590-3364-20	MW-104	Ground Water	05/05/16 10:20	05/06/16 10:47
590-3364-21	Trip Blanks	Ground Water	05/05/16 00:00	05/06/16 10:47
590-3364-22	MW-203-Dup	Water	05/04/16 08:40	05/06/16 10:47

Method Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
6020A	Metals (ICP/MS)	SW846	TAL SEA

Protocol References:

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

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200



Detection Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-310

Lab Sample ID: 590-3364-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	655		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	324		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	69.3		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	2.85		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	34.9		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	72.1		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	4820	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-301

Lab Sample ID: 590-3364-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	170		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	13.8		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	6.42		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.210	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	8.34		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	6.63		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	3320	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: TX-03A

Lab Sample ID: 590-3364-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1540		10.0	4.65	ug/L	50		8260C	Total/NA
Ethylbenzene	208		50.0	9.90	ug/L	50		8260C	Total/NA
m,p-Xylene	48.1		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	2.24		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	37.0		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	50.3		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	6300	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 590-3364-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	469		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	456		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	95.2		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	2.94		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	33.8		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	98.1		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	5040	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.55		0.119	0.0398	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 590-3364-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	281		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	3.76		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	0.680	J	2.00	0.280	ug/L	1		8260C	Total/NA
Toluene	0.903	J	1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	0.680	J	3.00	0.162	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-308 (Continued)

Lab Sample ID: 590-3364-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	1410	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-202

Lab Sample ID: 590-3364-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	2890	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.29		0.121	0.0402	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.111	J	0.201	0.0603	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-213

Lab Sample ID: 590-3364-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	23.5	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Anthracene	0.00977	J B	0.0828	0.00644	ug/L	1		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.0415	J	0.119	0.0395	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-214

Lab Sample ID: 590-3364-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	24.5	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	0.0263	J	0.0833	0.0185	ug/L	1		8270D SIM	Total/NA
2-Methylnaphthalene	0.0225	J	0.0833	0.0194	ug/L	1		8270D SIM	Total/NA
Anthracene	0.0121	J B	0.0833	0.00648	ug/L	1		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.123		0.119	0.0396	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-203

Lab Sample ID: 590-3364-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	575	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.161		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.133	J	0.200	0.0599	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 590-3364-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	595		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	270		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	149		20.0	2.80	ug/L	10		8260C	Total/NA
o-Xylene	3.30	J	10.0	1.62	ug/L	10		8260C	Total/NA
Toluene	14.5		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	153		30.0	1.62	ug/L	10		8260C	Total/NA
Gasoline	3750	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-111

Lab Sample ID: 590-3364-11

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-111 (Continued)

Lab Sample ID: 590-3364-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	71.9		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	1.58		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	1.25	J	2.00	0.280	ug/L	1		8260C	Total/NA
Toluene	1.57		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	1.25	J	3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	294	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.141		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-05

Lab Sample ID: 590-3364-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	70.9	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 590-3364-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	527		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	355		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	53.5		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	2.40		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	18.7		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	55.9		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	4050	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 590-3364-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	704		10.0	4.65	ug/L	50		8260C	Total/NA
Ethylbenzene	1820		50.0	9.90	ug/L	50		8260C	Total/NA
m,p-Xylene	287		100	14.0	ug/L	50		8260C	Total/NA
Toluene	62.5		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	287		150	8.10	ug/L	50		8260C	Total/NA
Gasoline	8600	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 590-3364-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.337	J	1.00	0.198	ug/L	1		8260C	Total/NA
Gasoline	40.6	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-312

Lab Sample ID: 590-3364-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	414		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	6.62		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	3.41		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.348	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	3.99		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	3.76		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	2220	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-311

Lab Sample ID: 590-3364-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.716		0.200	0.0930	ug/L	1		8260C	Total/NA
Gasoline	26.0	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: SH-04

Lab Sample ID: 590-3364-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.454		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	0.939	J	1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	0.887	J	2.00	0.280	ug/L	1		8260C	Total/NA
Xylenes, Total	0.887	J	3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	941	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.230		0.120	0.0401	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-112A

Lab Sample ID: 590-3364-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	24.8		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	99.2		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	5.32		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	1.56		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	1.31		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	6.88		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	1750	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	7.96		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.132	J	0.200	0.0599	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-104

Lab Sample ID: 590-3364-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	7450	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.85		0.120	0.0401	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.144	J	0.200	0.0601	mg/L	1		NWTPH-Dx	Total/NA
Lead	0.00285		0.00200	0.000170	mg/L	5		6020A	Total Recoverable

Client Sample ID: Trip Blanks

Lab Sample ID: 590-3364-21

No Detections.

Client Sample ID: MW-203-Dup

Lab Sample ID: 590-3364-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	534	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.151		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.134	J	0.200	0.0599	mg/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-310

Lab Sample ID: 590-3364-1

Date Collected: 05/02/16 14:15

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	655		2.00	0.930	ug/L			05/11/16 16:06	10
Ethylbenzene	324		10.0	1.98	ug/L			05/11/16 16:06	10
m,p-Xylene	69.3		2.00	0.280	ug/L			05/10/16 14:48	1
o-Xylene	2.85		1.00	0.162	ug/L			05/10/16 14:48	1
Toluene	34.9		1.00	0.312	ug/L			05/10/16 14:48	1
Xylenes, Total	72.1		3.00	0.162	ug/L			05/10/16 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		05/10/16 14:48	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		05/11/16 16:06	10
4-Bromofluorobenzene (Surr)	95		68.7 - 141		05/10/16 14:48	1
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/11/16 16:06	10
Dibromofluoromethane (Surr)	107		71.2 - 143		05/10/16 14:48	1
Dibromofluoromethane (Surr)	103		71.2 - 143		05/11/16 16:06	10
Toluene-d8 (Surr)	101		74.1 - 135		05/10/16 14:48	1
Toluene-d8 (Surr)	99		74.1 - 135		05/11/16 16:06	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4820	B	100	17.8	ug/L			05/10/16 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		05/10/16 14:48	1

Client Sample ID: MW-301

Lab Sample ID: 590-3364-2

Date Collected: 05/02/16 13:20

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	170		2.00	0.930	ug/L			05/11/16 17:36	10
Ethylbenzene	13.8		1.00	0.198	ug/L			05/10/16 15:10	1
m,p-Xylene	6.42		2.00	0.280	ug/L			05/10/16 15:10	1
o-Xylene	0.210	J	1.00	0.162	ug/L			05/10/16 15:10	1
Toluene	8.34		1.00	0.312	ug/L			05/10/16 15:10	1
Xylenes, Total	6.63		3.00	0.162	ug/L			05/10/16 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 140		05/10/16 15:10	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 140		05/11/16 17:36	10
4-Bromofluorobenzene (Surr)	98		68.7 - 141		05/10/16 15:10	1
4-Bromofluorobenzene (Surr)	101		68.7 - 141		05/11/16 17:36	10
Dibromofluoromethane (Surr)	104		71.2 - 143		05/10/16 15:10	1
Dibromofluoromethane (Surr)	105		71.2 - 143		05/11/16 17:36	10
Toluene-d8 (Surr)	99		74.1 - 135		05/10/16 15:10	1
Toluene-d8 (Surr)	96		74.1 - 135		05/11/16 17:36	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3320	B	100	17.8	ug/L			05/10/16 15:10	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-301

Date Collected: 05/02/16 13:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-2

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		05/10/16 15:10	1

Client Sample ID: TX-03A

Date Collected: 05/02/16 12:25

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-3

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1540		10.0	4.65	ug/L			05/11/16 17:58	50
Ethylbenzene	208		50.0	9.90	ug/L			05/11/16 17:58	50
m,p-Xylene	48.1		2.00	0.280	ug/L			05/10/16 15:32	1
o-Xylene	2.24		1.00	0.162	ug/L			05/10/16 15:32	1
Toluene	37.0		1.00	0.312	ug/L			05/10/16 15:32	1
Xylenes, Total	50.3		3.00	0.162	ug/L			05/10/16 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 140		05/10/16 15:32	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		05/11/16 17:58	50
4-Bromofluorobenzene (Surr)	104		68.7 - 141		05/10/16 15:32	1
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/11/16 17:58	50
Dibromofluoromethane (Surr)	100		71.2 - 143		05/10/16 15:32	1
Dibromofluoromethane (Surr)	107		71.2 - 143		05/11/16 17:58	50
Toluene-d8 (Surr)	94		74.1 - 135		05/10/16 15:32	1
Toluene-d8 (Surr)	95		74.1 - 135		05/11/16 17:58	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	6300	B	100	17.8	ug/L			05/10/16 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		68.7 - 141		05/10/16 15:32	1

Client Sample ID: MW-307

Date Collected: 05/03/16 09:05

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-4

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	469		2.00	0.930	ug/L			05/11/16 18:20	10
Ethylbenzene	456		10.0	1.98	ug/L			05/11/16 18:20	10
m,p-Xylene	95.2		2.00	0.280	ug/L			05/10/16 15:54	1
o-Xylene	2.94		1.00	0.162	ug/L			05/10/16 15:54	1
Toluene	33.8		1.00	0.312	ug/L			05/10/16 15:54	1
Xylenes, Total	98.1		3.00	0.162	ug/L			05/10/16 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		05/10/16 15:54	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 140		05/11/16 18:20	10
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/10/16 15:54	1
4-Bromofluorobenzene (Surr)	98		68.7 - 141		05/11/16 18:20	10
Dibromofluoromethane (Surr)	101		71.2 - 143		05/10/16 15:54	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-307

Lab Sample ID: 590-3364-4

Date Collected: 05/03/16 09:05

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		71.2 - 143		05/11/16 18:20	10
Toluene-d8 (Surr)	94		74.1 - 135		05/10/16 15:54	1
Toluene-d8 (Surr)	99		74.1 - 135		05/11/16 18:20	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5040	B	100	17.8	ug/L			05/10/16 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/10/16 15:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.55		0.119	0.0398	mg/L		05/09/16 12:51	05/09/16 14:51	1

Residual Range Organics (RRO) (C25-C36)	ND		0.199	0.0597	mg/L		05/09/16 12:51	05/09/16 14:51	1
---	----	--	-------	--------	------	--	----------------	----------------	---

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	05/09/16 12:51	05/09/16 14:51	1
n-Triacontane-d62	87		50 - 150	05/09/16 12:51	05/09/16 14:51	1

Client Sample ID: MW-308

Lab Sample ID: 590-3364-5

Date Collected: 05/03/16 10:10

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	281		2.00	0.930	ug/L			05/11/16 18:42	10
Ethylbenzene	3.76		1.00	0.198	ug/L			05/10/16 16:16	1
m,p-Xylene	0.680	J	2.00	0.280	ug/L			05/10/16 16:16	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 16:16	1
Toluene	0.903	J	1.00	0.312	ug/L			05/10/16 16:16	1
Xylenes, Total	0.680	J	3.00	0.162	ug/L			05/10/16 16:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 140		05/10/16 16:16	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		05/11/16 18:42	10
4-Bromofluorobenzene (Surr)	99		68.7 - 141		05/10/16 16:16	1
4-Bromofluorobenzene (Surr)	98		68.7 - 141		05/11/16 18:42	10
Dibromofluoromethane (Surr)	102		71.2 - 143		05/10/16 16:16	1
Dibromofluoromethane (Surr)	99		71.2 - 143		05/11/16 18:42	10
Toluene-d8 (Surr)	98		74.1 - 135		05/10/16 16:16	1
Toluene-d8 (Surr)	100		74.1 - 135		05/11/16 18:42	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1410	B	100	17.8	ug/L			05/10/16 16:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141		05/10/16 16:16	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-202

Lab Sample ID: 590-3364-6

Date Collected: 05/03/16 12:35

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2890	B	100	17.8	ug/L			05/10/16 16:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141					05/10/16 16:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.29		0.121	0.0402	mg/L		05/09/16 12:51	05/09/16 15:09	1
Residual Range Organics (RRO) (C25-C36)	0.111	J	0.201	0.0603	mg/L		05/09/16 12:51	05/09/16 15:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150				05/09/16 12:51	05/09/16 15:09	1
n-Triacontane-d62	82		50 - 150				05/09/16 12:51	05/09/16 15:09	1

Client Sample ID: MW-213

Lab Sample ID: 590-3364-7

Date Collected: 05/03/16 15:20

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 17:00	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 17:00	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 17:00	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 17:00	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 17:00	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 140					05/10/16 17:00	1
4-Bromofluorobenzene (Surr)	104		68.7 - 141					05/10/16 17:00	1
Dibromofluoromethane (Surr)	110		71.2 - 143					05/10/16 17:00	1
Toluene-d8 (Surr)	104		74.1 - 135					05/10/16 17:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	23.5	J B	100	17.8	ug/L			05/10/16 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		68.7 - 141					05/10/16 17:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0828	0.0184	ug/L		05/06/16 14:03	05/06/16 15:41	1
2-Methylnaphthalene	ND		0.0828	0.0193	ug/L		05/06/16 14:03	05/06/16 15:41	1
1-Methylnaphthalene	ND		0.0828	0.0166	ug/L		05/06/16 14:03	05/06/16 15:41	1
Acenaphthylene	ND		0.0828	0.0120	ug/L		05/06/16 14:03	05/06/16 15:41	1
Acenaphthene	ND		0.0828	0.0147	ug/L		05/06/16 14:03	05/06/16 15:41	1
Fluorene	ND		0.0828	0.0138	ug/L		05/06/16 14:03	05/06/16 15:41	1
Phenanthrene	ND		0.0828	0.0331	ug/L		05/06/16 14:03	05/06/16 15:41	1
Anthracene	0.00977	J B	0.0828	0.00644	ug/L		05/06/16 14:03	05/06/16 15:41	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-213

Lab Sample ID: 590-3364-7

Date Collected: 05/03/16 15:20

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.0828	0.0101	ug/L		05/06/16 14:03	05/06/16 15:41	1
Pyrene	ND		0.0828	0.00552	ug/L		05/06/16 14:03	05/06/16 15:41	1
Benzo[a]anthracene	ND		0.0828	0.00920	ug/L		05/06/16 14:03	05/06/16 15:41	1
Chrysene	ND		0.0828	0.00644	ug/L		05/06/16 14:03	05/06/16 15:41	1
Benzo[b]fluoranthene	ND		0.0828	0.0101	ug/L		05/06/16 14:03	05/06/16 15:41	1
Benzo[k]fluoranthene	ND		0.0828	0.0138	ug/L		05/06/16 14:03	05/06/16 15:41	1
Benzo[a]pyrene	ND		0.0828	0.0101	ug/L		05/06/16 14:03	05/06/16 15:41	1
Indeno[1,2,3-cd]pyrene	ND		0.0828	0.0202	ug/L		05/06/16 14:03	05/06/16 15:41	1
Dibenz(a,h)anthracene	ND		0.0828	0.0120	ug/L		05/06/16 14:03	05/06/16 15:41	1
Benzo[g,h,i]perylene	ND		0.0828	0.0193	ug/L		05/06/16 14:03	05/06/16 15:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	88		32.7 - 135				05/06/16 14:03	05/06/16 15:41	1
2-Fluorobiphenyl (Surr)	74		44.3 - 120				05/06/16 14:03	05/06/16 15:41	1
p-Terphenyl-d14	84		59.5 - 154				05/06/16 14:03	05/06/16 15:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.0415	J	0.119	0.0395	mg/L		05/09/16 12:51	05/09/16 15:28	1
Residual Range Organics (RRO) (C25-C36)	ND		0.198	0.0593	mg/L		05/09/16 12:51	05/09/16 15:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150				05/09/16 12:51	05/09/16 15:28	1
n-Triacontane-d62	83		50 - 150				05/09/16 12:51	05/09/16 15:28	1

Client Sample ID: MW-214

Lab Sample ID: 590-3364-8

Date Collected: 05/03/16 16:05

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 17:22	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 17:22	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 17:22	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 17:22	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 17:22	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 17:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 140					05/10/16 17:22	1
4-Bromofluorobenzene (Surr)	101		68.7 - 141					05/10/16 17:22	1
Dibromofluoromethane (Surr)	100		71.2 - 143					05/10/16 17:22	1
Toluene-d8 (Surr)	103		74.1 - 135					05/10/16 17:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	24.5	J B	100	17.8	ug/L			05/10/16 17:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141					05/10/16 17:22	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0263	J	0.0833	0.0185	ug/L		05/06/16 14:03	05/06/16 16:08	1
2-Methylnaphthalene	0.0225	J	0.0833	0.0194	ug/L		05/06/16 14:03	05/06/16 16:08	1
1-Methylnaphthalene	ND		0.0833	0.0167	ug/L		05/06/16 14:03	05/06/16 16:08	1
Acenaphthylene	ND		0.0833	0.0120	ug/L		05/06/16 14:03	05/06/16 16:08	1
Acenaphthene	ND		0.0833	0.0148	ug/L		05/06/16 14:03	05/06/16 16:08	1
Fluorene	ND		0.0833	0.0139	ug/L		05/06/16 14:03	05/06/16 16:08	1
Phenanthrene	ND		0.0833	0.0333	ug/L		05/06/16 14:03	05/06/16 16:08	1
Anthracene	0.0121	J B	0.0833	0.00648	ug/L		05/06/16 14:03	05/06/16 16:08	1
Fluoranthene	ND		0.0833	0.0102	ug/L		05/06/16 14:03	05/06/16 16:08	1
Pyrene	ND		0.0833	0.00556	ug/L		05/06/16 14:03	05/06/16 16:08	1
Benzo[a]anthracene	ND		0.0833	0.00926	ug/L		05/06/16 14:03	05/06/16 16:08	1
Chrysene	ND		0.0833	0.00648	ug/L		05/06/16 14:03	05/06/16 16:08	1
Benzo[b]fluoranthene	ND		0.0833	0.0102	ug/L		05/06/16 14:03	05/06/16 16:08	1
Benzo[k]fluoranthene	ND		0.0833	0.0139	ug/L		05/06/16 14:03	05/06/16 16:08	1
Benzo[a]pyrene	ND		0.0833	0.0102	ug/L		05/06/16 14:03	05/06/16 16:08	1
Indeno[1,2,3-cd]pyrene	ND		0.0833	0.0204	ug/L		05/06/16 14:03	05/06/16 16:08	1
Dibenz(a,h)anthracene	ND		0.0833	0.0120	ug/L		05/06/16 14:03	05/06/16 16:08	1
Benzo[g,h,i]perylene	ND		0.0833	0.0194	ug/L		05/06/16 14:03	05/06/16 16:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	94		32.7 - 135				05/06/16 14:03	05/06/16 16:08	1
2-Fluorobiphenyl (Surr)	74		44.3 - 120				05/06/16 14:03	05/06/16 16:08	1
p-Terphenyl-d14	87		59.5 - 154				05/06/16 14:03	05/06/16 16:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	0.123		0.119	0.0396	mg/L		05/09/16 12:51	05/09/16 15:46	1
(C10-C25)									
Residual Range Organics (RRO)	ND		0.198	0.0594	mg/L		05/09/16 12:51	05/09/16 15:46	1
(C25-C36)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				05/09/16 12:51	05/09/16 15:46	1
n-Triacontane-d62	85		50 - 150				05/09/16 12:51	05/09/16 15:46	1

Client Sample ID: MW-203

Date Collected: 05/04/16 08:40

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-9

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	575	B	100	17.8	ug/L			05/10/16 17:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141					05/10/16 17:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	0.161		0.120	0.0399	mg/L		05/09/16 12:51	05/09/16 16:04	1
(C10-C25)									
Residual Range Organics (RRO)	0.133	J	0.200	0.0599	mg/L		05/09/16 12:51	05/09/16 16:04	1
(C25-C36)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150				05/09/16 12:51	05/09/16 16:04	1
n-Triacontane-d62	84		50 - 150				05/09/16 12:51	05/09/16 16:04	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-302

Lab Sample ID: 590-3364-10

Date Collected: 05/04/16 09:45

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	595		2.00	0.930	ug/L			05/11/16 19:04	10
Ethylbenzene	270		10.0	1.98	ug/L			05/11/16 19:04	10
m,p-Xylene	149		20.0	2.80	ug/L			05/11/16 19:04	10
o-Xylene	3.30	J	10.0	1.62	ug/L			05/11/16 19:04	10
Toluene	14.5		1.00	0.312	ug/L			05/10/16 18:28	1
Xylenes, Total	153		30.0	1.62	ug/L			05/11/16 19:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		05/10/16 18:28	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 140		05/11/16 19:04	10
4-Bromofluorobenzene (Surr)	104		68.7 - 141		05/10/16 18:28	1
4-Bromofluorobenzene (Surr)	99		68.7 - 141		05/11/16 19:04	10
Dibromofluoromethane (Surr)	99		71.2 - 143		05/10/16 18:28	1
Dibromofluoromethane (Surr)	112		71.2 - 143		05/11/16 19:04	10
Toluene-d8 (Surr)	93		74.1 - 135		05/10/16 18:28	1
Toluene-d8 (Surr)	97		74.1 - 135		05/11/16 19:04	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3750	B	100	17.8	ug/L			05/10/16 18:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		68.7 - 141		05/10/16 18:28	1

Client Sample ID: MW-111

Lab Sample ID: 590-3364-11

Date Collected: 05/04/16 11:20

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	71.9		0.200	0.0930	ug/L			05/10/16 18:50	1
Ethylbenzene	1.58		1.00	0.198	ug/L			05/10/16 18:50	1
m,p-Xylene	1.25	J	2.00	0.280	ug/L			05/10/16 18:50	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 18:50	1
Toluene	1.57		1.00	0.312	ug/L			05/10/16 18:50	1
Xylenes, Total	1.25	J	3.00	0.162	ug/L			05/10/16 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 140		05/10/16 18:50	1
4-Bromofluorobenzene (Surr)	97		68.7 - 141		05/10/16 18:50	1
Dibromofluoromethane (Surr)	108		71.2 - 143		05/10/16 18:50	1
Toluene-d8 (Surr)	95		74.1 - 135		05/10/16 18:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	294	B	100	17.8	ug/L			05/10/16 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		05/10/16 18:50	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-111

Lab Sample ID: 590-3364-11

Date Collected: 05/04/16 11:20

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.141		0.120	0.0399	mg/L		05/09/16 12:51	05/09/16 16:23	1
Residual Range Organics (RRO) (C25-C36)	ND		0.199	0.0598	mg/L		05/09/16 12:51	05/09/16 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				05/09/16 12:51	05/09/16 16:23	1
<i>n</i> -Triacontane-d62	78		50 - 150				05/09/16 12:51	05/09/16 16:23	1

Client Sample ID: MW-05

Lab Sample ID: 590-3364-12

Date Collected: 05/04/16 12:55

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 19:12	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 19:12	1
<i>m,p</i> -Xylene	ND		2.00	0.280	ug/L			05/10/16 19:12	1
<i>o</i> -Xylene	ND		1.00	0.162	ug/L			05/10/16 19:12	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 19:12	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane-d4 (Surr)	97		70 - 140					05/10/16 19:12	1
<i>4</i> -Bromofluorobenzene (Surr)	102		68.7 - 141					05/10/16 19:12	1
<i>Dibromofluoromethane</i> (Surr)	99		71.2 - 143					05/10/16 19:12	1
<i>Toluene-d8</i> (Surr)	100		74.1 - 135					05/10/16 19:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	70.9	J B	100	17.8	ug/L			05/10/16 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>4</i> -Bromofluorobenzene (Surr)	102		68.7 - 141					05/10/16 19:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.120	0.0398	mg/L		05/09/16 12:51	05/09/16 16:42	1
Residual Range Organics (RRO) (C25-C36)	ND		0.199	0.0598	mg/L		05/09/16 12:51	05/09/16 16:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	83		50 - 150				05/09/16 12:51	05/09/16 16:42	1
<i>n</i> -Triacontane-d62	81		50 - 150				05/09/16 12:51	05/09/16 16:42	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-304

Lab Sample ID: 590-3364-13

Date Collected: 05/04/16 14:40

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	527		2.00	0.930	ug/L			05/11/16 19:26	10
Ethylbenzene	355		10.0	1.98	ug/L			05/11/16 19:26	10
m,p-Xylene	53.5		2.00	0.280	ug/L			05/10/16 19:34	1
o-Xylene	2.40		1.00	0.162	ug/L			05/10/16 19:34	1
Toluene	18.7		1.00	0.312	ug/L			05/10/16 19:34	1
Xylenes, Total	55.9		3.00	0.162	ug/L			05/10/16 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		05/10/16 19:34	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		05/11/16 19:26	10
4-Bromofluorobenzene (Surr)	94		68.7 - 141		05/10/16 19:34	1
4-Bromofluorobenzene (Surr)	102		68.7 - 141		05/11/16 19:26	10
Dibromofluoromethane (Surr)	109		71.2 - 143		05/10/16 19:34	1
Dibromofluoromethane (Surr)	104		71.2 - 143		05/11/16 19:26	10
Toluene-d8 (Surr)	100		74.1 - 135		05/10/16 19:34	1
Toluene-d8 (Surr)	97		74.1 - 135		05/11/16 19:26	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4050	B	100	17.8	ug/L			05/10/16 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141		05/10/16 19:34	1

Client Sample ID: MW-303

Lab Sample ID: 590-3364-14

Date Collected: 05/04/16 15:25

Matrix: Ground Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	704		10.0	4.65	ug/L			05/11/16 19:48	50
Ethylbenzene	1820		50.0	9.90	ug/L			05/11/16 19:48	50
m,p-Xylene	287		100	14.0	ug/L			05/11/16 19:48	50
o-Xylene	ND		50.0	8.10	ug/L			05/11/16 19:48	50
Toluene	62.5		1.00	0.312	ug/L			05/10/16 19:56	1
Xylenes, Total	287		150	8.10	ug/L			05/11/16 19:48	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		05/10/16 19:56	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		05/11/16 19:48	50
4-Bromofluorobenzene (Surr)	102		68.7 - 141		05/10/16 19:56	1
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/11/16 19:48	50
Dibromofluoromethane (Surr)	94		71.2 - 143		05/10/16 19:56	1
Dibromofluoromethane (Surr)	105		71.2 - 143		05/11/16 19:48	50
Toluene-d8 (Surr)	98		74.1 - 135		05/10/16 19:56	1
Toluene-d8 (Surr)	103		74.1 - 135		05/11/16 19:48	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	8600	B	100	17.8	ug/L			05/10/16 19:56	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-303

Date Collected: 05/04/16 15:25

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-14

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141		05/10/16 19:56	1

Client Sample ID: MW-309

Date Collected: 05/04/16 16:35

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-15

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 20:18	1
Ethylbenzene	0.337	J	1.00	0.198	ug/L			05/10/16 20:18	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 20:18	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 20:18	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 20:18	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 20:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 140		05/10/16 20:18	1
4-Bromofluorobenzene (Surr)	102		68.7 - 141		05/10/16 20:18	1
Dibromofluoromethane (Surr)	104		71.2 - 143		05/10/16 20:18	1
Toluene-d8 (Surr)	97		74.1 - 135		05/10/16 20:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	40.6	J B	100	17.8	ug/L			05/10/16 20:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141		05/10/16 20:18	1

Client Sample ID: MW-312

Date Collected: 05/04/16 17:50

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-16

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	414		2.00	0.930	ug/L			05/11/16 20:11	10
Ethylbenzene	6.62		1.00	0.198	ug/L			05/10/16 22:08	1
m,p-Xylene	3.41		2.00	0.280	ug/L			05/10/16 22:08	1
o-Xylene	0.348	J	1.00	0.162	ug/L			05/10/16 22:08	1
Toluene	3.99		1.00	0.312	ug/L			05/10/16 22:08	1
Xylenes, Total	3.76		3.00	0.162	ug/L			05/10/16 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 140		05/10/16 22:08	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		05/11/16 20:11	10
4-Bromofluorobenzene (Surr)	101		68.7 - 141		05/10/16 22:08	1
4-Bromofluorobenzene (Surr)	95		68.7 - 141		05/11/16 20:11	10
Dibromofluoromethane (Surr)	101		71.2 - 143		05/10/16 22:08	1
Dibromofluoromethane (Surr)	110		71.2 - 143		05/11/16 20:11	10
Toluene-d8 (Surr)	91		74.1 - 135		05/10/16 22:08	1
Toluene-d8 (Surr)	94		74.1 - 135		05/11/16 20:11	10

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-312

Date Collected: 05/04/16 17:50

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-16

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2220	B	100	17.8	ug/L			05/10/16 22:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141					05/10/16 22:08	1

Client Sample ID: MW-311

Date Collected: 05/04/16 18:30

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-17

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.716		0.200	0.0930	ug/L			05/10/16 22:30	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 22:30	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 22:30	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 22:30	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 22:30	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 140					05/10/16 22:30	1
4-Bromofluorobenzene (Surr)	93		68.7 - 141					05/10/16 22:30	1
Dibromofluoromethane (Surr)	91		71.2 - 143					05/10/16 22:30	1
Toluene-d8 (Surr)	99		74.1 - 135					05/10/16 22:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	26.0	J B	100	17.8	ug/L			05/10/16 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		68.7 - 141					05/10/16 22:30	1

Client Sample ID: SH-04

Date Collected: 05/05/16 08:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-18

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.454		0.200	0.0930	ug/L			05/10/16 22:52	1
Ethylbenzene	0.939	J	1.00	0.198	ug/L			05/10/16 22:52	1
m,p-Xylene	0.887	J	2.00	0.280	ug/L			05/10/16 22:52	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 22:52	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 22:52	1
Xylenes, Total	0.887	J	3.00	0.162	ug/L			05/10/16 22:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 140					05/10/16 22:52	1
4-Bromofluorobenzene (Surr)	99		68.7 - 141					05/10/16 22:52	1
Dibromofluoromethane (Surr)	107		71.2 - 143					05/10/16 22:52	1
Toluene-d8 (Surr)	96		74.1 - 135					05/10/16 22:52	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: SH-04

Date Collected: 05/05/16 08:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-18

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	941	B	100	17.8	ug/L			05/10/16 22:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141					05/10/16 22:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.230		0.120	0.0401	mg/L		05/09/16 12:51	05/09/16 17:19	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0601	mg/L		05/09/16 12:51	05/09/16 17:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150				05/09/16 12:51	05/09/16 17:19	1
n-Triacontane-d62	86		50 - 150				05/09/16 12:51	05/09/16 17:19	1

Client Sample ID: MW-112A

Date Collected: 05/05/16 09:10

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-19

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	24.8		0.200	0.0930	ug/L			05/10/16 23:14	1
Ethylbenzene	99.2		1.00	0.198	ug/L			05/10/16 23:14	1
m,p-Xylene	5.32		2.00	0.280	ug/L			05/10/16 23:14	1
o-Xylene	1.56		1.00	0.162	ug/L			05/10/16 23:14	1
Toluene	1.31		1.00	0.312	ug/L			05/10/16 23:14	1
Xylenes, Total	6.88		3.00	0.162	ug/L			05/10/16 23:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 140					05/10/16 23:14	1
4-Bromofluorobenzene (Surr)	99		68.7 - 141					05/10/16 23:14	1
Dibromofluoromethane (Surr)	99		71.2 - 143					05/10/16 23:14	1
Toluene-d8 (Surr)	97		74.1 - 135					05/10/16 23:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1750	B	100	17.8	ug/L			05/10/16 23:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141					05/10/16 23:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	7.96		0.120	0.0399	mg/L		05/09/16 12:51	05/09/16 17:38	1
Residual Range Organics (RRO) (C25-C36)	0.132	J	0.200	0.0599	mg/L		05/09/16 12:51	05/09/16 17:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150				05/09/16 12:51	05/09/16 17:38	1
n-Triacontane-d62	83		50 - 150				05/09/16 12:51	05/09/16 17:38	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-104

Date Collected: 05/05/16 10:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-20

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	7450	B	100	17.8	ug/L			05/10/16 23:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		68.7 - 141					05/10/16 23:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.85		0.120	0.0401	mg/L		05/09/16 12:51	05/09/16 17:57	1
Residual Range Organics (RRO) (C25-C36)	0.144	J	0.200	0.0601	mg/L		05/09/16 12:51	05/09/16 17:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150				05/09/16 12:51	05/09/16 17:57	1
n-Triacontane-d62	82		50 - 150				05/09/16 12:51	05/09/16 17:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00285		0.00200	0.000170	mg/L		05/12/16 14:33	05/13/16 21:54	5

Client Sample ID: Trip Blanks

Date Collected: 05/05/16 00:00

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-21

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 23:58	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 23:58	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 23:58	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 23:58	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 23:58	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 23:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 140					05/10/16 23:58	1
4-Bromofluorobenzene (Surr)	96		68.7 - 141					05/10/16 23:58	1
Dibromofluoromethane (Surr)	101		71.2 - 143					05/10/16 23:58	1
Toluene-d8 (Surr)	103		74.1 - 135					05/10/16 23:58	1

Client Sample ID: MW-203-Dup

Date Collected: 05/04/16 08:40

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-22

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	534	B	100	17.8	ug/L			05/11/16 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141					05/11/16 00:20	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-203-Dup

Lab Sample ID: 590-3364-22

Date Collected: 05/04/16 08:40

Matrix: Water

Date Received: 05/06/16 10:47

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.151		0.120	0.0399	mg/L		05/09/16 12:51	05/09/16 18:16	1
Residual Range Organics (RRO) (C25-C36)	0.134	J	0.200	0.0599	mg/L		05/09/16 12:51	05/09/16 18:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150				05/09/16 12:51	05/09/16 18:16	1
<i>n</i> -Triacontane-d62	82		50 - 150				05/09/16 12:51	05/09/16 18:16	1



QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

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

Lab Sample ID: MB 590-6538/28

Matrix: Water

Analysis Batch: 6538

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 21:46	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 21:46	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 21:46	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 21:46	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 21:46	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 21:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 140		05/10/16 21:46	1
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/10/16 21:46	1
Dibromofluoromethane (Surr)	105		71.2 - 143		05/10/16 21:46	1
Toluene-d8 (Surr)	100		74.1 - 135		05/10/16 21:46	1

Lab Sample ID: MB 590-6538/7

Matrix: Water

Analysis Batch: 6538

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/10/16 12:59	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/10/16 12:59	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/10/16 12:59	1
o-Xylene	ND		1.00	0.162	ug/L			05/10/16 12:59	1
Toluene	ND		1.00	0.312	ug/L			05/10/16 12:59	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/10/16 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		05/10/16 12:59	1
4-Bromofluorobenzene (Surr)	95		68.7 - 141		05/10/16 12:59	1
Dibromofluoromethane (Surr)	102		71.2 - 143		05/10/16 12:59	1
Toluene-d8 (Surr)	96		74.1 - 135		05/10/16 12:59	1

Lab Sample ID: LCS 590-6538/1006

Matrix: Water

Analysis Batch: 6538

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.32		ug/L		103	80 - 140
Ethylbenzene	10.0	10.17		ug/L		102	80 - 120
m,p-Xylene	10.0	10.67		ug/L		107	80 - 120
o-Xylene	10.0	9.895		ug/L		99	80 - 120
Toluene	10.0	10.51		ug/L		105	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	115		70 - 140
4-Bromofluorobenzene (Surr)	96		68.7 - 141
Dibromofluoromethane (Surr)	109		71.2 - 143
Toluene-d8 (Surr)	92		74.1 - 135

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Lab Sample ID: LCS 590-6538/1027
Matrix: Water
Analysis Batch: 6538

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.999		ug/L		100	80 - 140
Ethylbenzene	10.0	9.965		ug/L		100	80 - 120
m,p-Xylene	10.0	10.11		ug/L		101	80 - 120
o-Xylene	10.0	9.639		ug/L		96	80 - 120
Toluene	10.0	10.13		ug/L		101	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 140
4-Bromofluorobenzene (Surr)	105		68.7 - 141
Dibromofluoromethane (Surr)	103		71.2 - 143
Toluene-d8 (Surr)	96		74.1 - 135

Lab Sample ID: MB 590-6554/7
Matrix: Water
Analysis Batch: 6554

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			05/11/16 11:53	1
Ethylbenzene	ND		1.00	0.198	ug/L			05/11/16 11:53	1
m,p-Xylene	ND		2.00	0.280	ug/L			05/11/16 11:53	1
o-Xylene	ND		1.00	0.162	ug/L			05/11/16 11:53	1
Toluene	ND		1.00	0.312	ug/L			05/11/16 11:53	1
Xylenes, Total	ND		3.00	0.162	ug/L			05/11/16 11:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 140		05/11/16 11:53	1
4-Bromofluorobenzene (Surr)	101		68.7 - 141		05/11/16 11:53	1
Dibromofluoromethane (Surr)	100		71.2 - 143		05/11/16 11:53	1
Toluene-d8 (Surr)	103		74.1 - 135		05/11/16 11:53	1

Lab Sample ID: LCS 590-6554/1005
Matrix: Water
Analysis Batch: 6554

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.55		ug/L		105	80 - 140
Ethylbenzene	10.0	10.26		ug/L		103	80 - 120
m,p-Xylene	10.0	10.65		ug/L		106	80 - 120
o-Xylene	10.0	9.970		ug/L		100	80 - 120
Toluene	10.0	10.14		ug/L		101	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		70 - 140
4-Bromofluorobenzene (Surr)	97		68.7 - 141
Dibromofluoromethane (Surr)	103		71.2 - 143
Toluene-d8 (Surr)	97		74.1 - 135

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

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

Lab Sample ID: LCSD 590-6554/11
Matrix: Water
Analysis Batch: 6554

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
Benzene	10.0	10.55		ug/L		106	80 - 140	0	25
Ethylbenzene	10.0	10.79		ug/L		108	80 - 120	5	25
m,p-Xylene	10.0	11.34		ug/L		113	80 - 120	6	25
o-Xylene	10.0	10.45		ug/L		104	80 - 120	5	25
Toluene	10.0	10.70		ug/L		107	80 - 123	5	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 140
4-Bromofluorobenzene (Surr)	98		68.7 - 141
Dibromofluoromethane (Surr)	103		71.2 - 143
Toluene-d8 (Surr)	98		74.1 - 135

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

Lab Sample ID: MB 590-6539/28
Matrix: Water
Analysis Batch: 6539

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	19.30	J	100	17.8	ug/L			05/10/16 21:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		05/10/16 21:46	1

Lab Sample ID: MB 590-6539/7
Matrix: Water
Analysis Batch: 6539

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	20.86	J	100	17.8	ug/L			05/10/16 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		05/10/16 12:59	1

Lab Sample ID: LCS 590-6539/1004
Matrix: Water
Analysis Batch: 6539

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	998	1014		ug/L		102	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		68.7 - 141

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

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

Lab Sample ID: LCS 590-6539/1025

Matrix: Water

Analysis Batch: 6539

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	998	981.2		ug/L		98	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		68.7 - 141

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

Lab Sample ID: MB 590-6505/1-A

Matrix: Water

Analysis Batch: 6503

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6505

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0900	0.0200	ug/L		05/06/16 14:03	05/06/16 14:48	1
2-Methylnaphthalene	ND		0.0900	0.0210	ug/L		05/06/16 14:03	05/06/16 14:48	1
1-Methylnaphthalene	ND		0.0900	0.0180	ug/L		05/06/16 14:03	05/06/16 14:48	1
Acenaphthylene	ND		0.0900	0.0130	ug/L		05/06/16 14:03	05/06/16 14:48	1
Acenaphthene	ND		0.0900	0.0160	ug/L		05/06/16 14:03	05/06/16 14:48	1
Fluorene	ND		0.0900	0.0150	ug/L		05/06/16 14:03	05/06/16 14:48	1
Phenanthrene	ND		0.0900	0.0360	ug/L		05/06/16 14:03	05/06/16 14:48	1
Anthracene	0.008857	J	0.0900	0.00700	ug/L		05/06/16 14:03	05/06/16 14:48	1
Fluoranthene	ND		0.0900	0.0110	ug/L		05/06/16 14:03	05/06/16 14:48	1
Pyrene	ND		0.0900	0.00600	ug/L		05/06/16 14:03	05/06/16 14:48	1
Benzo[a]anthracene	ND		0.0900	0.0100	ug/L		05/06/16 14:03	05/06/16 14:48	1
Chrysene	ND		0.0900	0.00700	ug/L		05/06/16 14:03	05/06/16 14:48	1
Benzo[b]fluoranthene	ND		0.0900	0.0110	ug/L		05/06/16 14:03	05/06/16 14:48	1
Benzo[k]fluoranthene	ND		0.0900	0.0150	ug/L		05/06/16 14:03	05/06/16 14:48	1
Benzo[a]pyrene	ND		0.0900	0.0110	ug/L		05/06/16 14:03	05/06/16 14:48	1
Indeno[1,2,3-cd]pyrene	ND		0.0900	0.0220	ug/L		05/06/16 14:03	05/06/16 14:48	1
Dibenz(a,h)anthracene	ND		0.0900	0.0130	ug/L		05/06/16 14:03	05/06/16 14:48	1
Benzo[g,h,i]perylene	ND		0.0900	0.0210	ug/L		05/06/16 14:03	05/06/16 14:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	95		32.7 - 135	05/06/16 14:03	05/06/16 14:48	1
2-Fluorobiphenyl (Surr)	83		44.3 - 120	05/06/16 14:03	05/06/16 14:48	1
p-Terphenyl-d14	62		59.5 - 154	05/06/16 14:03	05/06/16 14:48	1

Lab Sample ID: LCS 590-6505/2-A

Matrix: Water

Analysis Batch: 6503

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1.60	1.422		ug/L		89	27.8 - 143
Fluorene	1.60	1.744		ug/L		109	59.2 - 120
Chrysene	1.60	1.658		ug/L		104	69.1 - 122
Indeno[1,2,3-cd]pyrene	1.60	1.776		ug/L		111	56.1 - 135

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

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

Lab Sample ID: LCS 590-6505/2-A
Matrix: Water
Analysis Batch: 6503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6505

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Nitrobenzene-d5	93		32.7 - 135
2-Fluorobiphenyl (Surr)	83		44.3 - 120
p-Terphenyl-d14	67		59.5 - 154

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

Lab Sample ID: MB 590-6519/1-A
Matrix: Water
Analysis Batch: 6513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6519

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (DRO) (C10-C25)	ND		0.120	0.0400	mg/L		05/09/16 12:51	05/09/16 13:57	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0600	mg/L		05/09/16 12:51	05/09/16 13:57	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
o-Terphenyl	89		50 - 150	05/09/16 12:51	05/09/16 13:57	1
n-Triacontane-d62	91		50 - 150	05/09/16 12:51	05/09/16 13:57	1

Lab Sample ID: LCS 590-6519/2-A
Matrix: Water
Analysis Batch: 6513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6519

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Diesel Range Organics (DRO) (C10-C25)	1.61	1.358		mg/L		84	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.711		mg/L		107	50 - 150

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
o-Terphenyl	88		50 - 150
n-Triacontane-d62	87		50 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-217131/21-A
Matrix: Water
Analysis Batch: 217410

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 217131

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.00200	0.000170	mg/L		05/12/16 14:33	05/13/16 20:47	5

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

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

Lab Sample ID: LCS 580-217131/22-A
 Matrix: Water
 Analysis Batch: 217410

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 217131

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.070		mg/L		107	80 - 120

Lab Sample ID: LCSD 580-217131/23-A
 Matrix: Water
 Analysis Batch: 217410

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total Recoverable
 Prep Batch: 217131

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	1.073		mg/L		107	80 - 120	0	20



QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

GC/MS VOA

Analysis Batch: 6538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-1	MW-310	Total/NA	Ground Water	8260C	
590-3364-2	MW-301	Total/NA	Ground Water	8260C	
590-3364-3	TX-03A	Total/NA	Ground Water	8260C	
590-3364-4	MW-307	Total/NA	Ground Water	8260C	
590-3364-5	MW-308	Total/NA	Ground Water	8260C	
590-3364-7	MW-213	Total/NA	Ground Water	8260C	
590-3364-8	MW-214	Total/NA	Ground Water	8260C	
590-3364-10	MW-302	Total/NA	Ground Water	8260C	
590-3364-11	MW-111	Total/NA	Ground Water	8260C	
590-3364-12	MW-05	Total/NA	Ground Water	8260C	
590-3364-13	MW-304	Total/NA	Ground Water	8260C	
590-3364-14	MW-303	Total/NA	Ground Water	8260C	
590-3364-15	MW-309	Total/NA	Ground Water	8260C	
590-3364-16	MW-312	Total/NA	Ground Water	8260C	
590-3364-17	MW-311	Total/NA	Ground Water	8260C	
590-3364-18	SH-04	Total/NA	Ground Water	8260C	
590-3364-19	MW-112A	Total/NA	Ground Water	8260C	
590-3364-21	Trip Blanks	Total/NA	Ground Water	8260C	
LCS 590-6538/1006	Lab Control Sample	Total/NA	Water	8260C	
LCS 590-6538/1027	Lab Control Sample	Total/NA	Water	8260C	
MB 590-6538/28	Method Blank	Total/NA	Water	8260C	
MB 590-6538/7	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 6539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-1	MW-310	Total/NA	Ground Water	NWTPH-Gx	
590-3364-2	MW-301	Total/NA	Ground Water	NWTPH-Gx	
590-3364-3	TX-03A	Total/NA	Ground Water	NWTPH-Gx	
590-3364-4	MW-307	Total/NA	Ground Water	NWTPH-Gx	
590-3364-5	MW-308	Total/NA	Ground Water	NWTPH-Gx	
590-3364-6	MW-202	Total/NA	Ground Water	NWTPH-Gx	
590-3364-7	MW-213	Total/NA	Ground Water	NWTPH-Gx	
590-3364-8	MW-214	Total/NA	Ground Water	NWTPH-Gx	
590-3364-9	MW-203	Total/NA	Ground Water	NWTPH-Gx	
590-3364-10	MW-302	Total/NA	Ground Water	NWTPH-Gx	
590-3364-11	MW-111	Total/NA	Ground Water	NWTPH-Gx	
590-3364-12	MW-05	Total/NA	Ground Water	NWTPH-Gx	
590-3364-13	MW-304	Total/NA	Ground Water	NWTPH-Gx	
590-3364-14	MW-303	Total/NA	Ground Water	NWTPH-Gx	
590-3364-15	MW-309	Total/NA	Ground Water	NWTPH-Gx	
590-3364-16	MW-312	Total/NA	Ground Water	NWTPH-Gx	
590-3364-17	MW-311	Total/NA	Ground Water	NWTPH-Gx	
590-3364-18	SH-04	Total/NA	Ground Water	NWTPH-Gx	
590-3364-19	MW-112A	Total/NA	Ground Water	NWTPH-Gx	
590-3364-20	MW-104	Total/NA	Ground Water	NWTPH-Gx	
590-3364-22	MW-203-Dup	Total/NA	Water	NWTPH-Gx	
LCS 590-6539/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 590-6539/1025	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
MB 590-6539/28	Method Blank	Total/NA	Water	NWTPH-Gx	
MB 590-6539/7	Method Blank	Total/NA	Water	NWTPH-Gx	

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

GC/MS VOA (Continued)

Analysis Batch: 6554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-1	MW-310	Total/NA	Ground Water	8260C	
590-3364-2	MW-301	Total/NA	Ground Water	8260C	
590-3364-3	TX-03A	Total/NA	Ground Water	8260C	
590-3364-4	MW-307	Total/NA	Ground Water	8260C	
590-3364-5	MW-308	Total/NA	Ground Water	8260C	
590-3364-10	MW-302	Total/NA	Ground Water	8260C	
590-3364-13	MW-304	Total/NA	Ground Water	8260C	
590-3364-14	MW-303	Total/NA	Ground Water	8260C	
590-3364-16	MW-312	Total/NA	Ground Water	8260C	
LCS 590-6554/1005	Lab Control Sample	Total/NA	Water	8260C	
LCS 590-6554/11	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 590-6554/7	Method Blank	Total/NA	Water	8260C	

GC/MS Semi VOA

Analysis Batch: 6503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-7	MW-213	Total/NA	Ground Water	8270D SIM	6505
590-3364-8	MW-214	Total/NA	Ground Water	8270D SIM	6505
LCS 590-6505/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	6505
MB 590-6505/1-A	Method Blank	Total/NA	Water	8270D SIM	6505

Prep Batch: 6505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-7	MW-213	Total/NA	Ground Water	3510C	
590-3364-8	MW-214	Total/NA	Ground Water	3510C	
LCS 590-6505/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 590-6505/1-A	Method Blank	Total/NA	Water	3510C	

GC Semi VOA

Analysis Batch: 6513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-4	MW-307	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-6	MW-202	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-7	MW-213	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-8	MW-214	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-9	MW-203	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-11	MW-111	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-12	MW-05	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-18	SH-04	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-19	MW-112A	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-20	MW-104	Total/NA	Ground Water	NWTPH-Dx	6519
590-3364-22	MW-203-Dup	Total/NA	Water	NWTPH-Dx	6519
LCS 590-6519/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	6519
MB 590-6519/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	6519

Prep Batch: 6519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-4	MW-307	Total/NA	Ground Water	3510C	

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

GC Semi VOA (Continued)

Prep Batch: 6519 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-6	MW-202	Total/NA	Ground Water	3510C	
590-3364-7	MW-213	Total/NA	Ground Water	3510C	
590-3364-8	MW-214	Total/NA	Ground Water	3510C	
590-3364-9	MW-203	Total/NA	Ground Water	3510C	
590-3364-11	MW-111	Total/NA	Ground Water	3510C	
590-3364-12	MW-05	Total/NA	Ground Water	3510C	
590-3364-18	SH-04	Total/NA	Ground Water	3510C	
590-3364-19	MW-112A	Total/NA	Ground Water	3510C	
590-3364-20	MW-104	Total/NA	Ground Water	3510C	
590-3364-22	MW-203-Dup	Total/NA	Water	3510C	
LCS 590-6519/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 590-6519/1-A	Method Blank	Total/NA	Water	3510C	

Metals

Prep Batch: 217131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-20	MW-104	Total Recoverable	Ground Water	3005A	
LCS 580-217131/22-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 580-217131/23-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 580-217131/21-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 217410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-3364-20	MW-104	Total Recoverable	Ground Water	6020A	217131
LCS 580-217131/22-A	Lab Control Sample	Total Recoverable	Water	6020A	217131
LCSD 580-217131/23-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	217131
MB 580-217131/21-A	Method Blank	Total Recoverable	Water	6020A	217131

Lab Chronicle

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-310

Date Collected: 05/02/16 14:15

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 14:48	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 16:06	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 14:48	MRS	TAL SPK

Client Sample ID: MW-301

Date Collected: 05/02/16 13:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 15:10	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 17:36	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 15:10	MRS	TAL SPK

Client Sample ID: TX-03A

Date Collected: 05/02/16 12:25

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 15:32	MRS	TAL SPK
Total/NA	Analysis	8260C		50	43 mL	43 mL	6554	05/11/16 17:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 15:32	MRS	TAL SPK

Client Sample ID: MW-307

Date Collected: 05/03/16 09:05

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 15:54	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 18:20	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 15:54	MRS	TAL SPK
Total/NA	Prep	3510C			251.3 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	251.3 mL	2 mL	6513	05/09/16 14:51	NMI	TAL SPK

Client Sample ID: MW-308

Date Collected: 05/03/16 10:10

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 16:16	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 18:42	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 16:16	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-202

Date Collected: 05/03/16 12:35

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 16:38	MRS	TAL SPK
Total/NA	Prep	3510C			248.7 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	248.7 mL	2 mL	6513	05/09/16 15:09	NMI	TAL SPK

Client Sample ID: MW-213

Date Collected: 05/03/16 15:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 17:00	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 17:00	MRS	TAL SPK
Total/NA	Prep	3510C			271.7 mL	2 mL	6505	05/06/16 14:03	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1	271.7 mL	2 mL	6503	05/06/16 15:41	NMI	TAL SPK
Total/NA	Prep	3510C			252.9 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	252.9 mL	2 mL	6513	05/09/16 15:28	NMI	TAL SPK

Client Sample ID: MW-214

Date Collected: 05/03/16 16:05

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 17:22	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 17:22	MRS	TAL SPK
Total/NA	Prep	3510C			270 mL	2 mL	6505	05/06/16 14:03	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1	270 mL	2 mL	6503	05/06/16 16:08	NMI	TAL SPK
Total/NA	Prep	3510C			252.4 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	252.4 mL	2 mL	6513	05/09/16 15:46	NMI	TAL SPK

Client Sample ID: MW-203

Date Collected: 05/04/16 08:40

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 17:43	MRS	TAL SPK
Total/NA	Prep	3510C			250.6 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	250.6 mL	2 mL	6513	05/09/16 16:04	NMI	TAL SPK

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-302

Lab Sample ID: 590-3364-10

Date Collected: 05/04/16 09:45

Matrix: Ground Water

Date Received: 05/06/16 10:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 18:28	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 19:04	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 18:28	MRS	TAL SPK

Client Sample ID: MW-111

Lab Sample ID: 590-3364-11

Date Collected: 05/04/16 11:20

Matrix: Ground Water

Date Received: 05/06/16 10:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 18:50	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 18:50	MRS	TAL SPK
Total/NA	Prep	3510C			250.8 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	250.8 mL	2 mL	6513	05/09/16 16:23	NMI	TAL SPK

Client Sample ID: MW-05

Lab Sample ID: 590-3364-12

Date Collected: 05/04/16 12:55

Matrix: Ground Water

Date Received: 05/06/16 10:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 19:12	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 19:12	MRS	TAL SPK
Total/NA	Prep	3510C			251 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	251 mL	2 mL	6513	05/09/16 16:42	NMI	TAL SPK

Client Sample ID: MW-304

Lab Sample ID: 590-3364-13

Date Collected: 05/04/16 14:40

Matrix: Ground Water

Date Received: 05/06/16 10:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 19:34	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 19:26	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 19:34	MRS	TAL SPK

Client Sample ID: MW-303

Lab Sample ID: 590-3364-14

Date Collected: 05/04/16 15:25

Matrix: Ground Water

Date Received: 05/06/16 10:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 19:56	MRS	TAL SPK
Total/NA	Analysis	8260C		50	43 mL	43 mL	6554	05/11/16 19:48	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 19:56	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-309

Date Collected: 05/04/16 16:35

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-15

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 20:18	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 20:18	MRS	TAL SPK

Client Sample ID: MW-312

Date Collected: 05/04/16 17:50

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-16

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 22:08	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	6554	05/11/16 20:11	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 22:08	MRS	TAL SPK

Client Sample ID: MW-311

Date Collected: 05/04/16 18:30

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-17

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 22:30	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 22:30	MRS	TAL SPK

Client Sample ID: SH-04

Date Collected: 05/05/16 08:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-18

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 22:52	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 22:52	MRS	TAL SPK
Total/NA	Prep	3510C			249.5 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	249.5 mL	2 mL	6513	05/09/16 17:19	NMI	TAL SPK

Client Sample ID: MW-112A

Date Collected: 05/05/16 09:10

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-19

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 23:14	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 23:14	MRS	TAL SPK
Total/NA	Prep	3510C			250.5 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	250.5 mL	2 mL	6513	05/09/16 17:38	NMI	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Client Sample ID: MW-104

Date Collected: 05/05/16 10:20

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-20

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/10/16 23:36	MRS	TAL SPK
Total/NA	Prep	3510C			249.5 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	249.5 mL	2 mL	6513	05/09/16 17:57	NMI	TAL SPK
Total Recoverable	Prep	3005A			50 mL	50 mL	217131	05/12/16 14:33	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	50 mL	50 mL	217410	05/13/16 21:54	FCW	TAL SEA

Client Sample ID: Trip Blanks

Date Collected: 05/05/16 00:00

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-21

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	6538	05/10/16 23:58	MRS	TAL SPK

Client Sample ID: MW-203-Dup

Date Collected: 05/04/16 08:40

Date Received: 05/06/16 10:47

Lab Sample ID: 590-3364-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	6539	05/11/16 00:20	MRS	TAL SPK
Total/NA	Prep	3510C			250.6 mL	2 mL	6519	05/09/16 12:51	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1	250.6 mL	2 mL	6513	05/09/16 18:16	NMI	TAL SPK

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310
 TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Certification Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-3364-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C569	01-06-17
Analysis Method	Prep Method	Matrix	Analyte	

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-17
Analysis Method	Prep Method	Matrix	Analyte	

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

LAB (LOCATION)

ACCOUNT
 CALCULATION
 TEST METHOD (3 peaks)
 Other

ENV. SERVICES
 MOTTVA SODIUM
 SHELL RETAIL
 CONSULTANT
 OTHER

SHELL RETAIL
 CONSULTANT
 LUBES
 OTHER

Print Bill To Contact Name:
 PO #
 SAP #
 INCIDENT # (ENV SERVICES)
 DATE: 5/16/16
 PAGE: 1 of 1

CHECK IF NO INCIDENT # APPLIES
 DATE: 5/16/16
 PAGE: 1 of 1

ADDRESS: 111 Southwest Columbia Street, Suite 1500, Portland, Oregon 97201
 PROJECT CONTACT (Agency or PFS Report to): Clifford J Pearson
 TELEPHONE: 503-222-4292
 FAX: 503-222-4292
 TURN-AROUND TIME (CALENDAR DAYS):
 STANDARD (1-4 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS
 U.S. RANGEO REPORT FORMAT UST AGENCY-
 DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY)
 TEMPERATURE ON RECEIPT: Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SITE ADDRESS, Street and City: 2555 13th Avenue, Seattle
 ZIP DELIVERABLE TO (Name, Company, City, Location): Clifford J Pearson, AECOM, Portland, OR 503-222-7200
 STATE: WA
 COUNTY: KING
 CITY: SEATTLE
 ZIP: 98101
 PHONE NO: 503-222-7200
 FAX: 503-222-4292
 CONSULTANT PROJECT NO: 60411076
 LAB USE ONLY

SPECIAL INSTRUCTIONS OR NOTES:
 SHELL CONTRACT RATE APPLIES
 STATE RETENTION RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE LEAD DISK

UNIT COST
 REQUESTED ANALYSIS
 NON-UNIT COST
 FIELD NOTES:
 TEMPERATURE ON RECEIPT: 19°C
 CONTAINER PID READINGS OR LABORATORY NOTES

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.	REQUESTED ANALYSIS							NON-UNIT COST			
		DATE	TIME		HCL	HNO3	H2SO4		NONE	OTHER	NWTPH-Gx	BTEX by EPA 8260B	NWTPH-Dx	Total Lead by EPA 6020	PAHs by EPA 8270C-9M		Nitrate and Nitrite by EPA 353.2	Sulfate by EPA method 800.0	Dissolved Iron and Manganese by EPA 6010B/6020A
1)	MW-310	5/2/16	1415	W	X				3	X	X								
2)	MW-361	5/2/16	1320	W	X				3	X	X								
3)	TX-03A	5/2/16	1225	W	X				3	X	X								
4)	MW-307	5/3/16	0905	W	X				4	X	X								
5)	MW-308	5/3/16	1010	W	X				3	X	X								
6)	MW-20Z	5/3/16	1235	W	X				4	X	X								
7)	MW-213	5/3/16	1520	W	X		X		6	X	X								
8)	MW-214	5/3/16	1605	W	X		X		6	X	X								
9)	MW-203	5/4/16	0840	W	X				4	X	X								
10)	MW-203-DUP	5/4/16	0840	W	X				4	X	X								
11)	MW-30Z	5/4/16	0945	W	X				3	X	X								



RECEIVED BY (Signature): *M. Nava*
 RECEIVED BY (Signature): *Shelli Trout*
 RECEIVED BY (Signature): *TH Groot*
 DATE: 5/15/16
 DATE: 5/16/16
 TIME: 1200
 TIME: 950



Shell Oil Products Chain Of Custody Record

AECOM

LAB (LOCATION)

ACCOUNT ()
 CALSCIENCE ()
 TESTAMERICA () **Spokane**
 Other ()
 Lab Vendor # 1364589 (Testamena)



Shell Oil Products Chain Of Custody Record

AECOM

Please Check Appropriate Box:

ENV. SERVICES
 MOTIVA RETAIL
 CONSULTANT
 SHELL PIPELINE
 SHELL RETAIL
 SHELL RETAIL
 LISSS
 OTHER

ADDRESS
 111 Southwest Columbia Street, Suite 1500, Portland, Oregon 97201

PROJECT CONTACT (Agency or PWS Request to)
 Clifford J Pearson

TELEPHONE
 503-222-7200 FAX 503-222-4292
 Clifford Pearson@aecom.com

DELIVERABLES
 LA - RWQCB REPORT FORMAT
 JST AGENCY
 LEVEL 1
 LEVEL 2
 LEVEL 3
 LEVEL 4
 OTHER (SPECIFY)

TEMPERATURE ON RECEIPT °C
 Cooler #1
 Cooler #2
 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
 SHELL CONTRACT RATE APPLIES
 STATE REPAIRMENT RATE APPLIES
 EPOD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE 1.9GB DISK

Print Bill To Contact Name:
 PO #
 SAP #
 SITE ADDRESS - Street and City
 2555 13th Avenue, Seattle
 EST. FULFILLABLE TO Name, Company, Other Location
 Clifford J Pearson, AECOM, Portland, OR 503-222-7200
 STATE (Abbreviation) (Print)
 WASHINGTON (WA)
 PHONE NO.
 FAX NO.
 CONSULTANT PROJECT NO.
 60411076

INCIDENT # (ENV SERVICES)
 3 0 0 0 3 6
 DATE: 5/5/16
 PAGE: 1 of 1

UNIT COST
 REQUESTED ANALYSIS
 NON-UNIT COST

FIELD NOTES:
 TEMPERATURE ON RECEIPT
 1.9 C 10003
 Container PID Readings
 or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.	NWTPH-Gx	BTEX by EPA 8260B	NWTPH-Dx	Total Lead by EPA 6020	PAHs by EPA 8270C-SIM	Nitrate and Nitrite by EPA 355.2	Sulfate by EPA method 800.0	Dissolved Iron and Manganese by EPA 6010B/6020A	DATE	TIME
		DATE	TIME		HCL	HNO3	H2SO4	NONE											
11	MW-111	5/4/16	1120	W		X			4	X	X							5/5/16	1200
12	MW-05	5/4/16	1755	W		X			4	X	X							5/5/16	1200
13	MW-304	5/4/16	1440	W		X			3	X	X							5/5/16	1200
14	MW-303	5/4/16	1525	W		X			3	X	X							5/5/16	1200
15	MW-309	5/4/16	1635	W		X			3	X	X							5/5/16	1200
16	MW-312	5/4/16	1750	W		X			3	X	X							5/5/16	1200
17	MW-311	5/4/16	1830	W		X			3	X	X							5/5/16	1200
18	SH-04	5/5/16	0830	W		X			4	X	X							5/5/16	1200
19	MW-112A	5/5/16	0916	W		X			4	X	X							5/5/16	1200
20	MW-104	5/5/16	1020	W		X			5	X	X							5/5/16	1200
21	TAP BLANK	-	-	W		X			3	X	X							5/5/16	1200

Requested by (Signature)
 M. Taylor

Received by (Signature)
 FED EX

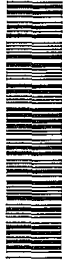
Requested by (Signature)
 Abhinav Shrivastava

Requested by (Signature)
 TRA Groat



590-3364-02 Chain of Custody

Chain of Custody Record



Client Information (Sub Contract Lab) Client Contact: Shipping/Receiving Company: TestAmerica Laboratories, Inc. Address: 5755 8th Street East, Tacoma State, Zip: WA, 98424 Phone: 253-922-2310(Tel) 253-922-5047(Fax) Email: Project Name: 2555 13th Avenue, Seattle (60411076) Site: AECOM - 2555 13th Avenue, Seattle		Lab P/N: Arrington, Randee E E-Mail: randee.arrington@testamericainc.com Carrier Tracking No(s): COC No: 590-1632-1 Page: Page 1 of 1 Job #: 590-3364-1	
Due Date Requested: 5/18/2016 TAT Requested (days): PO #: WO #: Project #: 59000733 SSOW#:		Analysis Requested 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 - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4.5 Z - other (specify)	
Sample Identification - Client ID (Lab ID) MW-104 (590-3364-20)		Special Instructions/Note: Total Number of Containers: 1 Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 6020A/3005A Lead only	
Sample Date: 5/5/16 Sample Time: 10:20 Pacific Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air) Preservation Code: Water	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab Special Instructions/QC Requirements: Archive For _____ Months		
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Empty Kit Relinquished by: Relinquished by:		Date: 5/19/16 1330 Received by: Tom [Signature] Company: TA-CPOX Date/Time: 5/10/16 1013 Company: TA-SEA Date/Time: Company:	
Relinquished by: Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 13 3.4 / 3.0 °C	

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-3364-1

Login Number: 3364

List Source: TestAmerica Spokane

List Number: 1

Creator: Kratz, Sheila J

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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-3364-1

Login Number: 3364

List Source: TestAmerica Seattle

List Number: 2

List Creation: 05/10/16 11:37 AM

Creator: Gall, Brandon A

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?	N/A	Received project as a subcontract.
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-4359-1

Client Project/Site: 2555 13th Avenue, Seattle (60411076)

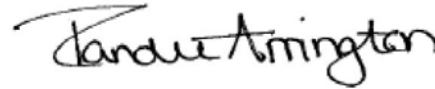
For:

AECOM, Inc.

111 SW Columbia Street, Suite 1500

Portland, Oregon 97201

Attn: Clifford Pearson



Authorized for release by:

9/12/2016 10:54:13 AM

Randee Arrington, Project Manager II

(509)924-9200

randee.arrington@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Detection Summary	6
Client Sample Results	8
QC Sample Results	14
QC Association	17
Chronicle	19
Definitions	22
Certification Summary	23
Chain of Custody	24
Receipt Checklists	25

Case Narrative

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Job ID: 590-4359-1

Laboratory: TestAmerica Spokane

Narrative

Receipt

The samples were received on 8/31/2016 12:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 3.7° C.

GC/MS VOA

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-308 (590-4359-3). Elevated reporting limits (RLs) are provided.

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

GC Semi VOA

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

Organic Prep

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

VOA Prep

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



Sample Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-4359-1	MW-301	Ground Water	08/29/16 13:00	08/31/16 12:30
590-4359-2	MW-307	Ground Water	08/30/16 09:45	08/31/16 12:30
590-4359-3	MW-308	Ground Water	08/30/16 09:00	08/31/16 12:30
590-4359-4	MW-310	Ground Water	08/29/16 13:50	08/31/16 12:30
590-4359-5	MW-311	Ground Water	08/29/16 17:25	08/31/16 12:30
590-4359-6	MW-312	Ground Water	08/29/16 15:25	08/31/16 12:30
590-4359-7	MW-313	Water	08/29/16 18:20	08/31/16 12:30
590-4359-8	MW-314	Water	08/30/16 12:25	08/31/16 12:30
590-4359-9	MW-315	Water	08/29/16 16:20	08/31/16 12:30
590-4359-10	TX-03A	Ground Water	08/29/16 11:55	08/31/16 12:30
590-4359-11	Trip Blank	Ground Water	08/29/16 00:00	08/31/16 12:30



Method Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK

Protocol References:

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 SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200



Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-301

Lab Sample ID: 590-4359-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	64.7		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	10.3		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	5.92		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.475	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	5.51		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	6.40		3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	2900		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 590-4359-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	261		4.00	1.86	ug/L	20		8260C	Total/NA
Ethylbenzene	222		20.0	3.96	ug/L	20		8260C	Total/NA
m,p-Xylene	191		40.0	5.60	ug/L	20		8260C	Total/NA
o-Xylene	3.93	J	20.0	3.24	ug/L	20		8260C	Total/NA
Toluene	29.9		20.0	6.24	ug/L	20		8260C	Total/NA
Xylenes, Total	195		60.0	3.24	ug/L	20		8260C	Total/NA
Gasoline	5130		2000	356	ug/L	20		NWTPH-Gx	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 590-4359-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	196		2.00	0.930	ug/L	10		8260C	Total/NA
Gasoline	1480		1000	178	ug/L	10		NWTPH-Gx	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 590-4359-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	734		4.00	1.86	ug/L	20		8260C	Total/NA
Ethylbenzene	209		20.0	3.96	ug/L	20		8260C	Total/NA
m,p-Xylene	85.2		40.0	5.60	ug/L	20		8260C	Total/NA
o-Xylene	3.31	J	20.0	3.24	ug/L	20		8260C	Total/NA
Toluene	60.8		20.0	6.24	ug/L	20		8260C	Total/NA
Xylenes, Total	88.5		60.0	3.24	ug/L	20		8260C	Total/NA
Gasoline	5380		2000	356	ug/L	20		NWTPH-Gx	Total/NA

Client Sample ID: MW-311

Lab Sample ID: 590-4359-5

No Detections.

Client Sample ID: MW-312

Lab Sample ID: 590-4359-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	370		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	3.54	J	10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	3.94	J	20.0	2.80	ug/L	10		8260C	Total/NA
Toluene	4.57	J	10.0	3.12	ug/L	10		8260C	Total/NA
Xylenes, Total	3.94	J	30.0	1.62	ug/L	10		8260C	Total/NA
Gasoline	2300		1000	178	ug/L	10		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-313

Lab Sample ID: 590-4359-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.218		0.121	0.0402	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-314

Lab Sample ID: 590-4359-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	182		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.293		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-315

Lab Sample ID: 590-4359-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	96.5		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	0.548	J	1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	1.11	J	2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.243	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	2.65		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	1.35	J	3.00	0.162	ug/L	1		8260C	Total/NA
Gasoline	453		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.55		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TX-03A

Lab Sample ID: 590-4359-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	844		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	246		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	49.8		20.0	2.80	ug/L	10		8260C	Total/NA
o-Xylene	3.21	J	10.0	1.62	ug/L	10		8260C	Total/NA
Toluene	25.7		10.0	3.12	ug/L	10		8260C	Total/NA
Xylenes, Total	53.0		30.0	1.62	ug/L	10		8260C	Total/NA
Gasoline	5890		1000	178	ug/L	10		NWTPH-Gx	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 590-4359-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-301

Lab Sample ID: 590-4359-1

Date Collected: 08/29/16 13:00

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	64.7		0.200	0.0930	ug/L			09/06/16 13:28	1
Ethylbenzene	10.3		1.00	0.198	ug/L			09/06/16 13:28	1
m,p-Xylene	5.92		2.00	0.280	ug/L			09/06/16 13:28	1
o-Xylene	0.475	J	1.00	0.162	ug/L			09/06/16 13:28	1
Toluene	5.51		1.00	0.312	ug/L			09/06/16 13:28	1
Xylenes, Total	6.40		3.00	0.162	ug/L			09/06/16 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 125		09/06/16 13:28	1
4-Bromofluorobenzene (Surr)	97		69 - 120		09/06/16 13:28	1
Dibromofluoromethane (Surr)	96		80 - 120		09/06/16 13:28	1
Toluene-d8 (Surr)	92		80 - 120		09/06/16 13:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2900		100	17.8	ug/L			09/06/16 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		09/06/16 13:28	1

Client Sample ID: MW-307

Lab Sample ID: 590-4359-2

Date Collected: 08/30/16 09:45

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	261		4.00	1.86	ug/L			09/06/16 13:58	20
Ethylbenzene	222		20.0	3.96	ug/L			09/06/16 13:58	20
m,p-Xylene	191		40.0	5.60	ug/L			09/06/16 13:58	20
o-Xylene	3.93	J	20.0	3.24	ug/L			09/06/16 13:58	20
Toluene	29.9		20.0	6.24	ug/L			09/06/16 13:58	20
Xylenes, Total	195		60.0	3.24	ug/L			09/06/16 13:58	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		09/06/16 13:58	20
4-Bromofluorobenzene (Surr)	98		69 - 120		09/06/16 13:58	20
Dibromofluoromethane (Surr)	102		80 - 120		09/06/16 13:58	20
Toluene-d8 (Surr)	99		80 - 120		09/06/16 13:58	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5130		2000	356	ug/L			09/06/16 13:58	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		09/06/16 13:58	20

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-308

Lab Sample ID: 590-4359-3

Date Collected: 08/30/16 09:00

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	196		2.00	0.930	ug/L			09/06/16 14:19	10
Ethylbenzene	ND		10.0	1.98	ug/L			09/06/16 14:19	10
m,p-Xylene	ND		20.0	2.80	ug/L			09/06/16 14:19	10
o-Xylene	ND		10.0	1.62	ug/L			09/06/16 14:19	10
Toluene	ND		10.0	3.12	ug/L			09/06/16 14:19	10
Xylenes, Total	ND		30.0	1.62	ug/L			09/06/16 14:19	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/06/16 14:19	10
4-Bromofluorobenzene (Surr)	105		69 - 120		09/06/16 14:19	10
Dibromofluoromethane (Surr)	103		80 - 120		09/06/16 14:19	10
Toluene-d8 (Surr)	101		80 - 120		09/06/16 14:19	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1480		1000	178	ug/L			09/06/16 14:19	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		68.7 - 141		09/06/16 14:19	10

Client Sample ID: MW-310

Lab Sample ID: 590-4359-4

Date Collected: 08/29/16 13:50

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	734		4.00	1.86	ug/L			09/06/16 14:41	20
Ethylbenzene	209		20.0	3.96	ug/L			09/06/16 14:41	20
m,p-Xylene	85.2		40.0	5.60	ug/L			09/06/16 14:41	20
o-Xylene	3.31	J	20.0	3.24	ug/L			09/06/16 14:41	20
Toluene	60.8		20.0	6.24	ug/L			09/06/16 14:41	20
Xylenes, Total	88.5		60.0	3.24	ug/L			09/06/16 14:41	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/06/16 14:41	20
4-Bromofluorobenzene (Surr)	99		69 - 120		09/06/16 14:41	20
Dibromofluoromethane (Surr)	102		80 - 120		09/06/16 14:41	20
Toluene-d8 (Surr)	101		80 - 120		09/06/16 14:41	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5380		2000	356	ug/L			09/06/16 14:41	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141		09/06/16 14:41	20

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-311

Lab Sample ID: 590-4359-5

Date Collected: 08/29/16 17:25

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			09/06/16 15:02	1
Ethylbenzene	ND		1.00	0.198	ug/L			09/06/16 15:02	1
m,p-Xylene	ND		2.00	0.280	ug/L			09/06/16 15:02	1
o-Xylene	ND		1.00	0.162	ug/L			09/06/16 15:02	1
Toluene	ND		1.00	0.312	ug/L			09/06/16 15:02	1
Xylenes, Total	ND		3.00	0.162	ug/L			09/06/16 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		09/06/16 15:02	1
4-Bromofluorobenzene (Surr)	95		69 - 120		09/06/16 15:02	1
Dibromofluoromethane (Surr)	102		80 - 120		09/06/16 15:02	1
Toluene-d8 (Surr)	97		80 - 120		09/06/16 15:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			09/06/16 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		09/06/16 15:02	1

Client Sample ID: MW-312

Lab Sample ID: 590-4359-6

Date Collected: 08/29/16 15:25

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	370		2.00	0.930	ug/L			09/06/16 15:23	10
Ethylbenzene	3.54	J	10.0	1.98	ug/L			09/06/16 15:23	10
m,p-Xylene	3.94	J	20.0	2.80	ug/L			09/06/16 15:23	10
o-Xylene	ND		10.0	1.62	ug/L			09/06/16 15:23	10
Toluene	4.57	J	10.0	3.12	ug/L			09/06/16 15:23	10
Xylenes, Total	3.94	J	30.0	1.62	ug/L			09/06/16 15:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		09/06/16 15:23	10
4-Bromofluorobenzene (Surr)	98		69 - 120		09/06/16 15:23	10
Dibromofluoromethane (Surr)	104		80 - 120		09/06/16 15:23	10
Toluene-d8 (Surr)	98		80 - 120		09/06/16 15:23	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2300		1000	178	ug/L			09/06/16 15:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		09/06/16 15:23	10

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-313

Lab Sample ID: 590-4359-7

Date Collected: 08/29/16 18:20

Matrix: Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			09/06/16 15:45	1
Ethylbenzene	ND		1.00	0.198	ug/L			09/06/16 15:45	1
m,p-Xylene	ND		2.00	0.280	ug/L			09/06/16 15:45	1
o-Xylene	ND		1.00	0.162	ug/L			09/06/16 15:45	1
Toluene	ND		1.00	0.312	ug/L			09/06/16 15:45	1
Xylenes, Total	ND		3.00	0.162	ug/L			09/06/16 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/06/16 15:45	1
4-Bromofluorobenzene (Surr)	101		69 - 120		09/06/16 15:45	1
Dibromofluoromethane (Surr)	102		80 - 120		09/06/16 15:45	1
Toluene-d8 (Surr)	100		80 - 120		09/06/16 15:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			09/06/16 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141		09/06/16 15:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	0.218		0.121	0.0402	mg/L		09/06/16 10:45	09/06/16 17:07	1
(C10-C25)									
Residual Range Organics (RRO)	ND		0.201	0.0603	mg/L		09/06/16 10:45	09/06/16 17:07	1
(C25-C36)									

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	77		50 - 150	09/06/16 10:45	09/06/16 17:07	1
n-Triacontane-d62	80		50 - 150	09/06/16 10:45	09/06/16 17:07	1

Client Sample ID: MW-314

Lab Sample ID: 590-4359-8

Date Collected: 08/30/16 12:25

Matrix: Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			09/06/16 16:06	1
Ethylbenzene	ND		1.00	0.198	ug/L			09/06/16 16:06	1
m,p-Xylene	ND		2.00	0.280	ug/L			09/06/16 16:06	1
o-Xylene	ND		1.00	0.162	ug/L			09/06/16 16:06	1
Toluene	ND		1.00	0.312	ug/L			09/06/16 16:06	1
Xylenes, Total	ND		3.00	0.162	ug/L			09/06/16 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/06/16 16:06	1
4-Bromofluorobenzene (Surr)	102		69 - 120		09/06/16 16:06	1
Dibromofluoromethane (Surr)	102		80 - 120		09/06/16 16:06	1
Toluene-d8 (Surr)	92		80 - 120		09/06/16 16:06	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-314

Lab Sample ID: 590-4359-8

Date Collected: 08/30/16 12:25

Matrix: Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	182		100	17.8	ug/L			09/06/16 16:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141					09/06/16 16:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.293		0.120	0.0400	mg/L		09/06/16 10:45	09/06/16 17:24	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0599	mg/L		09/06/16 10:45	09/06/16 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150				09/06/16 10:45	09/06/16 17:24	1
n-Triacontane-d62	86		50 - 150				09/06/16 10:45	09/06/16 17:24	1

Client Sample ID: MW-315

Lab Sample ID: 590-4359-9

Date Collected: 08/29/16 16:20

Matrix: Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	96.5		0.200	0.0930	ug/L			09/06/16 16:49	1
Ethylbenzene	0.548	J	1.00	0.198	ug/L			09/06/16 16:49	1
m,p-Xylene	1.11	J	2.00	0.280	ug/L			09/06/16 16:49	1
o-Xylene	0.243	J	1.00	0.162	ug/L			09/06/16 16:49	1
Toluene	2.65		1.00	0.312	ug/L			09/06/16 16:49	1
Xylenes, Total	1.35	J	3.00	0.162	ug/L			09/06/16 16:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 125					09/06/16 16:49	1
4-Bromofluorobenzene (Surr)	96		69 - 120					09/06/16 16:49	1
Dibromofluoromethane (Surr)	102		80 - 120					09/06/16 16:49	1
Toluene-d8 (Surr)	97		80 - 120					09/06/16 16:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	453		100	17.8	ug/L			09/08/16 16:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141					09/08/16 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.55		0.120	0.0400	mg/L		09/06/16 10:45	09/06/16 17:42	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0600	mg/L		09/06/16 10:45	09/06/16 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150				09/06/16 10:45	09/06/16 17:42	1
n-Triacontane-d62	83		50 - 150				09/06/16 10:45	09/06/16 17:42	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: TX-03A

Lab Sample ID: 590-4359-10

Date Collected: 08/29/16 11:55

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	844		2.00	0.930	ug/L			09/06/16 17:10	10
Ethylbenzene	246		10.0	1.98	ug/L			09/06/16 17:10	10
m,p-Xylene	49.8		20.0	2.80	ug/L			09/06/16 17:10	10
o-Xylene	3.21	J	10.0	1.62	ug/L			09/06/16 17:10	10
Toluene	25.7		10.0	3.12	ug/L			09/06/16 17:10	10
Xylenes, Total	53.0		30.0	1.62	ug/L			09/06/16 17:10	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/06/16 17:10	10
4-Bromofluorobenzene (Surr)	102		69 - 120		09/06/16 17:10	10
Dibromofluoromethane (Surr)	104		80 - 120		09/06/16 17:10	10
Toluene-d8 (Surr)	100		80 - 120		09/06/16 17:10	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5890		1000	178	ug/L			09/08/16 16:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		68.7 - 141		09/08/16 16:23	10

Client Sample ID: Trip Blank

Lab Sample ID: 590-4359-11

Date Collected: 08/29/16 00:00

Matrix: Ground Water

Date Received: 08/31/16 12:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			09/02/16 12:37	1
Ethylbenzene	ND		1.00	0.198	ug/L			09/02/16 12:37	1
m,p-Xylene	ND		2.00	0.280	ug/L			09/02/16 12:37	1
o-Xylene	ND		1.00	0.162	ug/L			09/02/16 12:37	1
Toluene	ND		1.00	0.312	ug/L			09/02/16 12:37	1
Xylenes, Total	ND		3.00	0.162	ug/L			09/02/16 12:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 125		09/02/16 12:37	1
4-Bromofluorobenzene (Surr)	96		69 - 120		09/02/16 12:37	1
Dibromofluoromethane (Surr)	103		80 - 120		09/02/16 12:37	1
Toluene-d8 (Surr)	103		80 - 120		09/02/16 12:37	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

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

Lab Sample ID: MB 590-8385/5
Matrix: Water
Analysis Batch: 8385

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			09/02/16 11:17	1
Ethylbenzene	ND		1.00	0.198	ug/L			09/02/16 11:17	1
m,p-Xylene	ND		2.00	0.280	ug/L			09/02/16 11:17	1
o-Xylene	ND		1.00	0.162	ug/L			09/02/16 11:17	1
Toluene	ND		1.00	0.312	ug/L			09/02/16 11:17	1
Xylenes, Total	ND		3.00	0.162	ug/L			09/02/16 11:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/02/16 11:17	1
4-Bromofluorobenzene (Surr)	98		69 - 120		09/02/16 11:17	1
Dibromofluoromethane (Surr)	100		80 - 120		09/02/16 11:17	1
Toluene-d8 (Surr)	99		80 - 120		09/02/16 11:17	1

Lab Sample ID: LCS 590-8385/1003
Matrix: Water
Analysis Batch: 8385

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.14		ug/L		101	80 - 120
Ethylbenzene	10.0	10.19		ug/L		102	80 - 120
m,p-Xylene	10.0	10.26		ug/L		103	80 - 120
o-Xylene	10.0	10.17		ug/L		102	80 - 120
Toluene	10.0	10.05		ug/L		100	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 125
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: MB 590-8397/5
Matrix: Water
Analysis Batch: 8397

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			09/06/16 12:36	1
Ethylbenzene	ND		1.00	0.198	ug/L			09/06/16 12:36	1
m,p-Xylene	ND		2.00	0.280	ug/L			09/06/16 12:36	1
o-Xylene	ND		1.00	0.162	ug/L			09/06/16 12:36	1
Toluene	ND		1.00	0.312	ug/L			09/06/16 12:36	1
Xylenes, Total	ND		3.00	0.162	ug/L			09/06/16 12:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		09/06/16 12:36	1
4-Bromofluorobenzene (Surr)	94		69 - 120		09/06/16 12:36	1
Dibromofluoromethane (Surr)	103		80 - 120		09/06/16 12:36	1
Toluene-d8 (Surr)	100		80 - 120		09/06/16 12:36	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Lab Sample ID: LCS 590-8397/1003

Matrix: Water

Analysis Batch: 8397

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.74		ug/L		107	80 - 120
Ethylbenzene	10.0	10.38		ug/L		104	80 - 120
m,p-Xylene	10.0	10.46		ug/L		105	80 - 120
o-Xylene	10.0	10.51		ug/L		105	80 - 120
Toluene	10.0	10.52		ug/L		105	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 125
4-Bromofluorobenzene (Surr)	95		69 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	99		80 - 120

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

Lab Sample ID: MB 590-8398/5

Matrix: Water

Analysis Batch: 8398

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			09/06/16 12:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141		09/06/16 12:36	1

Lab Sample ID: LCS 590-8398/1004

Matrix: Water

Analysis Batch: 8398

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	998	1083		ug/L		108	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		68.7 - 141

Lab Sample ID: MB 590-8446/17

Matrix: Water

Analysis Batch: 8446

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			09/08/16 15:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		09/08/16 15:40	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

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

Lab Sample ID: LCS 590-8446/1016

Matrix: Water

Analysis Batch: 8446

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	998	984.8		ug/L		99	80 - 120
Surrogate		LCS %Recovery	LCS Qualifier				Limits
4-Bromofluorobenzene (Surr)		98					68.7 - 141

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

Lab Sample ID: MB 590-8396/1-A

Matrix: Water

Analysis Batch: 8394

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8396

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.120	0.0400	mg/L		09/06/16 10:45	09/06/16 16:32	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0600	mg/L		09/06/16 10:45	09/06/16 16:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	78		50 - 150				09/06/16 10:45	09/06/16 16:32	1
n-Triacontane-d62	80		50 - 150				09/06/16 10:45	09/06/16 16:32	1

Lab Sample ID: LCS 590-8396/2-A

Matrix: Water

Analysis Batch: 8394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.61	1.253		mg/L		78	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.336		mg/L		83	50 - 150
Surrogate		LCS %Recovery	LCS Qualifier				Limits
o-Terphenyl		83					50 - 150
n-Triacontane-d62		87					50 - 150

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

GC/MS VOA

Analysis Batch: 8385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-4359-11	Trip Blank	Total/NA	Ground Water	8260C	
MB 590-8385/5	Method Blank	Total/NA	Water	8260C	
LCS 590-8385/1003	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 8397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-4359-1	MW-301	Total/NA	Ground Water	8260C	
590-4359-2	MW-307	Total/NA	Ground Water	8260C	
590-4359-3	MW-308	Total/NA	Ground Water	8260C	
590-4359-4	MW-310	Total/NA	Ground Water	8260C	
590-4359-5	MW-311	Total/NA	Ground Water	8260C	
590-4359-6	MW-312	Total/NA	Ground Water	8260C	
590-4359-7	MW-313	Total/NA	Water	8260C	
590-4359-8	MW-314	Total/NA	Water	8260C	
590-4359-9	MW-315	Total/NA	Water	8260C	
590-4359-10	TX-03A	Total/NA	Ground Water	8260C	
MB 590-8397/5	Method Blank	Total/NA	Water	8260C	
LCS 590-8397/1003	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 8398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-4359-1	MW-301	Total/NA	Ground Water	NWTPH-Gx	
590-4359-2	MW-307	Total/NA	Ground Water	NWTPH-Gx	
590-4359-3	MW-308	Total/NA	Ground Water	NWTPH-Gx	
590-4359-4	MW-310	Total/NA	Ground Water	NWTPH-Gx	
590-4359-5	MW-311	Total/NA	Ground Water	NWTPH-Gx	
590-4359-6	MW-312	Total/NA	Ground Water	NWTPH-Gx	
590-4359-7	MW-313	Total/NA	Water	NWTPH-Gx	
590-4359-8	MW-314	Total/NA	Water	NWTPH-Gx	
MB 590-8398/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-8398/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 8446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-4359-9	MW-315	Total/NA	Water	NWTPH-Gx	
590-4359-10	TX-03A	Total/NA	Ground Water	NWTPH-Gx	
MB 590-8446/17	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-8446/1016	Lab Control Sample	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Analysis Batch: 8394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-4359-7	MW-313	Total/NA	Water	NWTPH-Dx	8396
590-4359-8	MW-314	Total/NA	Water	NWTPH-Dx	8396
590-4359-9	MW-315	Total/NA	Water	NWTPH-Dx	8396
MB 590-8396/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	8396
LCS 590-8396/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	8396

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

GC Semi VOA (Continued)

Prep Batch: 8396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-4359-7	MW-313	Total/NA	Water	3510C	
590-4359-8	MW-314	Total/NA	Water	3510C	
590-4359-9	MW-315	Total/NA	Water	3510C	
MB 590-8396/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-8396/2-A	Lab Control Sample	Total/NA	Water	3510C	

Lab Chronicle

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-301

Date Collected: 08/29/16 13:00

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	8397	09/06/16 13:28	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	8398	09/06/16 13:28	MRS	TAL SPK

Client Sample ID: MW-307

Date Collected: 08/30/16 09:45

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	8397	09/06/16 13:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	8398	09/06/16 13:58	MRS	TAL SPK

Client Sample ID: MW-308

Date Collected: 08/30/16 09:00

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	8397	09/06/16 14:19	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	8398	09/06/16 14:19	MRS	TAL SPK

Client Sample ID: MW-310

Date Collected: 08/29/16 13:50

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	8397	09/06/16 14:41	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	8398	09/06/16 14:41	MRS	TAL SPK

Client Sample ID: MW-311

Date Collected: 08/29/16 17:25

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	8397	09/06/16 15:02	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	8398	09/06/16 15:02	MRS	TAL SPK

Client Sample ID: MW-312

Date Collected: 08/29/16 15:25

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	8397	09/06/16 15:23	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: MW-312

Date Collected: 08/29/16 15:25

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	8398	09/06/16 15:23	MRS	TAL SPK

Client Sample ID: MW-313

Date Collected: 08/29/16 18:20

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	8397	09/06/16 15:45	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	8398	09/06/16 15:45	MRS	TAL SPK
Total/NA	Prep	3510C			248.9 mL	2 mL	8396	09/06/16 10:45	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			8394	09/06/16 17:07	NMI	TAL SPK

Client Sample ID: MW-314

Date Collected: 08/30/16 12:25

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	8397	09/06/16 16:06	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	8398	09/06/16 16:06	MRS	TAL SPK
Total/NA	Prep	3510C			250.3 mL	2 mL	8396	09/06/16 10:45	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			8394	09/06/16 17:24	NMI	TAL SPK

Client Sample ID: MW-315

Date Collected: 08/29/16 16:20

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	8397	09/06/16 16:49	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	8446	09/08/16 16:02	MRS	TAL SPK
Total/NA	Prep	3510C			250.1 mL	2 mL	8396	09/06/16 10:45	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			8394	09/06/16 17:42	NMI	TAL SPK

Client Sample ID: TX-03A

Date Collected: 08/29/16 11:55

Date Received: 08/31/16 12:30

Lab Sample ID: 590-4359-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	8397	09/06/16 17:10	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	8446	09/08/16 16:23	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Client Sample ID: Trip Blank

Lab Sample ID: 590-4359-11

Date Collected: 08/29/16 00:00

Matrix: Ground Water

Date Received: 08/31/16 12:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	8385	09/02/16 12:37	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Certification Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-4359-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C569	01-06-17

Analysis Method	Prep Method	Matrix	Analyte
-----------------	-------------	--------	---------

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



Shell Oil Products Chain Of Custody Record

AECOM

LAB (LOCATION)

ACCUST ()

CALSCIENCE ()

TESTAMERICA ()

Other ()

Lab Vendor # 1813640 (Accust)

Please Check Appropriate Box:

ENV. SERVICES

MOTIVA RETAIL

MOTIVA SORCM

CONSULTANT

SHELL PIPELINE

OTHER ()

SHELL RETAIL

SHELL RETAIL

LIBES

ADDRESS
111 Southwest Columbia Street, Suite 1500, Portland, Oregon 97201

PROJECT CONTACT (University or other report to):

CLIFFORD J PEARSON

TELEPHONE: 503-222-7200

FAX: 503-222-4292

BIT TO CONTACT BY MAIL: Clifford.Pearson@aecom.com

TURNAROUND TIME (CAL ENDOR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULT'S NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT C° Cooler #1: _____ Cooler #2: _____ Cooler #3: _____

Print Bill To Contact Name: _____

INCIDENT # (ENV SERVICES) 3 0 0 0 3 6

DATE: 8/30/16

PO # _____

SAP # _____

PAGE: 1 of 1

SITE ADDRESS, Street and City: 2555 13th Avenue, Seattle

FOR DELIVERABLE TO (Name, Company, Other Location): Clifford J Pearson, AECOM, Portland, OR 503-222-7200

PHONE NO: _____

STATE: WA

GLOBAL ID NO: _____

FOR DELIVERABLE TO (Name, Company, Other Location): MARK TAUSCHER

PHONE NO: _____

STATE: _____

GLOBAL ID NO: _____

CLIFFORD J PEARSON

TELEPHONE: 503-222-7200

FAX: 503-222-4292

BIT TO CONTACT BY MAIL: Clifford.Pearson@aecom.com

TURNAROUND TIME (CAL ENDOR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULT'S NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT C° Cooler #1: _____ Cooler #2: _____ Cooler #3: _____

REQUESTED ANALYSIS: BTEX, TPH-Gx, TPH-Dx

UNIT COST: _____

NON-UNIT COST: _____

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

SPECIAL INSTRUCTIONS OR NOTES:

SHELL CONTRACT RATE APPLIES

STATE METER FREIGHT RATE APPLIES

RECEIPT VERIFICATION REQUESTED

PROVIDE LEAD DISK

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO OF CONT.	BTEX	TPH-Gx	TPH-Dx	UNIT COST	NON-UNIT COST
		DATE	TIME		HCL	HNO3	H2SO4	NONE						
	MMW-301	8/29	1300	WATER	X				28	X	X			
	MMW-307	8/30	0945	WATER	X				28	X	X			
	MMW-308	8/30	0900	WATER	X				28	X	X			
	MMW-310	8/29	1350	WATER	X				28	X	X			
	MMW-311	8/29	1725	WATER	X				28	X	X			
	MMW-312	8/29	1525	WATER	X				28	X	X			
	MMW-313	8/29	1820	WATER	X				38	X	X			
	MMW-314	8/30	1225	WATER	X				38	X	X			
	MMW-315	8/29	1620	WATER	X				38	X	X			
	TX-03A	8/29	1655	WATER	X				2	X	X			
	Tip Blank	-	-	WATER	X				1	X				



590-4359 Chain of Custody

Remanufactured by (Signature): *Mr. Ted*

Received by (Signature): *Keelors*

Remanufactured by (Signature): *Keelors*

Received by (Signature): *Kevin Tauscher*

Remanufactured by (Signature): *Keelors*

Received by (Signature): *Kevin Tauscher*

Date: 8/30/16

Time: 1345

Date: 8/31/16

Time: 1230

DATE: 8/31/16

TIME: 11:16

DATE: 8/31/16

TIME: 12003

Seattle

3.5 / 3.7

A2

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-4359-1

Login Number: 4359

List Source: TestAmerica Spokane

List Number: 1

Creator: Kratz, Sheila J

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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-5225-1

Client Project/Site: 2555 13th Avenue, Seattle (60411076)

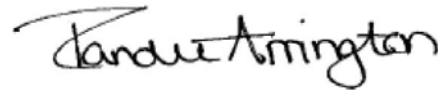
For:

AECOM, Inc.

111 SW Columbia Street, Suite 1500

Portland, Oregon 97201

Attn: Clifford Pearson



Authorized for release by:

12/27/2016 11:42:22 AM

Randee Arrington, Project Manager II

(509)924-9200

randee.arrington@testamericainc.com



LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Detection Summary	6
Client Sample Results	10
QC Sample Results	24
QC Association	32
Chronicle	36
Definitions	41
Certification Summary	42
Chain of Custody	43
Receipt Checklists	48

Case Narrative

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Job ID: 590-5225-1

Laboratory: TestAmerica Spokane

Narrative

Receipt

The samples were received on 12/14/2016 2:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.9° C.

GC/MS VOA

Method 8260C: The initial calibration verification (ICV) analyzed in batch 590-10103 was outside method criteria for the following analyte: bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method NWTPH-Gx: The method blank for analytical batch 590-10122 contained Gasoline above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-analysis of samples was not performed.

Method NWTPH-Gx: The Gasoline Range Organics (GRO) concentration reported for the following sample is partially due to the presence of a discrete peak: MW-203 (590-5225-19).

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

GC/MS Semi VOA

Method 8270D SIM: The method blank for preparation batch 590-10099 and analytical batch 590-10091 contained Anthracene, 2-Methylnaphthalene, Pyrene, Benzo[a]anthracene, Chrysene, Acenaphthylene and Benzo[a]pyrene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

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

IC

Method 300.0: The following sample was diluted due to the nature of the sample matrix: MW-307 (590-5225-11) and MW-202 (590-5225-16). Elevated reporting limits (RLs) are provided.

GC Semi VOA

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap in the following samples: MW-303 (590-5225-4), MW-307 (590-5225-11), MW-101 (590-5225-12), MW-202 (590-5225-16) and MW-203 (590-5225-19).

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

Metals

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Sample Summary

Client: AECOM, Inc.

TestAmerica Job ID: 590-5225-1

Project/Site: 2555 13th Avenue, Seattle (60411076)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-5225-1	MW-309	Ground Water	12/12/16 11:15	12/14/16 14:10
590-5225-2	MW-301	Ground Water	12/12/16 11:20	12/14/16 14:10
590-5225-3	MW-206A	Ground Water	12/12/16 12:25	12/14/16 14:10
590-5225-4	MW-303	Ground Water	12/12/16 12:35	12/14/16 14:10
590-5225-5	MW-313	Water	12/12/16 13:30	12/14/16 14:10
590-5225-6	MW-315	Water	12/12/16 13:50	12/14/16 14:10
590-5225-7	TX-06A	Water	12/12/16 14:30	12/14/16 14:10
590-5225-8	TX-04	Water	12/12/16 14:57	12/14/16 14:10
590-5225-9	MW-112A	Water	12/12/16 15:15	12/14/16 14:10
590-5225-10	Trip Blank	Water	12/12/16 00:00	12/14/16 14:10
590-5225-11	MW-307	Ground Water	12/13/16 09:00	12/14/16 14:10
590-5225-12	MW-101	Ground Water	12/13/16 09:00	12/14/16 14:10
590-5225-13	MW-308	Ground Water	12/13/16 10:15	12/14/16 14:10
590-5225-14	TES-MW-1	Water	12/13/16 10:20	12/14/16 14:10
590-5225-15	MW-204	Ground Water	12/13/16 11:55	12/14/16 14:10
590-5225-16	MW-202	Ground Water	12/13/16 12:00	12/14/16 14:10
590-5225-17	MW-201	Ground Water	12/13/16 13:20	12/14/16 14:10
590-5225-18	MW-213	Ground Water	12/13/16 13:40	12/14/16 14:10
590-5225-19	MW-203	Ground Water	12/13/16 14:40	12/14/16 14:10

Method Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
6020A	Metals (ICP/MS)	SW846	TAL SEA
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL NSH

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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 NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Detection Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-309

Lab Sample ID: 590-5225-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.0834	J	0.119	0.0397	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-301

Lab Sample ID: 590-5225-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	251		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	17.3		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	5.95		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.377	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	7.45		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	6.33		3.00	0.442	ug/L	1		8260C	Total/NA
Gasoline	3000		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-206A

Lab Sample ID: 590-5225-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.180		0.120	0.0401	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.135	J	0.200	0.0601	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 590-5225-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	831		4.00	1.86	ug/L	20		8260C	Total/NA
Ethylbenzene	1450		20.0	3.96	ug/L	20		8260C	Total/NA
m,p-Xylene	176		40.0	5.60	ug/L	20		8260C	Total/NA
Toluene	48.2		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	176		60.0	8.84	ug/L	20		8260C	Total/NA
Gasoline	8310	B	2000	356	ug/L	20		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.52		0.120	0.0401	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-313

Lab Sample ID: 590-5225-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	29.2	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.207		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-315

Lab Sample ID: 590-5225-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	17.4		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	2.30		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	3.64		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.439	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	3.61		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	4.08		3.00	0.442	ug/L	1		8260C	Total/NA
Gasoline	1170		100	17.8	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-315 (Continued)

Lab Sample ID: 590-5225-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	1.29		0.130	0.0432	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.0871	J	0.216	0.0648	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TX-06A

Lab Sample ID: 590-5225-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.433		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.0707	J	0.200	0.0600	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TX-04

Lab Sample ID: 590-5225-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.0762	J	0.122	0.0405	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-112A

Lab Sample ID: 590-5225-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	42.6		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	10.9		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	4.04		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	6.30		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	6.66		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	10.3		3.00	0.442	ug/L	1		8260C	Total/NA
Gasoline	2270		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.77		0.119	0.0398	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.180	J	0.199	0.0597	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 590-5225-10

No Detections.

Client Sample ID: MW-307

Lab Sample ID: 590-5225-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	275		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	302		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	99.1		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	3.07		1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	25.5		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	102		3.00	0.442	ug/L	1		8260C	Total/NA
Gasoline	4020		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.34		0.120	0.0401	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.0812	J	0.201	0.0602	mg/L	1		NWTPH-Dx	Total/NA
Iron	21.2		0.200	0.0290	mg/L	5		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-307 (Continued)

Lab Sample ID: 590-5225-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.235		0.0100	0.00177	mg/L	5		6020A	Dissolved

Client Sample ID: MW-101

Lab Sample ID: 590-5225-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	101	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.0983	J	0.126	0.0421	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 590-5225-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	30.9		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	0.529	J	1.00	0.198	ug/L	1		8260C	Total/NA
Gasoline	207		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Sulfate	141		5.00	1.28	mg/L	10		300.0	Total/NA
Iron	1.53		0.200	0.0290	mg/L	5		6020A	Dissolved
Manganese	1.05		0.0100	0.00177	mg/L	5		6020A	Dissolved

Client Sample ID: TES-MW-1

Lab Sample ID: 590-5225-14

No Detections.

Client Sample ID: MW-204

Lab Sample ID: 590-5225-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.187	J	0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	0.555	J	1.00	0.198	ug/L	1		8260C	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.507		0.124	0.0413	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.215		0.206	0.0619	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-202

Lab Sample ID: 590-5225-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.06		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	9.01		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	0.699	J	2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.405	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	2.80		1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	1.10	J	3.00	0.442	ug/L	1		8260C	Total/NA
Gasoline	2920		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	4.04		0.120	0.0401	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.201		0.200	0.0601	mg/L	1		NWTPH-Dx	Total/NA
Sulfate	1.24	J	2.00	0.512	mg/L	4		300.0	Total/NA
Iron	45.3		0.200	0.0290	mg/L	5		6020A	Dissolved
Manganese	0.401		0.0100	0.00177	mg/L	5		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-201

Lab Sample ID: 590-5225-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.203		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.174	J	0.200	0.0599	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-213

Lab Sample ID: 590-5225-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	32.6	J B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	0.0449	J	0.0887	0.0197	ug/L	1		8270D SIM	Total/NA
2-Methylnaphthalene	0.0394	J B	0.0887	0.0207	ug/L	1		8270D SIM	Total/NA
1-Methylnaphthalene	0.0222	J	0.0887	0.0177	ug/L	1		8270D SIM	Total/NA
Acenaphthylene	0.0170	J B	0.0887	0.0128	ug/L	1		8270D SIM	Total/NA
Anthracene	0.0132	J B	0.0887	0.00690	ug/L	1		8270D SIM	Total/NA
Pyrene	0.0105	J B	0.0887	0.00591	ug/L	1		8270D SIM	Total/NA
Benzo[a]anthracene	0.0122	J B	0.0887	0.00985	ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.0145	J B	0.0887	0.0108	ug/L	1		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.115	J	0.124	0.0415	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-203

Lab Sample ID: 590-5225-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	203	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.234		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.125	J	0.199	0.0598	mg/L	1		NWTPH-Dx	Total/NA
Sulfate	2.27		0.500	0.128	mg/L	1		300.0	Total/NA
Iron	14.1		0.200	0.0290	mg/L	5		6020A	Dissolved
Manganese	0.134		0.0100	0.00177	mg/L	5		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-309

Lab Sample ID: 590-5225-1

Date Collected: 12/12/16 11:15

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 17:31	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 17:31	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 17:31	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 17:31	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 17:31	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		12/16/16 17:31	1
4-Bromofluorobenzene (Surr)	94		69 - 120		12/16/16 17:31	1
Dibromofluoromethane (Surr)	104		80 - 120		12/16/16 17:31	1
Toluene-d8 (Surr)	98		80 - 120		12/16/16 17:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141		12/16/16 17:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.0834	J	0.119	0.0397	mg/L		12/19/16 10:01	12/19/16 11:51	1
Residual Range Organics (RRO) (C25-C36)	ND		0.198	0.0595	mg/L		12/19/16 10:01	12/19/16 11:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	12/19/16 10:01	12/19/16 11:51	1
n-Triacontane-d62	86		50 - 150	12/19/16 10:01	12/19/16 11:51	1

Client Sample ID: MW-301

Lab Sample ID: 590-5225-2

Date Collected: 12/12/16 11:20

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	251		2.00	0.930	ug/L			12/21/16 10:58	10
Ethylbenzene	17.3		1.00	0.198	ug/L			12/16/16 17:51	1
m,p-Xylene	5.95		2.00	0.280	ug/L			12/16/16 17:51	1
o-Xylene	0.377	J	1.00	0.162	ug/L			12/16/16 17:51	1
Toluene	7.45		1.00	0.312	ug/L			12/16/16 17:51	1
Xylenes, Total	6.33		3.00	0.442	ug/L			12/16/16 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 125		12/16/16 17:51	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 125		12/21/16 10:58	10
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/16 17:51	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/21/16 10:58	10
Dibromofluoromethane (Surr)	92		80 - 120		12/16/16 17:51	1
Dibromofluoromethane (Surr)	103		80 - 120		12/21/16 10:58	10

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-301

Lab Sample ID: 590-5225-2

Date Collected: 12/12/16 11:20

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		80 - 120		12/16/16 17:51	1
Toluene-d8 (Surr)	95		80 - 120		12/21/16 10:58	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3000		100	17.8	ug/L			12/16/16 17:51	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/16 17:51	1			
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/21/16 10:58	10			

Client Sample ID: MW-206A

Lab Sample ID: 590-5225-3

Date Collected: 12/12/16 12:25

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 18:11	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 18:11	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 18:11	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 18:11	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 18:11	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 18:11	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		12/16/16 18:11	1			
4-Bromofluorobenzene (Surr)	95		69 - 120		12/16/16 18:11	1			
Dibromofluoromethane (Surr)	102		80 - 120		12/16/16 18:11	1			
Toluene-d8 (Surr)	97		80 - 120		12/16/16 18:11	1			

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 18:11	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	95		68.7 - 141		12/16/16 18:11	1			

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.180		0.120	0.0401	mg/L		12/19/16 10:01	12/19/16 12:09	1
Residual Range Organics (RRO) (C25-C36)	0.135	J	0.200	0.0601	mg/L		12/19/16 10:01	12/19/16 12:09	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
o-Terphenyl	88		50 - 150		12/19/16 10:01	12/19/16 12:09	1		
n-Triacontane-d62	83		50 - 150		12/19/16 10:01	12/19/16 12:09	1		

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-303

Lab Sample ID: 590-5225-4

Date Collected: 12/12/16 12:35

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	831		4.00	1.86	ug/L			12/21/16 11:20	20
Ethylbenzene	1450		20.0	3.96	ug/L			12/21/16 11:20	20
m,p-Xylene	176		40.0	5.60	ug/L			12/21/16 11:20	20
o-Xylene	ND		20.0	3.24	ug/L			12/21/16 11:20	20
Toluene	48.2		1.00	0.312	ug/L			12/16/16 18:31	1
Xylenes, Total	176		60.0	8.84	ug/L			12/21/16 11:20	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 125		12/16/16 18:31	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 125		12/21/16 11:20	20
4-Bromofluorobenzene (Surr)	101		69 - 120		12/16/16 18:31	1
4-Bromofluorobenzene (Surr)	100		69 - 120		12/21/16 11:20	20
Dibromofluoromethane (Surr)	86		80 - 120		12/16/16 18:31	1
Dibromofluoromethane (Surr)	100		80 - 120		12/21/16 11:20	20
Toluene-d8 (Surr)	95		80 - 120		12/16/16 18:31	1
Toluene-d8 (Surr)	99		80 - 120		12/21/16 11:20	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	8310	B	2000	356	ug/L			12/21/16 11:20	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		12/21/16 11:20	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.52		0.120	0.0401	mg/L		12/19/16 10:01	12/19/16 12:26	1
Residual Range Organics (RRO) (C25-C36)	ND		0.201	0.0602	mg/L		12/19/16 10:01	12/19/16 12:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	12/19/16 10:01	12/19/16 12:26	1
n-Triacontane-d62	86		50 - 150	12/19/16 10:01	12/19/16 12:26	1

Client Sample ID: MW-313

Lab Sample ID: 590-5225-5

Date Collected: 12/12/16 13:30

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/21/16 11:42	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/21/16 11:42	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/21/16 11:42	1
o-Xylene	ND		1.00	0.162	ug/L			12/21/16 11:42	1
Toluene	ND		1.00	0.312	ug/L			12/21/16 11:42	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/21/16 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 125		12/21/16 11:42	1
4-Bromofluorobenzene (Surr)	102		69 - 120		12/21/16 11:42	1
Dibromofluoromethane (Surr)	99		80 - 120		12/21/16 11:42	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-313

Date Collected: 12/12/16 13:30

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-5

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 120		12/21/16 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	29.2	J B	100	17.8	ug/L			12/21/16 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141		12/21/16 11:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.207		0.120	0.0399	mg/L		12/19/16 10:01	12/19/16 12:43	1

Residual Range Organics (RRO) (C25-C36)	ND		0.199	0.0598	mg/L		12/19/16 10:01	12/19/16 12:43	1
--	----	--	-------	--------	------	--	----------------	----------------	---

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	12/19/16 10:01	12/19/16 12:43	1
n-Triacontane-d62	82		50 - 150	12/19/16 10:01	12/19/16 12:43	1

Client Sample ID: MW-315

Date Collected: 12/12/16 13:50

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	17.4		0.200	0.0930	ug/L			12/16/16 19:12	1

Ethylbenzene	2.30		1.00	0.198	ug/L			12/16/16 19:12	1
--------------	------	--	------	-------	------	--	--	----------------	---

m,p-Xylene	3.64		2.00	0.280	ug/L			12/16/16 19:12	1
------------	------	--	------	-------	------	--	--	----------------	---

o-Xylene	0.439	J	1.00	0.162	ug/L			12/16/16 19:12	1
----------	-------	---	------	-------	------	--	--	----------------	---

Toluene	3.61		1.00	0.312	ug/L			12/16/16 19:12	1
---------	------	--	------	-------	------	--	--	----------------	---

Xylenes, Total	4.08		3.00	0.442	ug/L			12/16/16 19:12	1
----------------	------	--	------	-------	------	--	--	----------------	---

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125		12/16/16 19:12	1

4-Bromofluorobenzene (Surr)	95		69 - 120		12/16/16 19:12	1
-----------------------------	----	--	----------	--	----------------	---

Dibromofluoromethane (Surr)	97		80 - 120		12/16/16 19:12	1
-----------------------------	----	--	----------	--	----------------	---

Toluene-d8 (Surr)	96		80 - 120		12/16/16 19:12	1
-------------------	----	--	----------	--	----------------	---

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1170		100	17.8	ug/L			12/16/16 19:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		12/16/16 19:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.29		0.130	0.0432	mg/L		12/19/16 10:01	12/19/16 13:01	1

Residual Range Organics (RRO) (C25-C36)	0.0871	J	0.216	0.0648	mg/L		12/19/16 10:01	12/19/16 13:01	1
--	--------	---	-------	--------	------	--	----------------	----------------	---

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-315

Lab Sample ID: 590-5225-6

Date Collected: 12/12/16 13:50

Matrix: Water

Date Received: 12/14/16 14:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150	12/19/16 10:01	12/19/16 13:01	1
<i>n</i> -Triacontane-d62	85		50 - 150	12/19/16 10:01	12/19/16 13:01	1

Client Sample ID: TX-06A

Lab Sample ID: 590-5225-7

Date Collected: 12/12/16 14:30

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 19:52	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 19:52	1
<i>m,p</i> -Xylene	ND		2.00	0.280	ug/L			12/16/16 19:52	1
<i>o</i> -Xylene	ND		1.00	0.162	ug/L			12/16/16 19:52	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 19:52	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 19:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane-d4 (Surr)	103		70 - 125		12/16/16 19:52	1
<i>4</i> -Bromofluorobenzene (Surr)	97		69 - 120		12/16/16 19:52	1
<i>Dibromofluoromethane</i> (Surr)	105		80 - 120		12/16/16 19:52	1
<i>Toluene-d8</i> (Surr)	95		80 - 120		12/16/16 19:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 19:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>4</i> -Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/16 19:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.433		0.120	0.0400	mg/L		12/19/16 10:01	12/19/16 13:18	1
Residual Range Organics (RRO) (C25-C36)	0.0707	J	0.200	0.0600	mg/L		12/19/16 10:01	12/19/16 13:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150	12/19/16 10:01	12/19/16 13:18	1
<i>n</i> -Triacontane-d62	87		50 - 150	12/19/16 10:01	12/19/16 13:18	1

Client Sample ID: TX-04

Lab Sample ID: 590-5225-8

Date Collected: 12/12/16 14:57

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 20:13	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 20:13	1
<i>m,p</i> -Xylene	ND		2.00	0.280	ug/L			12/16/16 20:13	1
<i>o</i> -Xylene	ND		1.00	0.162	ug/L			12/16/16 20:13	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 20:13	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 20:13	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: TX-04

Lab Sample ID: 590-5225-8

Date Collected: 12/12/16 14:57

Matrix: Water

Date Received: 12/14/16 14:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125		12/16/16 20:13	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/16 20:13	1
Dibromofluoromethane (Surr)	103		80 - 120		12/16/16 20:13	1
Toluene-d8 (Surr)	95		80 - 120		12/16/16 20:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/16 20:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.0762	J	0.122	0.0405	mg/L		12/19/16 10:01	12/19/16 13:36	1
Residual Range Organics (RRO) (C25-C36)	ND		0.203	0.0608	mg/L		12/19/16 10:01	12/19/16 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	12/19/16 10:01	12/19/16 13:36	1
n-Triacontane-d62	82		50 - 150	12/19/16 10:01	12/19/16 13:36	1

Client Sample ID: MW-112A

Lab Sample ID: 590-5225-9

Date Collected: 12/12/16 15:15

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	42.6		0.200	0.0930	ug/L			12/16/16 20:33	1
Ethylbenzene	10.9		1.00	0.198	ug/L			12/16/16 20:33	1
m,p-Xylene	4.04		2.00	0.280	ug/L			12/16/16 20:33	1
o-Xylene	6.30		1.00	0.162	ug/L			12/16/16 20:33	1
Toluene	6.66		1.00	0.312	ug/L			12/16/16 20:33	1
Xylenes, Total	10.3		3.00	0.442	ug/L			12/16/16 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 125		12/16/16 20:33	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/16/16 20:33	1
Dibromofluoromethane (Surr)	91		80 - 120		12/16/16 20:33	1
Toluene-d8 (Surr)	99		80 - 120		12/16/16 20:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2270		100	17.8	ug/L			12/16/16 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/16/16 20:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.77		0.119	0.0398	mg/L		12/19/16 10:01	12/19/16 14:10	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-112A

Lab Sample ID: 590-5225-9

Date Collected: 12/12/16 15:15

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	0.180	J	0.199	0.0597	mg/L		12/19/16 10:01	12/19/16 14:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				12/19/16 10:01	12/19/16 14:10	1
<i>n</i> -Triacontane-d62	86		50 - 150				12/19/16 10:01	12/19/16 14:10	1

Client Sample ID: Trip Blank

Lab Sample ID: 590-5225-10

Date Collected: 12/12/16 00:00

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 20:53	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 20:53	1
<i>m,p</i> -Xylene	ND		2.00	0.280	ug/L			12/16/16 20:53	1
<i>o</i> -Xylene	ND		1.00	0.162	ug/L			12/16/16 20:53	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 20:53	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 20:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane-d4 (Surr)	100		70 - 125					12/16/16 20:53	1
<i>4</i> -Bromofluorobenzene (Surr)	99		69 - 120					12/16/16 20:53	1
<i>Dibromofluoromethane</i> (Surr)	103		80 - 120					12/16/16 20:53	1
<i>Toluene-d8</i> (Surr)	100		80 - 120					12/16/16 20:53	1

Client Sample ID: MW-307

Lab Sample ID: 590-5225-11

Date Collected: 12/13/16 09:00

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	275		2.00	0.930	ug/L			12/21/16 12:04	10
Ethylbenzene	302		10.0	1.98	ug/L			12/21/16 12:04	10
<i>m,p</i> -Xylene	99.1		2.00	0.280	ug/L			12/16/16 21:13	1
<i>o</i> -Xylene	3.07		1.00	0.162	ug/L			12/16/16 21:13	1
Toluene	25.5		1.00	0.312	ug/L			12/16/16 21:13	1
Xylenes, Total	102		3.00	0.442	ug/L			12/16/16 21:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane-d4 (Surr)	100		70 - 125					12/16/16 21:13	1
<i>1,2</i> -Dichloroethane-d4 (Surr)	101		70 - 125					12/21/16 12:04	10
<i>4</i> -Bromofluorobenzene (Surr)	97		69 - 120					12/16/16 21:13	1
<i>4</i> -Bromofluorobenzene (Surr)	102		69 - 120					12/21/16 12:04	10
<i>Dibromofluoromethane</i> (Surr)	89		80 - 120					12/16/16 21:13	1
<i>Dibromofluoromethane</i> (Surr)	97		80 - 120					12/21/16 12:04	10
<i>Toluene-d8</i> (Surr)	94		80 - 120					12/16/16 21:13	1
<i>Toluene-d8</i> (Surr)	99		80 - 120					12/21/16 12:04	10

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-307

Lab Sample ID: 590-5225-11

Date Collected: 12/13/16 09:00

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4020		100	17.8	ug/L			12/16/16 21:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141					12/16/16 21:13	1
4-Bromofluorobenzene (Surr)	102		68.7 - 141					12/21/16 12:04	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.34		0.120	0.0401	mg/L		12/19/16 10:01	12/19/16 14:28	1
Residual Range Organics (RRO) (C25-C36)	0.0812	J	0.201	0.0602	mg/L		12/19/16 10:01	12/19/16 14:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150				12/19/16 10:01	12/19/16 14:28	1
n-Triacontane-d62	92		50 - 150				12/19/16 10:01	12/19/16 14:28	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.00	0.256	mg/L			12/14/16 16:25	2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	21.2		0.200	0.0290	mg/L		12/21/16 17:36	12/22/16 15:25	5
Manganese	0.235		0.0100	0.00177	mg/L		12/21/16 17:36	12/22/16 15:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/16/16 13:08	1

Client Sample ID: MW-101

Lab Sample ID: 590-5225-12

Date Collected: 12/13/16 09:00

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 21:33	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 21:33	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 21:33	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 21:33	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 21:33	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 21:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125					12/16/16 21:33	1
4-Bromofluorobenzene (Surr)	94		69 - 120					12/16/16 21:33	1
Dibromofluoromethane (Surr)	103		80 - 120					12/16/16 21:33	1
Toluene-d8 (Surr)	96		80 - 120					12/16/16 21:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	101	B	100	17.8	ug/L			12/21/16 12:26	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-101

Date Collected: 12/13/16 09:00

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-12

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		68.7 - 141		12/21/16 12:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.0983	J	0.126	0.0421	mg/L		12/19/16 10:01	12/19/16 14:45	1
Residual Range Organics (RRO) (C25-C36)	ND		0.211	0.0632	mg/L		12/19/16 10:01	12/19/16 14:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	12/19/16 10:01	12/19/16 14:45	1
n-Triacontane-d62	87		50 - 150	12/19/16 10:01	12/19/16 14:45	1

Client Sample ID: MW-308

Date Collected: 12/13/16 10:15

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-13

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	30.9		0.200	0.0930	ug/L			12/16/16 21:53	1
Ethylbenzene	0.529	J	1.00	0.198	ug/L			12/16/16 21:53	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 21:53	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 21:53	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 21:53	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 125		12/16/16 21:53	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/16 21:53	1
Dibromofluoromethane (Surr)	102		80 - 120		12/16/16 21:53	1
Toluene-d8 (Surr)	96		80 - 120		12/16/16 21:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	207		100	17.8	ug/L			12/16/16 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/16 21:53	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	141		5.00	1.28	mg/L			12/15/16 15:02	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.53		0.200	0.0290	mg/L		12/21/16 17:36	12/22/16 16:05	5
Manganese	1.05		0.0100	0.00177	mg/L		12/21/16 17:36	12/22/16 16:05	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/16/16 13:10	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: TES-MW-1

Lab Sample ID: 590-5225-14

Date Collected: 12/13/16 10:20

Matrix: Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 22:13	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 22:13	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 22:13	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 22:13	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 22:13	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125		12/16/16 22:13	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/16 22:13	1
Dibromofluoromethane (Surr)	103		80 - 120		12/16/16 22:13	1
Toluene-d8 (Surr)	100		80 - 120		12/16/16 22:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/16 22:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.140	0.0466	mg/L		12/19/16 10:01	12/19/16 15:03	1
Residual Range Organics (RRO) (C25-C36)	ND		0.233	0.0699	mg/L		12/19/16 10:01	12/19/16 15:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	12/19/16 10:01	12/19/16 15:03	1
n-Triacontane-d62	91		50 - 150	12/19/16 10:01	12/19/16 15:03	1

Client Sample ID: MW-204

Lab Sample ID: 590-5225-15

Date Collected: 12/13/16 11:55

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.187	J	0.200	0.0930	ug/L			12/16/16 22:33	1
Ethylbenzene	0.555	J	1.00	0.198	ug/L			12/16/16 22:33	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 22:33	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 22:33	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 22:33	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 22:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 125		12/16/16 22:33	1
4-Bromofluorobenzene (Surr)	94		69 - 120		12/16/16 22:33	1
Dibromofluoromethane (Surr)	103		80 - 120		12/16/16 22:33	1
Toluene-d8 (Surr)	96		80 - 120		12/16/16 22:33	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-204

Date Collected: 12/13/16 11:55

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-15

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 22:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141					12/16/16 22:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.507		0.124	0.0413	mg/L		12/19/16 10:01	12/19/16 15:20	1
Residual Range Organics (RRO) (C25-C36)	0.215		0.206	0.0619	mg/L		12/19/16 10:01	12/19/16 15:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150				12/19/16 10:01	12/19/16 15:20	1
n-Triacontane-d62	86		50 - 150				12/19/16 10:01	12/19/16 15:20	1

Client Sample ID: MW-202

Date Collected: 12/13/16 12:00

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-16

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6.06		0.200	0.0930	ug/L			12/16/16 22:53	1
Ethylbenzene	9.01		1.00	0.198	ug/L			12/16/16 22:53	1
m,p-Xylene	0.699	J	2.00	0.280	ug/L			12/16/16 22:53	1
o-Xylene	0.405	J	1.00	0.162	ug/L			12/16/16 22:53	1
Toluene	2.80		1.00	0.312	ug/L			12/16/16 22:53	1
Xylenes, Total	1.10	J	3.00	0.442	ug/L			12/16/16 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 125					12/16/16 22:53	1
4-Bromofluorobenzene (Surr)	99		69 - 120					12/16/16 22:53	1
Dibromofluoromethane (Surr)	94		80 - 120					12/16/16 22:53	1
Toluene-d8 (Surr)	100		80 - 120					12/16/16 22:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2920		100	17.8	ug/L			12/16/16 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141					12/16/16 22:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	4.04		0.120	0.0401	mg/L		12/19/16 10:01	12/19/16 15:38	1
Residual Range Organics (RRO) (C25-C36)	0.201		0.200	0.0601	mg/L		12/19/16 10:01	12/19/16 15:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	81		50 - 150				12/19/16 10:01	12/19/16 15:38	1
n-Triacontane-d62	83		50 - 150				12/19/16 10:01	12/19/16 15:38	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-202

Lab Sample ID: 590-5225-16

Date Collected: 12/13/16 12:00

Matrix: Ground Water

Date Received: 12/14/16 14:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.24	J	2.00	0.512	mg/L			12/14/16 16:49	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	45.3		0.200	0.0290	mg/L		12/21/16 17:36	12/22/16 16:10	5
Manganese	0.401		0.0100	0.00177	mg/L		12/21/16 17:36	12/22/16 16:10	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/16/16 13:11	1

Client Sample ID: MW-201

Lab Sample ID: 590-5225-17

Date Collected: 12/13/16 13:20

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 23:34	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 23:34	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 23:34	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 23:34	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 23:34	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 23:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 125		12/16/16 23:34	1
4-Bromofluorobenzene (Surr)	95		69 - 120		12/16/16 23:34	1
Dibromofluoromethane (Surr)	103		80 - 120		12/16/16 23:34	1
Toluene-d8 (Surr)	98		80 - 120		12/16/16 23:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 23:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		12/16/16 23:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.203		0.120	0.0399	mg/L		12/19/16 10:01	12/19/16 15:55	1
Residual Range Organics (RRO) (C25-C36)	0.174	J	0.200	0.0599	mg/L		12/19/16 10:01	12/19/16 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	12/19/16 10:01	12/19/16 15:55	1
n-Triacontane-d62	90		50 - 150	12/19/16 10:01	12/19/16 15:55	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-213

Lab Sample ID: 590-5225-18

Date Collected: 12/13/16 13:40

Matrix: Ground Water

Date Received: 12/14/16 14:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/21/16 12:48	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/21/16 12:48	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/21/16 12:48	1
o-Xylene	ND		1.00	0.162	ug/L			12/21/16 12:48	1
Toluene	ND		1.00	0.312	ug/L			12/21/16 12:48	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/21/16 12:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 125		12/21/16 12:48	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/21/16 12:48	1
Dibromofluoromethane (Surr)	102		80 - 120		12/21/16 12:48	1
Toluene-d8 (Surr)	100		80 - 120		12/21/16 12:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	32.6	J B	100	17.8	ug/L			12/21/16 12:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/21/16 12:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0449	J	0.0887	0.0197	ug/L		12/20/16 08:36	12/20/16 10:40	1
2-Methylnaphthalene	0.0394	J B	0.0887	0.0207	ug/L		12/20/16 08:36	12/20/16 10:40	1
1-Methylnaphthalene	0.0222	J	0.0887	0.0177	ug/L		12/20/16 08:36	12/20/16 10:40	1
Acenaphthylene	0.0170	J B	0.0887	0.0128	ug/L		12/20/16 08:36	12/20/16 10:40	1
Acenaphthene	ND		0.0887	0.0158	ug/L		12/20/16 08:36	12/20/16 10:40	1
Fluorene	ND		0.0887	0.0148	ug/L		12/20/16 08:36	12/20/16 10:40	1
Phenanthrene	ND		0.0887	0.0355	ug/L		12/20/16 08:36	12/20/16 10:40	1
Anthracene	0.0132	J B	0.0887	0.00690	ug/L		12/20/16 08:36	12/20/16 10:40	1
Fluoranthene	ND		0.0887	0.0108	ug/L		12/20/16 08:36	12/20/16 10:40	1
Pyrene	0.0105	J B	0.0887	0.00591	ug/L		12/20/16 08:36	12/20/16 10:40	1
Benzo[a]anthracene	0.0122	J B	0.0887	0.00985	ug/L		12/20/16 08:36	12/20/16 10:40	1
Chrysene	ND		0.0887	0.00690	ug/L		12/20/16 08:36	12/20/16 10:40	1
Benzo[b]fluoranthene	ND		0.0887	0.0108	ug/L		12/20/16 08:36	12/20/16 10:40	1
Benzo[k]fluoranthene	ND		0.0887	0.0148	ug/L		12/20/16 08:36	12/20/16 10:40	1
Benzo[a]pyrene	0.0145	J B	0.0887	0.0108	ug/L		12/20/16 08:36	12/20/16 10:40	1
Indeno[1,2,3-cd]pyrene	ND		0.0887	0.0217	ug/L		12/20/16 08:36	12/20/16 10:40	1
Dibenz(a,h)anthracene	ND		0.0887	0.0128	ug/L		12/20/16 08:36	12/20/16 10:40	1
Benzo[g,h,i]perylene	ND		0.0887	0.0207	ug/L		12/20/16 08:36	12/20/16 10:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	114		45 - 126	12/20/16 08:36	12/20/16 10:40	1
2-Fluorobiphenyl (Surr)	101		44 - 120	12/20/16 08:36	12/20/16 10:40	1
p-Terphenyl-d14	121		51 - 121	12/20/16 08:36	12/20/16 10:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.115	J	0.124	0.0415	mg/L		12/19/16 10:01	12/19/16 16:12	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-213

Date Collected: 12/13/16 13:40

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-18

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	ND		0.207	0.0622	mg/L		12/19/16 10:01	12/19/16 16:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				12/19/16 10:01	12/19/16 16:12	1
<i>n</i> -Triacontane-d62	89		50 - 150				12/19/16 10:01	12/19/16 16:12	1

Client Sample ID: MW-203

Date Collected: 12/13/16 14:40

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-19

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	203	B	100	17.8	ug/L			12/21/16 13:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141					12/21/16 13:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.234		0.120	0.0399	mg/L		12/19/16 10:01	12/19/16 16:29	1
Residual Range Organics (RRO) (C25-C36)	0.125	J	0.199	0.0598	mg/L		12/19/16 10:01	12/19/16 16:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	85		50 - 150				12/19/16 10:01	12/19/16 16:29	1
<i>n</i> -Triacontane-d62	87		50 - 150				12/19/16 10:01	12/19/16 16:29	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.27		0.500	0.128	mg/L			12/14/16 17:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	14.1		0.200	0.0290	mg/L		12/21/16 17:36	12/22/16 16:14	5
Manganese	0.134		0.0100	0.00177	mg/L		12/21/16 17:36	12/22/16 16:14	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/16/16 13:12	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

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

Lab Sample ID: MB 590-10067/4

Matrix: Water

Analysis Batch: 10067

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/16/16 15:32	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/16/16 15:32	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/16/16 15:32	1
o-Xylene	ND		1.00	0.162	ug/L			12/16/16 15:32	1
Toluene	ND		1.00	0.312	ug/L			12/16/16 15:32	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/16/16 15:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 125		12/16/16 15:32	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/16 15:32	1
Dibromofluoromethane (Surr)	104		80 - 120		12/16/16 15:32	1
Toluene-d8 (Surr)	101		80 - 120		12/16/16 15:32	1

Lab Sample ID: LCS 590-10067/1002

Matrix: Water

Analysis Batch: 10067

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	11.00		ug/L		110	80 - 120
Ethylbenzene	10.0	11.39		ug/L		114	80 - 120
m,p-Xylene	10.0	11.38		ug/L		114	80 - 120
o-Xylene	10.0	11.24		ug/L		112	80 - 120
Toluene	10.0	11.02		ug/L		110	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 125
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: 590-5225-17 DU

Matrix: Ground Water

Analysis Batch: 10067

Client Sample ID: MW-201

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Benzene	ND		ND		ug/L		NC	20
Ethylbenzene	ND		ND		ug/L		NC	20
m,p-Xylene	ND		ND		ug/L		NC	20
o-Xylene	ND		ND		ug/L		NC	20
Toluene	ND		ND		ug/L		NC	20
Xylenes, Total	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 125
4-Bromofluorobenzene (Surr)	96		69 - 120
Dibromofluoromethane (Surr)	105		80 - 120
Toluene-d8 (Surr)	99		80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Lab Sample ID: MB 590-10121/39

Matrix: Water

Analysis Batch: 10121

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		0.200	0.0930	ug/L			12/21/16 10:36	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/21/16 10:36	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/21/16 10:36	1
o-Xylene	ND		1.00	0.162	ug/L			12/21/16 10:36	1
Toluene	ND		1.00	0.312	ug/L			12/21/16 10:36	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/21/16 10:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	105		70 - 125		12/21/16 10:36	1
4-Bromofluorobenzene (Surr)	102		69 - 120		12/21/16 10:36	1
Dibromofluoromethane (Surr)	102		80 - 120		12/21/16 10:36	1
Toluene-d8 (Surr)	93		80 - 120		12/21/16 10:36	1

Lab Sample ID: LCS 590-10121/1003

Matrix: Water

Analysis Batch: 10121

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	10.0	9.144		ug/L		91	80 - 120
m,p-Xylene	10.0	8.850		ug/L		89	80 - 120
o-Xylene	10.0	9.172		ug/L		92	80 - 120
Toluene	10.0	9.007		ug/L		90	80 - 123

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		70 - 125
4-Bromofluorobenzene (Surr)	103		69 - 120
Dibromofluoromethane (Surr)	95		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: 590-5225-A-19 DU

Matrix: Ground Water

Analysis Batch: 10121

Client Sample ID: 590-5225-A-19 DU

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Benzene	1.89		1.857		ug/L		2	20
Ethylbenzene	0.624	J	0.4889	J F5	ug/L		24	20
m,p-Xylene	ND		ND		ug/L		NC	20
o-Xylene	0.396	J	ND		ug/L		NC	20
Toluene	ND		ND		ug/L		NC	20
Xylenes, Total	ND		ND		ug/L		NC	20

Surrogate	DU	DU	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		70 - 125
4-Bromofluorobenzene (Surr)	103		69 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	85		80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

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

Lab Sample ID: MB 590-10069/4
Matrix: Water
Analysis Batch: 10069

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/16/16 15:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/16 15:32	1			

Lab Sample ID: LCS 590-10069/1003
Matrix: Water
Analysis Batch: 10069

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	1000	1038		ug/L		104	80 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	98		68.7 - 141						

Lab Sample ID: 590-5225-17 DU
Matrix: Ground Water
Analysis Batch: 10069

Client Sample ID: MW-201
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit	
Gasoline	ND		ND		ug/L		NC	35	
Surrogate	DU %Recovery	DU Qualifier	Limits						
4-Bromofluorobenzene (Surr)	96		68.7 - 141						

Lab Sample ID: MB 590-10122/39
Matrix: Water
Analysis Batch: 10122

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	29.90	J	100	17.8	ug/L			12/21/16 10:36	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	102		68.7 - 141		12/21/16 10:36	1			

Lab Sample ID: LCS 590-10122/1004
Matrix: Water
Analysis Batch: 10122

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	1000	1017		ug/L		102	80 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	99		68.7 - 141						

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

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

Lab Sample ID: 590-5225-A-19 DU

Matrix: Ground Water

Analysis Batch: 10122

Client Sample ID: MW-203

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Gasoline	203	B	202.0		ug/L		0.5	35
Surrogate	%Recovery	Qualifier	Limits					
4-Bromofluorobenzene (Surr)	103		68.7 - 141					

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

Lab Sample ID: MB 590-10099/1-A

Matrix: Water

Analysis Batch: 10091

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10099

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Naphthalene	ND		0.0900	0.0200	ug/L		12/20/16 08:36	12/20/16 09:21	1
2-Methylnaphthalene	0.02618	J	0.0900	0.0210	ug/L		12/20/16 08:36	12/20/16 09:21	1
1-Methylnaphthalene	ND		0.0900	0.0180	ug/L		12/20/16 08:36	12/20/16 09:21	1
Acenaphthylene	0.01571	J	0.0900	0.0130	ug/L		12/20/16 08:36	12/20/16 09:21	1
Acenaphthene	ND		0.0900	0.0160	ug/L		12/20/16 08:36	12/20/16 09:21	1
Fluorene	ND		0.0900	0.0150	ug/L		12/20/16 08:36	12/20/16 09:21	1
Phenanthrene	ND		0.0900	0.0360	ug/L		12/20/16 08:36	12/20/16 09:21	1
Anthracene	0.01265	J	0.0900	0.00700	ug/L		12/20/16 08:36	12/20/16 09:21	1
Fluoranthene	ND		0.0900	0.0110	ug/L		12/20/16 08:36	12/20/16 09:21	1
Pyrene	0.008594	J	0.0900	0.00600	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[a]anthracene	0.01026	J	0.0900	0.0100	ug/L		12/20/16 08:36	12/20/16 09:21	1
Chrysene	0.008641	J	0.0900	0.00700	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[b]fluoranthene	ND		0.0900	0.0110	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[k]fluoranthene	ND		0.0900	0.0150	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[a]pyrene	0.01247	J	0.0900	0.0110	ug/L		12/20/16 08:36	12/20/16 09:21	1
Indeno[1,2,3-cd]pyrene	ND		0.0900	0.0220	ug/L		12/20/16 08:36	12/20/16 09:21	1
Dibenz(a,h)anthracene	ND		0.0900	0.0130	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[g,h,i]perylene	ND		0.0900	0.0210	ug/L		12/20/16 08:36	12/20/16 09:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	123		45 - 126				12/20/16 08:36	12/20/16 09:21	1
2-Fluorobiphenyl (Surr)	110		44 - 120				12/20/16 08:36	12/20/16 09:21	1
p-Terphenyl-d14	101		51 - 121				12/20/16 08:36	12/20/16 09:21	1

Lab Sample ID: LCS 590-10099/2-A

Matrix: Water

Analysis Batch: 10091

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	1.60	1.632		ug/L		102	44 - 134
1-Methylnaphthalene	1.60	1.630		ug/L		102	56 - 123
Acenaphthylene	1.60	1.778		ug/L		111	57 - 134
Acenaphthene	1.60	1.768		ug/L		110	54 - 132
Fluorene	1.60	1.812		ug/L		113	59 - 141

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

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

Lab Sample ID: LCS 590-10099/2-A

Matrix: Water

Analysis Batch: 10091

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenanthrene	1.60	1.900		ug/L		119	57 - 141
Anthracene	1.60	1.980		ug/L		124	60 - 136
Fluoranthene	1.60	2.001		ug/L		125	76 - 133
Pyrene	1.60	1.827		ug/L		114	59 - 145
Benzo[a]anthracene	1.60	1.997		ug/L		125	76 - 138
Chrysene	1.60	1.920		ug/L		120	69 - 138
Benzo[b]fluoranthene	1.60	2.006		ug/L		125	69 - 144
Benzo[k]fluoranthene	1.60	1.904		ug/L		119	67 - 141
Benzo[a]pyrene	1.60	1.902		ug/L		119	70 - 141
Indeno[1,2,3-cd]pyrene	1.60	1.701		ug/L		106	73 - 146
Dibenz(a,h)anthracene	1.60	1.741		ug/L		109	68 - 144
Benzo[g,h,i]perylene	1.60	1.697		ug/L		106	68 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	125		45 - 126
2-Fluorobiphenyl (Surr)	113		44 - 120
p-Terphenyl-d14	99		51 - 121

Lab Sample ID: LCSD 590-10099/3-A

Matrix: Water

Analysis Batch: 10091

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10099

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	1.60	1.605		ug/L		100	52 - 121	4	30
2-Methylnaphthalene	1.60	1.543		ug/L		96	44 - 134	6	30
1-Methylnaphthalene	1.60	1.572		ug/L		98	56 - 123	4	30
Acenaphthylene	1.60	1.760		ug/L		110	57 - 134	1	30
Acenaphthene	1.60	1.741		ug/L		109	54 - 132	2	30
Fluorene	1.60	1.783		ug/L		111	59 - 141	2	30
Phenanthrene	1.60	1.851		ug/L		116	57 - 141	3	30
Anthracene	1.60	1.983		ug/L		124	60 - 136	0	30
Fluoranthene	1.60	1.949		ug/L		122	76 - 133	3	30
Pyrene	1.60	1.797		ug/L		112	59 - 145	2	30
Benzo[a]anthracene	1.60	1.985		ug/L		124	76 - 138	1	30
Chrysene	1.60	1.888		ug/L		118	69 - 138	2	30
Benzo[b]fluoranthene	1.60	2.017		ug/L		126	69 - 144	1	30
Benzo[k]fluoranthene	1.60	1.872		ug/L		117	67 - 141	2	30
Benzo[a]pyrene	1.60	1.914		ug/L		120	70 - 141	1	30
Indeno[1,2,3-cd]pyrene	1.60	1.693		ug/L		106	73 - 146	0	30
Dibenz(a,h)anthracene	1.60	1.749		ug/L		109	68 - 144	0	30
Benzo[g,h,i]perylene	1.60	1.684		ug/L		105	68 - 150	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	123		45 - 126
2-Fluorobiphenyl (Surr)	110		44 - 120
p-Terphenyl-d14	96		51 - 121

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

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

Lab Sample ID: MB 590-10081/1-A

Matrix: Water

Analysis Batch: 10077

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10081

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.120	0.0400	mg/L		12/19/16 10:01	12/19/16 10:59	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0600	mg/L		12/19/16 10:01	12/19/16 10:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150	12/19/16 10:01	12/19/16 10:59	1
<i>n</i> -Triacontane-d62	83		50 - 150	12/19/16 10:01	12/19/16 10:59	1

Lab Sample ID: LCS 590-10081/2-A

Matrix: Water

Analysis Batch: 10077

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.61	1.429		mg/L		89	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.574		mg/L		98	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	85		50 - 150
<i>n</i> -Triacontane-d62	86		50 - 150

Lab Sample ID: LCSD 590-10081/3-A

Matrix: Water

Analysis Batch: 10077

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10081

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Diesel Range Organics (DRO) (C10-C25)	1.61	1.387		mg/L		86	50 - 150	3	25
Residual Range Organics (RRO) (C25-C36)	1.60	1.556		mg/L		97	50 - 150	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	88		50 - 150
<i>n</i> -Triacontane-d62	85		50 - 150

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-10023/1014

Matrix: Water

Analysis Batch: 10023

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500	0.128	mg/L			12/14/16 13:47	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 590-10023/1013
Matrix: Water
Analysis Batch: 10023

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12.5	12.63		mg/L		101	90 - 110

Lab Sample ID: MB 590-10042/1014
Matrix: Water
Analysis Batch: 10042

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500	0.128	mg/L			12/15/16 14:50	1

Lab Sample ID: LCS 590-10042/1013
Matrix: Water
Analysis Batch: 10042

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12.5	12.31		mg/L		98	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-235095/14-A
Matrix: Water
Analysis Batch: 235236

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 235095

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.200	0.0290	mg/L		12/21/16 17:36	12/22/16 15:11	5
Manganese	ND		0.0100	0.00177	mg/L		12/21/16 17:36	12/22/16 15:11	5

Lab Sample ID: LCS 580-235095/15-A
Matrix: Water
Analysis Batch: 235236

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 235095

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	22.0	23.11		mg/L		105	80 - 120
Manganese	1.00	1.008		mg/L		101	80 - 120

Lab Sample ID: LCSD 580-235095/16-A
Matrix: Water
Analysis Batch: 235236

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 235095

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	22.0	23.20		mg/L		105	80 - 120	0	20
Manganese	1.00	1.023		mg/L		102	80 - 120	1	20

Lab Sample ID: 590-5225-11 MS
Matrix: Ground Water
Analysis Batch: 235236

Client Sample ID: MW-307
Prep Type: Dissolved
Prep Batch: 235095

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	21.2		22.0	44.85		mg/L		108	80 - 120
Manganese	0.235		1.00	1.275		mg/L		104	80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

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

Lab Sample ID: 590-5225-11 MSD
 Matrix: Ground Water
 Analysis Batch: 235236

Client Sample ID: MW-307
 Prep Type: Dissolved
 Prep Batch: 235095

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	21.2		22.0	46.44		mg/L		115	80 - 120	3	20
Manganese	0.235		1.00	1.316		mg/L		108	80 - 120	3	20

Lab Sample ID: 590-5225-11 DU
 Matrix: Ground Water
 Analysis Batch: 235236

Client Sample ID: MW-307
 Prep Type: Dissolved
 Prep Batch: 235095

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	21.2		21.92		mg/L		3	20
Manganese	0.235		0.2443		mg/L		4	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 490-395033/6
 Matrix: Water
 Analysis Batch: 395033

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/16/16 12:36	1

Lab Sample ID: LCS 490-395033/7
 Matrix: Water
 Analysis Batch: 395033

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	2.99	3.260		mg/L		109	90 - 110

Lab Sample ID: LCSD 490-395033/8
 Matrix: Water
 Analysis Batch: 395033

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
Nitrate Nitrite as N	2.99	3.231		mg/L		108	90 - 110	1	20

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

GC/MS VOA

Analysis Batch: 10067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-1	MW-309	Total/NA	Ground Water	8260C	
590-5225-2	MW-301	Total/NA	Ground Water	8260C	
590-5225-3	MW-206A	Total/NA	Ground Water	8260C	
590-5225-4	MW-303	Total/NA	Ground Water	8260C	
590-5225-6	MW-315	Total/NA	Water	8260C	
590-5225-7	TX-06A	Total/NA	Water	8260C	
590-5225-8	TX-04	Total/NA	Water	8260C	
590-5225-9	MW-112A	Total/NA	Water	8260C	
590-5225-10	Trip Blank	Total/NA	Water	8260C	
590-5225-11	MW-307	Total/NA	Ground Water	8260C	
590-5225-12	MW-101	Total/NA	Ground Water	8260C	
590-5225-13	MW-308	Total/NA	Ground Water	8260C	
590-5225-14	TES-MW-1	Total/NA	Water	8260C	
590-5225-15	MW-204	Total/NA	Ground Water	8260C	
590-5225-16	MW-202	Total/NA	Ground Water	8260C	
590-5225-17	MW-201	Total/NA	Ground Water	8260C	
MB 590-10067/4	Method Blank	Total/NA	Water	8260C	
LCS 590-10067/1002	Lab Control Sample	Total/NA	Water	8260C	
590-5225-17 DU	MW-201	Total/NA	Ground Water	8260C	

Analysis Batch: 10069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-1	MW-309	Total/NA	Ground Water	NWTPH-Gx	
590-5225-2	MW-301	Total/NA	Ground Water	NWTPH-Gx	
590-5225-3	MW-206A	Total/NA	Ground Water	NWTPH-Gx	
590-5225-6	MW-315	Total/NA	Water	NWTPH-Gx	
590-5225-7	TX-06A	Total/NA	Water	NWTPH-Gx	
590-5225-8	TX-04	Total/NA	Water	NWTPH-Gx	
590-5225-9	MW-112A	Total/NA	Water	NWTPH-Gx	
590-5225-11	MW-307	Total/NA	Ground Water	NWTPH-Gx	
590-5225-13	MW-308	Total/NA	Ground Water	NWTPH-Gx	
590-5225-14	TES-MW-1	Total/NA	Water	NWTPH-Gx	
590-5225-15	MW-204	Total/NA	Ground Water	NWTPH-Gx	
590-5225-16	MW-202	Total/NA	Ground Water	NWTPH-Gx	
590-5225-17	MW-201	Total/NA	Ground Water	NWTPH-Gx	
MB 590-10069/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-10069/1003	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
590-5225-17 DU	MW-201	Total/NA	Ground Water	NWTPH-Gx	

Analysis Batch: 10121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-2	MW-301	Total/NA	Ground Water	8260C	
590-5225-4	MW-303	Total/NA	Ground Water	8260C	
590-5225-5	MW-313	Total/NA	Water	8260C	
590-5225-11	MW-307	Total/NA	Ground Water	8260C	
590-5225-18	MW-213	Total/NA	Ground Water	8260C	
MB 590-10121/39	Method Blank	Total/NA	Water	8260C	
LCS 590-10121/1003	Lab Control Sample	Total/NA	Water	8260C	
590-5225-A-19 DU	590-5225-A-19 DU	Total/NA	Ground Water	8260C	

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

GC/MS VOA (Continued)

Analysis Batch: 10122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-2	MW-301	Total/NA	Ground Water	NWTPH-Gx	
590-5225-4	MW-303	Total/NA	Ground Water	NWTPH-Gx	
590-5225-5	MW-313	Total/NA	Water	NWTPH-Gx	
590-5225-11	MW-307	Total/NA	Ground Water	NWTPH-Gx	
590-5225-12	MW-101	Total/NA	Ground Water	NWTPH-Gx	
590-5225-18	MW-213	Total/NA	Ground Water	NWTPH-Gx	
590-5225-19	MW-203	Total/NA	Ground Water	NWTPH-Gx	
MB 590-10122/39	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-10122/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
590-5225-A-19 DU	MW-203	Total/NA	Ground Water	NWTPH-Gx	

GC/MS Semi VOA

Analysis Batch: 10091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-18	MW-213	Total/NA	Ground Water	8270D SIM	10099
MB 590-10099/1-A	Method Blank	Total/NA	Water	8270D SIM	10099
LCS 590-10099/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	10099
LCSD 590-10099/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	10099

Prep Batch: 10099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-18	MW-213	Total/NA	Ground Water	3510C	
MB 590-10099/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-10099/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-10099/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

GC Semi VOA

Analysis Batch: 10077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-1	MW-309	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-3	MW-206A	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-4	MW-303	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-5	MW-313	Total/NA	Water	NWTPH-Dx	10081
590-5225-6	MW-315	Total/NA	Water	NWTPH-Dx	10081
590-5225-7	TX-06A	Total/NA	Water	NWTPH-Dx	10081
590-5225-8	TX-04	Total/NA	Water	NWTPH-Dx	10081
590-5225-9	MW-112A	Total/NA	Water	NWTPH-Dx	10081
590-5225-11	MW-307	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-12	MW-101	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-14	TES-MW-1	Total/NA	Water	NWTPH-Dx	10081
590-5225-15	MW-204	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-16	MW-202	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-17	MW-201	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-18	MW-213	Total/NA	Ground Water	NWTPH-Dx	10081
590-5225-19	MW-203	Total/NA	Ground Water	NWTPH-Dx	10081
MB 590-10081/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	10081
LCS 590-10081/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	10081
LCSD 590-10081/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	10081

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

GC Semi VOA (Continued)

Prep Batch: 10081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-1	MW-309	Total/NA	Ground Water	3510C	
590-5225-3	MW-206A	Total/NA	Ground Water	3510C	
590-5225-4	MW-303	Total/NA	Ground Water	3510C	
590-5225-5	MW-313	Total/NA	Water	3510C	
590-5225-6	MW-315	Total/NA	Water	3510C	
590-5225-7	TX-06A	Total/NA	Water	3510C	
590-5225-8	TX-04	Total/NA	Water	3510C	
590-5225-9	MW-112A	Total/NA	Water	3510C	
590-5225-11	MW-307	Total/NA	Ground Water	3510C	
590-5225-12	MW-101	Total/NA	Ground Water	3510C	
590-5225-14	TES-MW-1	Total/NA	Water	3510C	
590-5225-15	MW-204	Total/NA	Ground Water	3510C	
590-5225-16	MW-202	Total/NA	Ground Water	3510C	
590-5225-17	MW-201	Total/NA	Ground Water	3510C	
590-5225-18	MW-213	Total/NA	Ground Water	3510C	
590-5225-19	MW-203	Total/NA	Ground Water	3510C	
MB 590-10081/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-10081/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-10081/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

HPLC/IC

Analysis Batch: 10023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-11	MW-307	Total/NA	Ground Water	300.0	
590-5225-16	MW-202	Total/NA	Ground Water	300.0	
590-5225-19	MW-203	Total/NA	Ground Water	300.0	
MB 590-10023/1014	Method Blank	Total/NA	Water	300.0	
LCS 590-10023/1013	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 10042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-13	MW-308	Total/NA	Ground Water	300.0	
MB 590-10042/1014	Method Blank	Total/NA	Water	300.0	
LCS 590-10042/1013	Lab Control Sample	Total/NA	Water	300.0	

Metals

Prep Batch: 235095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-11	MW-307	Dissolved	Ground Water	3005A	
590-5225-13	MW-308	Dissolved	Ground Water	3005A	
590-5225-16	MW-202	Dissolved	Ground Water	3005A	
590-5225-19	MW-203	Dissolved	Ground Water	3005A	
MB 580-235095/14-A	Method Blank	Total Recoverable	Water	3005A	
LCS 580-235095/15-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 580-235095/16-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
590-5225-11 MS	MW-307	Dissolved	Ground Water	3005A	
590-5225-11 MSD	MW-307	Dissolved	Ground Water	3005A	
590-5225-11 DU	MW-307	Dissolved	Ground Water	3005A	

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Metals (Continued)

Analysis Batch: 235236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-11	MW-307	Dissolved	Ground Water	6020A	235095
590-5225-13	MW-308	Dissolved	Ground Water	6020A	235095
590-5225-16	MW-202	Dissolved	Ground Water	6020A	235095
590-5225-19	MW-203	Dissolved	Ground Water	6020A	235095
MB 580-235095/14-A	Method Blank	Total Recoverable	Water	6020A	235095
LCS 580-235095/15-A	Lab Control Sample	Total Recoverable	Water	6020A	235095
LCSD 580-235095/16-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	235095
590-5225-11 MS	MW-307	Dissolved	Ground Water	6020A	235095
590-5225-11 MSD	MW-307	Dissolved	Ground Water	6020A	235095
590-5225-11 DU	MW-307	Dissolved	Ground Water	6020A	235095

General Chemistry

Analysis Batch: 395033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5225-11	MW-307	Total/NA	Ground Water	353.2	
590-5225-13	MW-308	Total/NA	Ground Water	353.2	
590-5225-16	MW-202	Total/NA	Ground Water	353.2	
590-5225-19	MW-203	Total/NA	Ground Water	353.2	
MB 490-395033/6	Method Blank	Total/NA	Water	353.2	
LCS 490-395033/7	Lab Control Sample	Total/NA	Water	353.2	
LCSD 490-395033/8	Lab Control Sample Dup	Total/NA	Water	353.2	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-309

Date Collected: 12/12/16 11:15

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 17:31	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 17:31	MRS	TAL SPK
Total/NA	Prep	3510C			252 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 11:51	NMI	TAL SPK

Client Sample ID: MW-301

Date Collected: 12/12/16 11:20

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	10121	12/21/16 10:58	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 17:51	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	10122	12/21/16 10:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 17:51	MRS	TAL SPK

Client Sample ID: MW-206A

Date Collected: 12/12/16 12:25

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 18:11	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 18:11	MRS	TAL SPK
Total/NA	Prep	3510C			249.6 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 12:09	NMI	TAL SPK

Client Sample ID: MW-303

Date Collected: 12/12/16 12:35

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	10121	12/21/16 11:20	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 18:31	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	10122	12/21/16 11:20	MRS	TAL SPK
Total/NA	Prep	3510C			249.3 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 12:26	NMI	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-313

Date Collected: 12/12/16 13:30
Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10121	12/21/16 11:42	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10122	12/21/16 11:42	MRS	TAL SPK
Total/NA	Prep	3510C			250.7 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 12:43	NMI	TAL SPK

Client Sample ID: MW-315

Date Collected: 12/12/16 13:50
Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 19:12	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 19:12	MRS	TAL SPK
Total/NA	Prep	3510C			231.4 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 13:01	NMI	TAL SPK

Client Sample ID: TX-06A

Date Collected: 12/12/16 14:30
Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 19:52	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 19:52	MRS	TAL SPK
Total/NA	Prep	3510C			250 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 13:18	NMI	TAL SPK

Client Sample ID: TX-04

Date Collected: 12/12/16 14:57
Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 20:13	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 20:13	MRS	TAL SPK
Total/NA	Prep	3510C			246.9 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 13:36	NMI	TAL SPK

Client Sample ID: MW-112A

Date Collected: 12/12/16 15:15
Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 20:33	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 20:33	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-112A

Lab Sample ID: 590-5225-9

Date Collected: 12/12/16 15:15

Matrix: Water

Date Received: 12/14/16 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			251.1 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 14:10	NMI	TAL SPK

Client Sample ID: Trip Blank

Lab Sample ID: 590-5225-10

Date Collected: 12/12/16 00:00

Matrix: Water

Date Received: 12/14/16 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 20:53	MRS	TAL SPK

Client Sample ID: MW-307

Lab Sample ID: 590-5225-11

Date Collected: 12/13/16 09:00

Matrix: Ground Water

Date Received: 12/14/16 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	10121	12/21/16 12:04	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 21:13	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	10122	12/21/16 12:04	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 21:13	MRS	TAL SPK
Total/NA	Prep	3510C			249.3 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 14:28	NMI	TAL SPK
Total/NA	Analysis	300.0		2			10023	12/14/16 16:25	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	235095	12/21/16 17:36	PAB	TAL SEA
Dissolved	Analysis	6020A		5	50 mL	50 mL	235236	12/22/16 15:25	FCW	TAL SEA
Total/NA	Analysis	353.2		1	50 mL	50 mL	395033	12/16/16 13:08	MJA	TAL NSH

Client Sample ID: MW-101

Lab Sample ID: 590-5225-12

Date Collected: 12/13/16 09:00

Matrix: Ground Water

Date Received: 12/14/16 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 21:33	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10122	12/21/16 12:26	MRS	TAL SPK
Total/NA	Prep	3510C			237.5 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 14:45	NMI	TAL SPK

Client Sample ID: MW-308

Lab Sample ID: 590-5225-13

Date Collected: 12/13/16 10:15

Matrix: Ground Water

Date Received: 12/14/16 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 21:53	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-308

Date Collected: 12/13/16 10:15

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 21:53	MRS	TAL SPK
Total/NA	Analysis	300.0		10			10042	12/15/16 15:02	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	235095	12/21/16 17:36	PAB	TAL SEA
Dissolved	Analysis	6020A		5	50 mL	50 mL	235236	12/22/16 16:05	FCW	TAL SEA
Total/NA	Analysis	353.2		1	50 mL	50 mL	395033	12/16/16 13:10	MJA	TAL NSH

Client Sample ID: TES-MW-1

Date Collected: 12/13/16 10:20

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 22:13	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 22:13	MRS	TAL SPK
Total/NA	Prep	3510C			214.6 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 15:03	NMI	TAL SPK

Client Sample ID: MW-204

Date Collected: 12/13/16 11:55

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-15

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 22:33	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 22:33	MRS	TAL SPK
Total/NA	Prep	3510C			242.2 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 15:20	NMI	TAL SPK

Client Sample ID: MW-202

Date Collected: 12/13/16 12:00

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-16

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 22:53	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 22:53	MRS	TAL SPK
Total/NA	Prep	3510C			249.5 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 15:38	NMI	TAL SPK
Total/NA	Analysis	300.0		4			10023	12/14/16 16:49	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	235095	12/21/16 17:36	PAB	TAL SEA
Dissolved	Analysis	6020A		5	50 mL	50 mL	235236	12/22/16 16:10	FCW	TAL SEA
Total/NA	Analysis	353.2		1	50 mL	50 mL	395033	12/16/16 13:11	MJA	TAL NSH

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Client Sample ID: MW-201

Date Collected: 12/13/16 13:20

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-17

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10067	12/16/16 23:34	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10069	12/16/16 23:34	MRS	TAL SPK
Total/NA	Prep	3510C			250.6 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 15:55	NMI	TAL SPK

Client Sample ID: MW-213

Date Collected: 12/13/16 13:40

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-18

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10121	12/21/16 12:48	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10122	12/21/16 12:48	MRS	TAL SPK
Total/NA	Prep	3510C			253.7 mL	2 mL	10099	12/20/16 08:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			10091	12/20/16 10:40	NMI	TAL SPK
Total/NA	Prep	3510C			241 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 16:12	NMI	TAL SPK

Client Sample ID: MW-203

Date Collected: 12/13/16 14:40

Date Received: 12/14/16 14:10

Lab Sample ID: 590-5225-19

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10122	12/21/16 13:10	MRS	TAL SPK
Total/NA	Prep	3510C			250.8 mL	2 mL	10081	12/19/16 10:01	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10077	12/19/16 16:29	NMI	TAL SPK
Total/NA	Analysis	300.0		1			10023	12/14/16 17:01	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	235095	12/21/16 17:36	PAB	TAL SEA
Dissolved	Analysis	6020A		5	50 mL	50 mL	235236	12/22/16 16:14	FCW	TAL SEA
Total/NA	Analysis	353.2		1	50 mL	50 mL	395033	12/16/16 13:12	MJA	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177
 TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310
 TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

GC/MS Semi VOA

Qualifier	Qualifier Description
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.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Certification Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5225-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C569	01-06-17
Analysis Method	Prep Method	Matrix	Analyte	

Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-17

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C553	02-17-17
The following analytes are included in this report, but certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
6020A	3005A	Ground Water	Iron	

LAB (LOCATION)

ACQUICEST
 CALSCEKE
 TESTAMERICA
 Other

ENV. SERVICES
 MOTIVA RETAIL
 MOTIVA SOURCE
 SHELL PIPELINE
 CONSULTANT
 OTHER

Print Bill To Contact Name:
 PO #
 SAP #

INCIDENT # (ENV SERVICES)
 DATE: 12/13/16
 PAGE 2 of 2

CHECK IF NO INCIDENT # APPLIES
 DATE: 12/13/16



Shell Oil Products Chain Of Custody Record

AECOM

ADDRESS: 111 Southwest Columbia Street, Suite 1500, Portland, Oregon 97201
 PHONE NO: 503-222-7200
 FAX: 503-222-4292
 CLIFFORD J PEARSON

SITE ADDRESS: Street and City: 2555 13th Avenue, Seattle
 STATE: WA
 PHONE NO: 206-461-1076
 CLIFFORD PEARSON @ AECOM.COM

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY)
 TEMPERATURE ON RECEIPT: COOLER #1 COOLER #2 COOLER #3
 SPECIAL INSTRUCTIONS OR NOTES:

UNIT COST
 REQUESTED ANALYSIS
 NON-UNIT COST
 FIELD NOTES:

LAB USE ONLY	Field Sample Identification	SAMPLING		PRESERVATIVE				NO. OF CONT.	NWTPH-Gx	BTEX by EPA 8260B	NWTPH-Dx	Total Lead by EPA 6020	PAHs by EPA 8270C-SIM	Nitrate and Nitrite by EPA 353.2	Sulfate by EPA method 300.0	Dissolved Iron and Manganese by EPA 6010B/6020A	TEMPERATURE ON RECEIPT °C
		DATE	TIME	HCL	HNO3	H2SO4	NONE										
	MW-307	12/13/16	0900	W	3	1	1	1	X	X	X	X	X	X	X	X	
	MW-101		0900	W	3	1	1	1	X	X	X	X	X	X	X	X	
	MW-308		1015	W	2	1	1	1	X	X	X	X	X	X	X	X	
	TES-MW-1		1030	W	3	3	3	3	X	X	X	X	X	X	X	X	
	MW-204		1155	W	3	3	3	3	X	X	X	X	X	X	X	X	
	MW-202		1200	W	3	1	1	1	X	X	X	X	X	X	X	X	
	MW-201		1320	W	3	3	3	3	X	X	X	X	X	X	X	X	
	MW-213		1340	W	3	3	3	3	X	X	X	X	X	X	X	X	
	MW-203		1440	W	2	1	1	1	X	X	X	X	X	X	X	X	

RECEIVED BY (SIGNATURE): M. J. FALK
 RECEIVED BY (SIGNATURE): MARK TAUSCHER
 RECEIVED BY (SIGNATURE): DAVE LEWIS
 RECEIVED BY (SIGNATURE): TRADPOK
 DATE: 12/13/16
 DATE: 12/14/16
 TIME: 1630
 TIME: 1410

COOLER RECEIPT FORM



590-5225 Chain of Custody

Cooler Received/Opened On 12/15/2016 @1007

Time Samples Removed From Cooler _____ Time Samples Placed In Storage _____ (2 Hour Window)

1. Tracking # 2952 (last 4 digits, FedEx) Courier: _____
IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 1.3 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 side

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) (Signature)

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? Bubblewrap (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES...NO...(NA)

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) (Signature)

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...(NA)

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) (Signature)

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) (Signature)

I certify that I attached a label with the unique LIMS number to each container (initial) (Signature)

21. Were there Non-Conformance issues at login? YES...(NO) Was a NCM generated? YES...(NO)...

TestAmerica Spokane

11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

590-5225



Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving
Company: TestAmerica Laboratories, Inc
Address: 2960 Foster Creighton Drive,
City: Nashville
State, Zip: TN, 37204
Phone: 615-726-0177 (Tel) 615-726-3404 (Fax)
Email:

Sampler: Lab FNI: Arrington, Randee E
Phone: E-Mail: randee.arrington@testamericainc.com
Accreditations Required (See note): Washington
State Program - Washington

Due Date Requested: 12/27/2016
TAT Requested (days):
Analysis Requested:
C No: J-2368.1
Page: Page 1 of 1
Job #: 590-5225-1

Project Name: 2555 13th Avenue, Seattle (60411076)
Site: AECOM - 2555 13th Avenue, Seattle
Project #: 59000733
SSOM#:
Matrix (Water, Sewage, Sludge, Other):
Field Filtered Sample (Yes or No):
Perform MS/MS by (50.16):
353.2/ Nitrate-Nitrite
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 - EDTA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecylsulfate
U - Acetone
V - MCAA
W - pH 4.5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Sewage, Sludge, Other)	Field Filtered Sample (Yes or No)	Total Number of containers	Special Instructions/Note:
MMW-307 (590-5225-11)	12/13/16	09:00 Pacific		Water		1	
MMW-308 (590-5225-13)	12/13/16	10:15 Pacific		Water		1	
MMW-202 (590-5225-16)	12/13/16	12:00 Pacific		Water		1	
MMW-203 (590-5225-19)	12/13/16	14:40 Pacific		Water		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our 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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
 Return To Client
 Disposal By Lab
 Archive For _____ Months
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: 1, 3

TestAmerica Spokane

11922 East 1st Ave
 Spokane, WA 99206
 Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Sampler:		Lab PM: Arrington, Randee E		Carrier Tracking No(s):		COC No: 590-2369.1			
Client Contact: Shipping/Receiving		Phone:		E-Mail: randee.arrington@testamericainc.com		State of Origin: Washington		Page: Page 1 of 1			
Company: TestAmerica Laboratories, Inc.				Accreditations Required (See note): State Program - Washington				Job #: 590-5225-1			
Address: 5755 8th Street East.		Due Date Requested: 12/27/2016		Analysis Requested						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
City: Tacoma		TAT Requested (days):									
State, Zip: WA, 98424		PO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of containers			
Phone: 253-922-2310(Tel) 253-922-5047(Fax)		WO #:		6020A/FIELD_FL_TRD (MOD) Diss Fe & Mn							
Email:		Project #: 59000733									
Project Name: 2555 13th Avenue, Seattle (60411076)		SSOW#:									
Site: AECOM - 2555 13th Avenue, Seattle											
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)			
								Special Instructions/Note:			
MW-307 (590-5225-11)		12/13/16		09:00 Pacific		Water		X			
MW-308 (590-5225-13)		12/13/16		10:15 Pacific		Water		X			
MW-202 (590-5225-16)		12/13/16		12:00 Pacific		Water		X			
MW-203 (590-5225-19)		12/13/16		14:40 Pacific		Water		X			

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out 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/tests/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		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 2			

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <i>Shenea Knox</i>		Date/Time: <i>12/14/16 10:10</i>		Company: <i>TestAmerica</i>		Received by: <i>Michelle [unclear]</i>	
Relinquished by:		Date/Time:		Company:		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
-------------------------------------	-------------------	---

11/10/16 IR3 3.10 / 3.3

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-5225-1

Login Number: 5225

List Source: TestAmerica Spokane

List Number: 1

Creator: Kratz, Sheila J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-5225-1

Login Number: 5225
List Number: 2
Creator: Vest, Laura E

List Source: TestAmerica Nashville
List Creation: 12/15/16 05:12 PM

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.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-5225-1

Login Number: 5225

List Source: TestAmerica Seattle

List Number: 3

List Creation: 12/16/16 10:43 AM

Creator: Ponce-McDermott, Monica

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?	N/A	Received project as a subcontract.
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	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-5249-1

Client Project/Site: 2555 13th Avenue, Seattle (60411076)

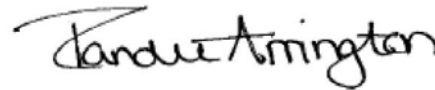
For:

AECOM, Inc.

111 SW Columbia Street, Suite 1500

Portland, Oregon 97201

Attn: Clifford Pearson



Authorized for release by:

12/30/2016 1:27:35 PM

Randee Arrington, Project Manager II

(509)924-9200

randee.arrington@testamericainc.com



LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Detection Summary	6
Client Sample Results	10
QC Sample Results	22
QC Association	29
Chronicle	33
Definitions	37
Certification Summary	38
Chain of Custody	39
Receipt Checklists	43

Case Narrative

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Job ID: 590-5249-1

Laboratory: TestAmerica Spokane

Narrative

Receipt

The samples were received on 12/16/2016 2:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

GC/MS VOA

Method NWTPH-Gx: The method blank for analytical batch 590-10144 contained Gasoline above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-analysis of samples was not performed.

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

GC/MS Semi VOA

Method 8270D SIM: The method blank for preparation batch 590-10099 and analytical batch 590-10091 contained Anthracene, 2-Methylnaphthalene, Pyrene, Benzo[a]anthracene, Chrysene, Acenaphthylene and Benzo[a]pyrene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

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

GC Semi VOA

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap in the following samples: SH-04 (590-5249-3), MW-104 (590-5249-4), MW-111 (590-5249-5), MW-304 (590-5249-10), MW-310 (590-5249-12), TX-03A (590-5249-14) and MW-302 (590-5249-15).

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

Metals

Method 6020A: The method blank for 490-396422 contained Manganese above the method detection limit (MDL). Associated samples were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

Field Service / Mobile Lab

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Sample Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-5249-1	MW-314	Water	12/14/16 08:20	12/16/16 14:50
590-5249-2	MW-102	Ground Water	12/14/16 08:35	12/16/16 14:50
590-5249-3	SH-04	Ground Water	12/14/16 09:15	12/16/16 14:50
590-5249-4	MW-104	Ground Water	12/14/16 10:15	12/16/16 14:50
590-5249-5	MW-111	Ground Water	12/14/16 10:20	12/16/16 14:50
590-5249-6	MW-105	Ground Water	12/14/16 11:15	12/16/16 14:50
590-5249-7	MW-05	Ground Water	12/14/16 11:50	12/16/16 14:50
590-5249-8	MW-214	Ground Water	12/14/16 13:25	12/16/16 14:50
590-5249-9	Trip Blank	Ground Water	12/14/16 00:00	12/16/16 14:50
590-5249-10	MW-304	Ground Water	12/15/16 08:15	12/16/16 14:50
590-5249-11	MW-312	Ground Water	12/15/16 08:35	12/16/16 14:50
590-5249-12	MW-310	Ground Water	12/15/16 09:40	12/16/16 14:50
590-5249-13	MW-311	Ground Water	12/15/16 10:00	12/16/16 14:50
590-5249-14	TX-03A	Ground Water	12/15/16 11:00	12/16/16 14:50
590-5249-15	MW-302	Ground Water	12/15/16 11:05	12/16/16 14:50

Method Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
6020A	Metals (ICP/MS)	SW846	TAL NSH
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL NSH

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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 NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-314

Lab Sample ID: 590-5249-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4.32		0.200	0.0930	ug/L	1		8260C	Total/NA
Toluene	0.374	J	1.00	0.312	ug/L	1		8260C	Total/NA
Gasoline	298		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.401		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.0679	J	0.200	0.0599	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-102

Lab Sample ID: 590-5249-2

No Detections.

Client Sample ID: SH-04

Lab Sample ID: 590-5249-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.34		0.200	0.0930	ug/L	1		8260C	Total/NA
Ethylbenzene	19.9		1.00	0.198	ug/L	1		8260C	Total/NA
m,p-Xylene	11.5		2.00	0.280	ug/L	1		8260C	Total/NA
o-Xylene	0.809	J	1.00	0.162	ug/L	1		8260C	Total/NA
Toluene	0.990	J	1.00	0.312	ug/L	1		8260C	Total/NA
Xylenes, Total	12.3		3.00	0.442	ug/L	1		8260C	Total/NA
Gasoline	843		100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.00		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.102	J	0.200	0.0600	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-104

Lab Sample ID: 590-5249-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	3610	B	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.22		0.129	0.0431	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.155	J	0.216	0.0647	mg/L	1		NWTPH-Dx	Total/NA
Lead	0.000902	J	0.00200	0.000100	mg/L	1		6020A	Total/NA

Client Sample ID: MW-111

Lab Sample ID: 590-5249-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	248		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	2.43	J	10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	2.81	J	20.0	2.80	ug/L	10		8260C	Total/NA
Toluene	3.75	J	10.0	3.12	ug/L	10		8260C	Total/NA
Gasoline	739	J	1000	178	ug/L	10		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.343		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.0883	J	0.199	0.0598	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-105

Lab Sample ID: 590-5249-6

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-105 (Continued)

Lab Sample ID: 590-5249-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.850		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.377		0.200	0.0600	mg/L	1		NWTPH-Dx	Total/NA
Lead	0.0116		0.00200	0.000100	mg/L	1		6020A	Total/NA

Client Sample ID: MW-05

Lab Sample ID: 590-5249-7

No Detections.

Client Sample ID: MW-214

Lab Sample ID: 590-5249-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.275	J	1.00	0.198	ug/L	1		8260C	Total/NA
Gasoline	22.6	J	100	17.8	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	0.185		0.0883	0.0196	ug/L	1		8270D SIM	Total/NA
2-Methylnaphthalene	0.0976	B	0.0883	0.0206	ug/L	1		8270D SIM	Total/NA
1-Methylnaphthalene	0.254		0.0883	0.0177	ug/L	1		8270D SIM	Total/NA
Acenaphthylene	0.0172	J B	0.0883	0.0128	ug/L	1		8270D SIM	Total/NA
Anthracene	0.0126	J B	0.0883	0.00687	ug/L	1		8270D SIM	Total/NA
Benzo[a]anthracene	0.00994	J B	0.0883	0.00982	ug/L	1		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.130		0.120	0.0400	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 590-5249-9

No Detections.

Client Sample ID: MW-304

Lab Sample ID: 590-5249-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	749		4.00	1.86	ug/L	20		8260C	Total/NA
Ethylbenzene	586		20.0	3.96	ug/L	20		8260C	Total/NA
m,p-Xylene	62.5		40.0	5.60	ug/L	20		8260C	Total/NA
o-Xylene	3.82	J	20.0	3.24	ug/L	20		8260C	Total/NA
Toluene	27.1		20.0	6.24	ug/L	20		8260C	Total/NA
Xylenes, Total	66.4		60.0	8.84	ug/L	20		8260C	Total/NA
Gasoline	5750		2000	356	ug/L	20		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.78		0.124	0.0414	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.0686	J	0.207	0.0620	mg/L	1		NWTPH-Dx	Total/NA
Sulfate	3.35		0.500	0.128	mg/L	1		300.0	Total/NA
Iron	28.2		0.0250	0.0100	mg/L	1		6020A	Dissolved
Manganese	0.276	B	0.00400	0.00150	mg/L	1		6020A	Dissolved

Client Sample ID: MW-312

Lab Sample ID: 590-5249-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	356		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	5.56	J	10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	3.79	J	20.0	2.80	ug/L	10		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-312 (Continued)

Lab Sample ID: 590-5249-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	3.36	J	10.0	3.12	ug/L	10		8260C	Total/NA
Gasoline	2270		1000	178	ug/L	10		NWTPH-Gx	Total/NA
Iron	20.4		0.0250	0.0100	mg/L	1		6020A	Dissolved
Manganese	0.924	B	0.00400	0.00150	mg/L	1		6020A	Dissolved

Client Sample ID: MW-310

Lab Sample ID: 590-5249-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	637		2.00	0.930	ug/L	10		8260C	Total/NA
Ethylbenzene	289		10.0	1.98	ug/L	10		8260C	Total/NA
m,p-Xylene	72.2		20.0	2.80	ug/L	10		8260C	Total/NA
o-Xylene	2.51	J	10.0	1.62	ug/L	10		8260C	Total/NA
Toluene	50.4		10.0	3.12	ug/L	10		8260C	Total/NA
Xylenes, Total	74.7		30.0	4.42	ug/L	10		8260C	Total/NA
Gasoline	5920		1000	178	ug/L	10		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.72		0.125	0.0416	mg/L	1		NWTPH-Dx	Total/NA
Sulfate	1.13		0.500	0.128	mg/L	1		300.0	Total/NA
Iron	26.4		0.0250	0.0100	mg/L	1		6020A	Dissolved
Manganese	0.485	B	0.00400	0.00150	mg/L	1		6020A	Dissolved

Client Sample ID: MW-311

Lab Sample ID: 590-5249-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	23.7		0.500	0.128	mg/L	1		300.0	Total/NA
Iron	22.7		0.0250	0.0100	mg/L	1		6020A	Dissolved
Manganese	0.801	B	0.00400	0.00150	mg/L	1		6020A	Dissolved

Client Sample ID: TX-03A

Lab Sample ID: 590-5249-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	995		4.00	1.86	ug/L	20		8260C	Total/NA
Ethylbenzene	69.7		20.0	3.96	ug/L	20		8260C	Total/NA
m,p-Xylene	35.7	J	40.0	5.60	ug/L	20		8260C	Total/NA
Toluene	19.7	J	20.0	6.24	ug/L	20		8260C	Total/NA
Xylenes, Total	35.7	J	60.0	8.84	ug/L	20		8260C	Total/NA
Gasoline	4810		2000	356	ug/L	20		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.73		0.120	0.0399	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.125	J	0.200	0.0599	mg/L	1		NWTPH-Dx	Total/NA
Iron	37.8		0.0250	0.0100	mg/L	1		6020A	Dissolved
Manganese	0.517	B	0.00400	0.00150	mg/L	1		6020A	Dissolved

Client Sample ID: MW-302

Lab Sample ID: 590-5249-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	759		4.00	1.86	ug/L	20		8260C	Total/NA
Ethylbenzene	453		20.0	3.96	ug/L	20		8260C	Total/NA
m,p-Xylene	107		40.0	5.60	ug/L	20		8260C	Total/NA
o-Xylene	9.67	J	20.0	3.24	ug/L	20		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-302 (Continued)

Lab Sample ID: 590-5249-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	26.3		20.0	6.24	ug/L	20		8260C	Total/NA
Xylenes, Total	117		60.0	8.84	ug/L	20		8260C	Total/NA
Gasoline	5080		2000	356	ug/L	20		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.73		0.126	0.0420	mg/L	1		NWTPH-Dx	Total/NA
Iron	35.1		0.0250	0.0100	mg/L	1		6020A	Dissolved
Manganese	0.572	B	0.00400	0.00150	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-314

Date Collected: 12/14/16 08:20

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.32		0.200	0.0930	ug/L			12/22/16 16:49	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 16:49	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 16:49	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 16:49	1
Toluene	0.374	J	1.00	0.312	ug/L			12/22/16 16:49	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 125		12/22/16 16:49	1
4-Bromofluorobenzene (Surr)	99		69 - 120		12/22/16 16:49	1
Dibromofluoromethane (Surr)	104		80 - 120		12/22/16 16:49	1
Toluene-d8 (Surr)	99		80 - 120		12/22/16 16:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	298		100	17.8	ug/L			12/22/16 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141		12/22/16 16:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.401		0.120	0.0400	mg/L		12/20/16 09:33	12/20/16 13:50	1
Residual Range Organics (RRO) (C25-C36)	0.0679	J	0.200	0.0599	mg/L		12/20/16 09:33	12/20/16 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150	12/20/16 09:33	12/20/16 13:50	1
n-Triacontane-d62	85		50 - 150	12/20/16 09:33	12/20/16 13:50	1

Client Sample ID: MW-102

Date Collected: 12/14/16 08:35

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-2

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 17:31	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 17:31	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 17:31	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 17:31	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 17:31	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 125		12/22/16 17:31	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/22/16 17:31	1
Dibromofluoromethane (Surr)	101		80 - 120		12/22/16 17:31	1
Toluene-d8 (Surr)	99		80 - 120		12/22/16 17:31	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-102

Date Collected: 12/14/16 08:35

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-2

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/22/16 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/22/16 17:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.124	0.0413	mg/L		12/20/16 09:33	12/20/16 14:08	1

Residual Range Organics (RRO) (C25-C36)	ND		0.207	0.0620	mg/L		12/20/16 09:33	12/20/16 14:08	1
--	----	--	-------	--------	------	--	----------------	----------------	---

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	12/20/16 09:33	12/20/16 14:08	1
n-Triacontane-d62	86		50 - 150	12/20/16 09:33	12/20/16 14:08	1

Client Sample ID: SH-04

Date Collected: 12/14/16 09:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-3

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.34		0.200	0.0930	ug/L			12/22/16 17:52	1

Ethylbenzene	19.9		1.00	0.198	ug/L			12/22/16 17:52	1
--------------	------	--	------	-------	------	--	--	----------------	---

m,p-Xylene	11.5		2.00	0.280	ug/L			12/22/16 17:52	1
------------	------	--	------	-------	------	--	--	----------------	---

o-Xylene	0.809	J	1.00	0.162	ug/L			12/22/16 17:52	1
----------	-------	---	------	-------	------	--	--	----------------	---

Toluene	0.990	J	1.00	0.312	ug/L			12/22/16 17:52	1
---------	-------	---	------	-------	------	--	--	----------------	---

Xylenes, Total	12.3		3.00	0.442	ug/L			12/22/16 17:52	1
----------------	------	--	------	-------	------	--	--	----------------	---

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125		12/22/16 17:52	1

4-Bromofluorobenzene (Surr)	98		69 - 120		12/22/16 17:52	1
-----------------------------	----	--	----------	--	----------------	---

Dibromofluoromethane (Surr)	95		80 - 120		12/22/16 17:52	1
-----------------------------	----	--	----------	--	----------------	---

Toluene-d8 (Surr)	93		80 - 120		12/22/16 17:52	1
-------------------	----	--	----------	--	----------------	---

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	843		100	17.8	ug/L			12/22/16 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/22/16 17:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.00		0.120	0.0400	mg/L		12/20/16 09:33	12/20/16 14:25	1

Residual Range Organics (RRO) (C25-C36)	0.102	J	0.200	0.0600	mg/L		12/20/16 09:33	12/20/16 14:25	1
--	-------	---	-------	--------	------	--	----------------	----------------	---

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	12/20/16 09:33	12/20/16 14:25	1

n-Triacontane-d62	87		50 - 150	12/20/16 09:33	12/20/16 14:25	1
-------------------	----	--	----------	----------------	----------------	---

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-104

Date Collected: 12/14/16 10:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-4

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3610	B	100	17.8	ug/L			12/21/16 22:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141					12/21/16 22:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.22		0.129	0.0431	mg/L		12/20/16 09:33	12/20/16 14:43	1
Residual Range Organics (RRO) (C25-C36)	0.155	J	0.216	0.0647	mg/L		12/20/16 09:33	12/20/16 14:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150				12/20/16 09:33	12/20/16 14:43	1
n-Triacontane-d62	84		50 - 150				12/20/16 09:33	12/20/16 14:43	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.000902	J	0.00200	0.000100	mg/L		12/22/16 11:08	12/30/16 13:09	1

Client Sample ID: MW-111

Date Collected: 12/14/16 10:20

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-5

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	248		2.00	0.930	ug/L			12/22/16 18:33	10
Ethylbenzene	2.43	J	10.0	1.98	ug/L			12/22/16 18:33	10
m,p-Xylene	2.81	J	20.0	2.80	ug/L			12/22/16 18:33	10
o-Xylene	ND		10.0	1.62	ug/L			12/22/16 18:33	10
Toluene	3.75	J	10.0	3.12	ug/L			12/22/16 18:33	10
Xylenes, Total	ND		30.0	4.42	ug/L			12/22/16 18:33	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 125					12/22/16 18:33	10
4-Bromofluorobenzene (Surr)	101		69 - 120					12/22/16 18:33	10
Dibromofluoromethane (Surr)	103		80 - 120					12/22/16 18:33	10
Toluene-d8 (Surr)	100		80 - 120					12/22/16 18:33	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	739	J	1000	178	ug/L			12/22/16 18:33	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141					12/22/16 18:33	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.343		0.120	0.0399	mg/L		12/20/16 09:33	12/20/16 15:00	1
Residual Range Organics (RRO) (C25-C36)	0.0883	J	0.199	0.0598	mg/L		12/20/16 09:33	12/20/16 15:00	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-111

Date Collected: 12/14/16 10:20

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-5

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150	12/20/16 09:33	12/20/16 15:00	1
<i>n</i> -Triacontane-d62	87		50 - 150	12/20/16 09:33	12/20/16 15:00	1

Client Sample ID: MW-105

Date Collected: 12/14/16 11:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-6

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 18:54	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 18:54	1
<i>m,p</i> -Xylene	ND		2.00	0.280	ug/L			12/22/16 18:54	1
<i>o</i> -Xylene	ND		1.00	0.162	ug/L			12/22/16 18:54	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 18:54	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane-d4 (Surr)	101		70 - 125		12/22/16 18:54	1
<i>4</i> -Bromofluorobenzene (Surr)	101		69 - 120		12/22/16 18:54	1
<i>Dibromofluoromethane</i> (Surr)	101		80 - 120		12/22/16 18:54	1
<i>Toluene-d8</i> (Surr)	95		80 - 120		12/22/16 18:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/22/16 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>4</i> -Bromofluorobenzene (Surr)	101		68.7 - 141		12/22/16 18:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.850		0.120	0.0400	mg/L		12/20/16 09:33	12/20/16 15:18	1
Residual Range Organics (RRO) (C25-C36)	0.377		0.200	0.0600	mg/L		12/20/16 09:33	12/20/16 15:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150	12/20/16 09:33	12/20/16 15:18	1
<i>n</i> -Triacontane-d62	88		50 - 150	12/20/16 09:33	12/20/16 15:18	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0116		0.00200	0.000100	mg/L		12/22/16 11:08	12/30/16 13:14	1

Client Sample ID: MW-05

Date Collected: 12/14/16 11:50

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-7

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 19:14	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 19:14	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-05
Date Collected: 12/14/16 11:50
Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-7
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 19:14	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 19:14	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 19:14	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 19:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 125					12/22/16 19:14	1
4-Bromofluorobenzene (Surr)	96		69 - 120					12/22/16 19:14	1
Dibromofluoromethane (Surr)	102		80 - 120					12/22/16 19:14	1
Toluene-d8 (Surr)	99		80 - 120					12/22/16 19:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/22/16 19:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141					12/22/16 19:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.131	0.0436	mg/L		12/20/16 09:33	12/20/16 15:36	1
Residual Range Organics (RRO) (C25-C36)	ND		0.218	0.0654	mg/L		12/20/16 09:33	12/20/16 15:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150				12/20/16 09:33	12/20/16 15:36	1
n-Triacontane-d62	87		50 - 150				12/20/16 09:33	12/20/16 15:36	1

Client Sample ID: MW-214
Date Collected: 12/14/16 13:25
Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-8
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 19:35	1
Ethylbenzene	0.275	J	1.00	0.198	ug/L			12/22/16 19:35	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 19:35	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 19:35	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 19:35	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125					12/22/16 19:35	1
4-Bromofluorobenzene (Surr)	96		69 - 120					12/22/16 19:35	1
Dibromofluoromethane (Surr)	105		80 - 120					12/22/16 19:35	1
Toluene-d8 (Surr)	99		80 - 120					12/22/16 19:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	22.6	J	100	17.8	ug/L			12/22/16 19:35	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-214

Date Collected: 12/14/16 13:25

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-8

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141		12/22/16 19:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.185		0.0883	0.0196	ug/L		12/20/16 08:36	12/20/16 11:07	1
2-Methylnaphthalene	0.0976	B	0.0883	0.0206	ug/L		12/20/16 08:36	12/20/16 11:07	1
1-Methylnaphthalene	0.254		0.0883	0.0177	ug/L		12/20/16 08:36	12/20/16 11:07	1
Acenaphthylene	0.0172	J B	0.0883	0.0128	ug/L		12/20/16 08:36	12/20/16 11:07	1
Acenaphthene	ND		0.0883	0.0157	ug/L		12/20/16 08:36	12/20/16 11:07	1
Fluorene	ND		0.0883	0.0147	ug/L		12/20/16 08:36	12/20/16 11:07	1
Phenanthrene	ND		0.0883	0.0353	ug/L		12/20/16 08:36	12/20/16 11:07	1
Anthracene	0.0126	J B	0.0883	0.00687	ug/L		12/20/16 08:36	12/20/16 11:07	1
Fluoranthene	ND		0.0883	0.0108	ug/L		12/20/16 08:36	12/20/16 11:07	1
Pyrene	ND		0.0883	0.00589	ug/L		12/20/16 08:36	12/20/16 11:07	1
Benzo[a]anthracene	0.00994	J B	0.0883	0.00982	ug/L		12/20/16 08:36	12/20/16 11:07	1
Chrysene	ND		0.0883	0.00687	ug/L		12/20/16 08:36	12/20/16 11:07	1
Benzo[b]fluoranthene	ND		0.0883	0.0108	ug/L		12/20/16 08:36	12/20/16 11:07	1
Benzo[k]fluoranthene	ND		0.0883	0.0147	ug/L		12/20/16 08:36	12/20/16 11:07	1
Benzo[a]pyrene	ND		0.0883	0.0108	ug/L		12/20/16 08:36	12/20/16 11:07	1
Indeno[1,2,3-cd]pyrene	ND		0.0883	0.0216	ug/L		12/20/16 08:36	12/20/16 11:07	1
Dibenz(a,h)anthracene	ND		0.0883	0.0128	ug/L		12/20/16 08:36	12/20/16 11:07	1
Benzo[g,h,i]perylene	ND		0.0883	0.0206	ug/L		12/20/16 08:36	12/20/16 11:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	101		45 - 126	12/20/16 08:36	12/20/16 11:07	1
2-Fluorobiphenyl (Surr)	92		44 - 120	12/20/16 08:36	12/20/16 11:07	1
p-Terphenyl-d14	109		51 - 121	12/20/16 08:36	12/20/16 11:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.130		0.120	0.0400	mg/L		12/20/16 09:33	12/20/16 16:11	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0600	mg/L		12/20/16 09:33	12/20/16 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	12/20/16 09:33	12/20/16 16:11	1
n-Triacontane-d62	85		50 - 150	12/20/16 09:33	12/20/16 16:11	1

Client Sample ID: Trip Blank

Date Collected: 12/14/16 00:00

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-9

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 19:56	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 19:56	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 19:56	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 19:56	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 19:56	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 19:56	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: Trip Blank

Date Collected: 12/14/16 00:00

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-9

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		12/22/16 19:56	1
4-Bromofluorobenzene (Surr)	95		69 - 120		12/22/16 19:56	1
Dibromofluoromethane (Surr)	102		80 - 120		12/22/16 19:56	1
Toluene-d8 (Surr)	101		80 - 120		12/22/16 19:56	1

Client Sample ID: MW-304

Date Collected: 12/15/16 08:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-10

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	749		4.00	1.86	ug/L			12/22/16 20:16	20
Ethylbenzene	586		20.0	3.96	ug/L			12/22/16 20:16	20
m,p-Xylene	62.5		40.0	5.60	ug/L			12/22/16 20:16	20
o-Xylene	3.82	J	20.0	3.24	ug/L			12/22/16 20:16	20
Toluene	27.1		20.0	6.24	ug/L			12/22/16 20:16	20
Xylenes, Total	66.4		60.0	8.84	ug/L			12/22/16 20:16	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 125		12/22/16 20:16	20
4-Bromofluorobenzene (Surr)	96		69 - 120		12/22/16 20:16	20
Dibromofluoromethane (Surr)	101		80 - 120		12/22/16 20:16	20
Toluene-d8 (Surr)	99		80 - 120		12/22/16 20:16	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5750		2000	356	ug/L			12/22/16 20:16	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141		12/22/16 20:16	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.78		0.124	0.0414	mg/L		12/20/16 09:33	12/20/16 16:28	1
Residual Range Organics (RRO) (C25-C36)	0.0686	J	0.207	0.0620	mg/L		12/20/16 09:33	12/20/16 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	12/20/16 09:33	12/20/16 16:28	1
n-Triacontane-d62	90		50 - 150	12/20/16 09:33	12/20/16 16:28	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	3.35		0.500	0.128	mg/L			12/28/16 13:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	28.2		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 06:41	1
Manganese	0.276	B	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 06:41	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-304
Date Collected: 12/15/16 08:15
Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-10
Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:45	1

Client Sample ID: MW-312
Date Collected: 12/15/16 08:35
Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-11
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	356		2.00	0.930	ug/L			12/22/16 20:37	10
Ethylbenzene	5.56	J	10.0	1.98	ug/L			12/22/16 20:37	10
m,p-Xylene	3.79	J	20.0	2.80	ug/L			12/22/16 20:37	10
o-Xylene	ND		10.0	1.62	ug/L			12/22/16 20:37	10
Toluene	3.36	J	10.0	3.12	ug/L			12/22/16 20:37	10
Xylenes, Total	ND		30.0	4.42	ug/L			12/22/16 20:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 125		12/22/16 20:37	10
4-Bromofluorobenzene (Surr)	101		69 - 120		12/22/16 20:37	10
Dibromofluoromethane (Surr)	105		80 - 120		12/22/16 20:37	10
Toluene-d8 (Surr)	100		80 - 120		12/22/16 20:37	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2270		1000	178	ug/L			12/22/16 20:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141		12/22/16 20:37	10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500	0.128	mg/L			12/28/16 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	20.4		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 07:08	1
Manganese	0.924	B	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 07:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:46	1

Client Sample ID: MW-310
Date Collected: 12/15/16 09:40
Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-12
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	637		2.00	0.930	ug/L			12/22/16 20:57	10
Ethylbenzene	289		10.0	1.98	ug/L			12/22/16 20:57	10
m,p-Xylene	72.2		20.0	2.80	ug/L			12/22/16 20:57	10
o-Xylene	2.51	J	10.0	1.62	ug/L			12/22/16 20:57	10

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-310

Lab Sample ID: 590-5249-12

Date Collected: 12/15/16 09:40

Matrix: Ground Water

Date Received: 12/16/16 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	50.4		10.0	3.12	ug/L			12/22/16 20:57	10
Xylenes, Total	74.7		30.0	4.42	ug/L			12/22/16 20:57	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125					12/22/16 20:57	10
4-Bromofluorobenzene (Surr)	98		69 - 120					12/22/16 20:57	10
Dibromofluoromethane (Surr)	102		80 - 120					12/22/16 20:57	10
Toluene-d8 (Surr)	100		80 - 120					12/22/16 20:57	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5920		1000	178	ug/L			12/22/16 20:57	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141					12/22/16 20:57	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.72		0.125	0.0416	mg/L		12/20/16 09:33	12/20/16 16:45	1
Residual Range Organics (RRO) (C25-C36)	ND		0.208	0.0624	mg/L		12/20/16 09:33	12/20/16 16:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150				12/20/16 09:33	12/20/16 16:45	1
n-Triacontane-d62	85		50 - 150				12/20/16 09:33	12/20/16 16:45	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.13		0.500	0.128	mg/L			12/28/16 14:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	26.4		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 07:14	1
Manganese	0.485	B	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 07:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:47	1

Client Sample ID: MW-311

Lab Sample ID: 590-5249-13

Date Collected: 12/15/16 10:00

Matrix: Ground Water

Date Received: 12/16/16 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 21:18	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 21:18	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 21:18	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 21:18	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 21:18	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 21:18	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-311

Lab Sample ID: 590-5249-13

Date Collected: 12/15/16 10:00

Matrix: Ground Water

Date Received: 12/16/16 14:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		12/22/16 21:18	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/22/16 21:18	1
Dibromofluoromethane (Surr)	107		80 - 120		12/22/16 21:18	1
Toluene-d8 (Surr)	94		80 - 120		12/22/16 21:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L			12/22/16 21:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/22/16 21:18	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	23.7		0.500	0.128	mg/L			12/28/16 14:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	22.7		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 07:19	1
Manganese	0.801	B	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 07:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:52	1

Client Sample ID: TX-03A

Lab Sample ID: 590-5249-14

Date Collected: 12/15/16 11:00

Matrix: Ground Water

Date Received: 12/16/16 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	995		4.00	1.86	ug/L			12/22/16 21:38	20
Ethylbenzene	69.7		20.0	3.96	ug/L			12/22/16 21:38	20
m,p-Xylene	35.7	J	40.0	5.60	ug/L			12/22/16 21:38	20
o-Xylene	ND		20.0	3.24	ug/L			12/22/16 21:38	20
Toluene	19.7	J	20.0	6.24	ug/L			12/22/16 21:38	20
Xylenes, Total	35.7	J	60.0	8.84	ug/L			12/22/16 21:38	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 125		12/22/16 21:38	20
4-Bromofluorobenzene (Surr)	96		69 - 120		12/22/16 21:38	20
Dibromofluoromethane (Surr)	107		80 - 120		12/22/16 21:38	20
Toluene-d8 (Surr)	99		80 - 120		12/22/16 21:38	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4810		2000	356	ug/L			12/22/16 21:38	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141		12/22/16 21:38	20

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: TX-03A

Date Collected: 12/15/16 11:00

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-14

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.73		0.120	0.0399	mg/L		12/20/16 09:33	12/20/16 17:02	1
Residual Range Organics (RRO) (C25-C36)	0.125	J	0.200	0.0599	mg/L		12/20/16 09:33	12/20/16 17:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150				12/20/16 09:33	12/20/16 17:02	1
<i>n</i> -Triaccontane-d62	89		50 - 150				12/20/16 09:33	12/20/16 17:02	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500	0.128	mg/L			12/28/16 14:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	37.8		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 07:36	1
Manganese	0.517	B	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 07:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:56	1

Client Sample ID: MW-302

Date Collected: 12/15/16 11:05

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-15

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	759		4.00	1.86	ug/L			12/22/16 22:19	20
Ethylbenzene	453		20.0	3.96	ug/L			12/22/16 22:19	20
<i>m,p</i> -Xylene	107		40.0	5.60	ug/L			12/22/16 22:19	20
<i>o</i> -Xylene	9.67	J	20.0	3.24	ug/L			12/22/16 22:19	20
Toluene	26.3		20.0	6.24	ug/L			12/22/16 22:19	20
Xylenes, Total	117		60.0	8.84	ug/L			12/22/16 22:19	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane-d4 (Surr)	101		70 - 125					12/22/16 22:19	20
<i>4</i> -Bromofluorobenzene (Surr)	97		69 - 120					12/22/16 22:19	20
<i>Dibromofluoromethane</i> (Surr)	107		80 - 120					12/22/16 22:19	20
<i>Toluene-d8</i> (Surr)	100		80 - 120					12/22/16 22:19	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	5080		2000	356	ug/L			12/22/16 22:19	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>4</i> -Bromofluorobenzene (Surr)	97		68.7 - 141					12/22/16 22:19	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.73		0.126	0.0420	mg/L		12/20/16 09:33	12/20/16 17:18	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-302

Lab Sample ID: 590-5249-15

Date Collected: 12/15/16 11:05

Matrix: Ground Water

Date Received: 12/16/16 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	ND		0.210	0.0630	mg/L		12/20/16 09:33	12/20/16 17:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				12/20/16 09:33	12/20/16 17:18	1
<i>n</i> -Triacontane-d62	96		50 - 150				12/20/16 09:33	12/20/16 17:18	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500	0.128	mg/L			12/28/16 15:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	35.1		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 07:41	1
Manganese	0.572	B	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 07:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:57	1

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

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

Lab Sample ID: MB 590-10151/7
Matrix: Water
Analysis Batch: 10151

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.200	0.0930	ug/L			12/22/16 14:22	1
Ethylbenzene	ND		1.00	0.198	ug/L			12/22/16 14:22	1
m,p-Xylene	ND		2.00	0.280	ug/L			12/22/16 14:22	1
o-Xylene	ND		1.00	0.162	ug/L			12/22/16 14:22	1
Toluene	ND		1.00	0.312	ug/L			12/22/16 14:22	1
Xylenes, Total	ND		3.00	0.442	ug/L			12/22/16 14:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 125		12/22/16 14:22	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/22/16 14:22	1
Dibromofluoromethane (Surr)	102		80 - 120		12/22/16 14:22	1
Toluene-d8 (Surr)	101		80 - 120		12/22/16 14:22	1

Lab Sample ID: LCS 590-10151/1005
Matrix: Water
Analysis Batch: 10151

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.859		ug/L		99	80 - 120
Ethylbenzene	10.0	10.21		ug/L		102	80 - 120
m,p-Xylene	10.0	9.712		ug/L		97	80 - 120
o-Xylene	10.0	9.833		ug/L		98	80 - 120
Toluene	10.0	9.727		ug/L		97	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 125
4-Bromofluorobenzene (Surr)	103		69 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: 590-5249-1 DU
Matrix: Water
Analysis Batch: 10151

Client Sample ID: MW-314
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Benzene	4.32		3.770		ug/L		14	20
Ethylbenzene	ND		ND		ug/L		NC	20
m,p-Xylene	ND		ND		ug/L		NC	20
o-Xylene	ND		ND		ug/L		NC	20
Toluene	0.374	J	ND		ug/L		NC	20
Xylenes, Total	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 125
4-Bromofluorobenzene (Surr)	97		69 - 120
Dibromofluoromethane (Surr)	105		80 - 120
Toluene-d8 (Surr)	97		80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

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

Lab Sample ID: MB 590-10144/5
Matrix: Water
Analysis Batch: 10144

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	26.13	J	100	17.8	ug/L	-		12/21/16 21:28	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141					12/21/16 21:28	1

Lab Sample ID: LCS 590-10144/1004
Matrix: Water
Analysis Batch: 10144

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	1056		ug/L	-	106	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	102		68.7 - 141				

Lab Sample ID: MB 590-10152/7
Matrix: Water
Analysis Batch: 10152

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		100	17.8	ug/L	-		12/22/16 14:22	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141					12/22/16 14:22	1

Lab Sample ID: LCS 590-10152/1006
Matrix: Water
Analysis Batch: 10152

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	1038		ug/L	-	104	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	96		68.7 - 141				

Lab Sample ID: 590-5249-1 DU
Matrix: Water
Analysis Batch: 10152

Client Sample ID: MW-314
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Gasoline	298		238.5		ug/L	-	22	35
Surrogate	%Recovery	DU Qualifier	Limits					
4-Bromofluorobenzene (Surr)	97		68.7 - 141					

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

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

Lab Sample ID: MB 590-10099/1-A
Matrix: Water
Analysis Batch: 10091

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10099

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0900	0.0200	ug/L		12/20/16 08:36	12/20/16 09:21	1
2-Methylnaphthalene	0.02618	J	0.0900	0.0210	ug/L		12/20/16 08:36	12/20/16 09:21	1
1-Methylnaphthalene	ND		0.0900	0.0180	ug/L		12/20/16 08:36	12/20/16 09:21	1
Acenaphthylene	0.01571	J	0.0900	0.0130	ug/L		12/20/16 08:36	12/20/16 09:21	1
Acenaphthene	ND		0.0900	0.0160	ug/L		12/20/16 08:36	12/20/16 09:21	1
Fluorene	ND		0.0900	0.0150	ug/L		12/20/16 08:36	12/20/16 09:21	1
Phenanthrene	ND		0.0900	0.0360	ug/L		12/20/16 08:36	12/20/16 09:21	1
Anthracene	0.01265	J	0.0900	0.00700	ug/L		12/20/16 08:36	12/20/16 09:21	1
Fluoranthene	ND		0.0900	0.0110	ug/L		12/20/16 08:36	12/20/16 09:21	1
Pyrene	0.008594	J	0.0900	0.00600	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[a]anthracene	0.01026	J	0.0900	0.0100	ug/L		12/20/16 08:36	12/20/16 09:21	1
Chrysene	0.008641	J	0.0900	0.00700	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[b]fluoranthene	ND		0.0900	0.0110	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[k]fluoranthene	ND		0.0900	0.0150	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[a]pyrene	0.01247	J	0.0900	0.0110	ug/L		12/20/16 08:36	12/20/16 09:21	1
Indeno[1,2,3-cd]pyrene	ND		0.0900	0.0220	ug/L		12/20/16 08:36	12/20/16 09:21	1
Dibenz(a,h)anthracene	ND		0.0900	0.0130	ug/L		12/20/16 08:36	12/20/16 09:21	1
Benzo[g,h,i]perylene	ND		0.0900	0.0210	ug/L		12/20/16 08:36	12/20/16 09:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	123		45 - 126	12/20/16 08:36	12/20/16 09:21	1
2-Fluorobiphenyl (Surr)	110		44 - 120	12/20/16 08:36	12/20/16 09:21	1
p-Terphenyl-d14	101		51 - 121	12/20/16 08:36	12/20/16 09:21	1

Lab Sample ID: LCS 590-10099/2-A
Matrix: Water
Analysis Batch: 10091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1.60	1.665		ug/L		104	52 - 121
2-Methylnaphthalene	1.60	1.632		ug/L		102	44 - 134
1-Methylnaphthalene	1.60	1.630		ug/L		102	56 - 123
Acenaphthylene	1.60	1.778		ug/L		111	57 - 134
Acenaphthene	1.60	1.768		ug/L		110	54 - 132
Fluorene	1.60	1.812		ug/L		113	59 - 141
Phenanthrene	1.60	1.900		ug/L		119	57 - 141
Anthracene	1.60	1.980		ug/L		124	60 - 136
Fluoranthene	1.60	2.001		ug/L		125	76 - 133
Pyrene	1.60	1.827		ug/L		114	59 - 145
Benzo[a]anthracene	1.60	1.997		ug/L		125	76 - 138
Chrysene	1.60	1.920		ug/L		120	69 - 138
Benzo[b]fluoranthene	1.60	2.006		ug/L		125	69 - 144
Benzo[k]fluoranthene	1.60	1.904		ug/L		119	67 - 141
Benzo[a]pyrene	1.60	1.902		ug/L		119	70 - 141
Indeno[1,2,3-cd]pyrene	1.60	1.701		ug/L		106	73 - 146
Dibenz(a,h)anthracene	1.60	1.741		ug/L		109	68 - 144
Benzo[g,h,i]perylene	1.60	1.697		ug/L		106	68 - 150

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

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

Lab Sample ID: LCS 590-10099/2-A
Matrix: Water
Analysis Batch: 10091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10099

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Nitrobenzene-d5	125		45 - 126
2-Fluorobiphenyl (Surr)	113		44 - 120
p-Terphenyl-d14	99		51 - 121

Lab Sample ID: LCSD 590-10099/3-A
Matrix: Water
Analysis Batch: 10091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 10099

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Naphthalene	1.60	1.605		ug/L		100	52 - 121	4	30	
2-Methylnaphthalene	1.60	1.543		ug/L		96	44 - 134	6	30	
1-Methylnaphthalene	1.60	1.572		ug/L		98	56 - 123	4	30	
Acenaphthylene	1.60	1.760		ug/L		110	57 - 134	1	30	
Acenaphthene	1.60	1.741		ug/L		109	54 - 132	2	30	
Fluorene	1.60	1.783		ug/L		111	59 - 141	2	30	
Phenanthrene	1.60	1.851		ug/L		116	57 - 141	3	30	
Anthracene	1.60	1.983		ug/L		124	60 - 136	0	30	
Fluoranthene	1.60	1.949		ug/L		122	76 - 133	3	30	
Pyrene	1.60	1.797		ug/L		112	59 - 145	2	30	
Benzo[a]anthracene	1.60	1.985		ug/L		124	76 - 138	1	30	
Chrysene	1.60	1.888		ug/L		118	69 - 138	2	30	
Benzo[b]fluoranthene	1.60	2.017		ug/L		126	69 - 144	1	30	
Benzo[k]fluoranthene	1.60	1.872		ug/L		117	67 - 141	2	30	
Benzo[a]pyrene	1.60	1.914		ug/L		120	70 - 141	1	30	
Indeno[1,2,3-cd]pyrene	1.60	1.693		ug/L		106	73 - 146	0	30	
Dibenz(a,h)anthracene	1.60	1.749		ug/L		109	68 - 144	0	30	
Benzo[g,h,i]perylene	1.60	1.684		ug/L		105	68 - 150	1	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Nitrobenzene-d5	123		45 - 126
2-Fluorobiphenyl (Surr)	110		44 - 120
p-Terphenyl-d14	96		51 - 121

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

Lab Sample ID: MB 590-10105/1-A
Matrix: Water
Analysis Batch: 10109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10105

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (DRO) (C10-C25)	ND		0.120	0.0400	mg/L		12/20/16 09:33	12/20/16 12:57	1
Residual Range Organics (RRO) (C25-C36)	ND		0.200	0.0600	mg/L		12/20/16 09:33	12/20/16 12:57	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
o-Terphenyl	87		50 - 150	12/20/16 09:33	12/20/16 12:57	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

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

Lab Sample ID: MB 590-10105/1-A
Matrix: Water
Analysis Batch: 10109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10105

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Triacontane-d62	85		50 - 150	12/20/16 09:33	12/20/16 12:57	1

Lab Sample ID: LCS 590-10105/2-A
Matrix: Water
Analysis Batch: 10109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10105

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.61	1.244		mg/L		77	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.543		mg/L		96	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	84		50 - 150
<i>n</i> -Triacontane-d62	85		50 - 150

Lab Sample ID: LCSD 590-10105/3-A
Matrix: Water
Analysis Batch: 10109

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 10105

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Diesel Range Organics (DRO) (C10-C25)	1.61	1.206		mg/L		75	50 - 150	3	25
Residual Range Organics (RRO) (C25-C36)	1.60	1.553		mg/L		97	50 - 150	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	86		50 - 150
<i>n</i> -Triacontane-d62	87		50 - 150

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-10181/1030
Matrix: Water
Analysis Batch: 10181

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.500	0.128	mg/L			12/28/16 15:52	1

Lab Sample ID: LCS 590-10181/1029
Matrix: Water
Analysis Batch: 10181

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12.5	13.09		mg/L		105	90 - 110

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 590-5249-10 MS
Matrix: Ground Water
Analysis Batch: 10181

Client Sample ID: MW-304
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	3.35		11.4	15.87		mg/L		110	80 - 120

Lab Sample ID: 590-5249-10 MSD
Matrix: Ground Water
Analysis Batch: 10181

Client Sample ID: MW-304
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	3.35		11.4	15.35		mg/L		106	80 - 120	3	10

Lab Sample ID: 590-5249-10 DU
Matrix: Ground Water
Analysis Batch: 10181

Client Sample ID: MW-304
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	3.35		3.149		mg/L		6	15.7

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-396490/1-A
Matrix: Water
Analysis Batch: 398225

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 396490

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00200	0.000100	mg/L		12/22/16 11:08	12/30/16 10:58	1

Lab Sample ID: LCS 490-396490/2-A
Matrix: Water
Analysis Batch: 398225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 396490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.1007		mg/L		101	80 - 120

Lab Sample ID: MB 490-396422/1-A
Matrix: Water
Analysis Batch: 398225

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 396422

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.0250	0.0100	mg/L		12/22/16 09:47	12/30/16 06:31	1
Manganese	0.001741	J	0.00400	0.00150	mg/L		12/22/16 09:47	12/30/16 06:31	1

Lab Sample ID: LCS 490-396422/2-A
Matrix: Water
Analysis Batch: 398225

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 396422

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.9905		mg/L		99	80 - 120
Manganese	0.100	0.09372		mg/L		94	80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

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

Lab Sample ID: 590-5249-10 MS
Matrix: Ground Water
Analysis Batch: 398225

Client Sample ID: MW-304
Prep Type: Dissolved
Prep Batch: 396422

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	28.2		1.00	28.07	4	mg/L		-12	75 - 125
Manganese	0.276	B	0.100	0.3593		mg/L		83	75 - 125

Lab Sample ID: 590-5249-10 MSD
Matrix: Ground Water
Analysis Batch: 398225

Client Sample ID: MW-304
Prep Type: Dissolved
Prep Batch: 396422

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	28.2		1.00	26.91	4	mg/L		-128	75 - 125	4	20
Manganese	0.276	B	0.100	0.3592		mg/L		83	75 - 125	0	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 490-396293/6
Matrix: Water
Analysis Batch: 396293

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.100	0.0400	mg/L			12/21/16 15:28	1

Lab Sample ID: LCS 490-396293/7
Matrix: Water
Analysis Batch: 396293

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	2.99	3.263		mg/L		109	90 - 110

Lab Sample ID: LCSD 490-396293/8
Matrix: Water
Analysis Batch: 396293

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
Nitrate Nitrite as N	2.99	3.267		mg/L		109	90 - 110	0	20

Lab Sample ID: 590-5249-13 MS
Matrix: Ground Water
Analysis Batch: 396293

Client Sample ID: MW-311
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND		2.99	3.092		mg/L		103	90 - 110

Lab Sample ID: 590-5249-13 MSD
Matrix: Ground Water
Analysis Batch: 396293

Client Sample ID: MW-311
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		2.99	3.094		mg/L		104	90 - 110	0	20

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

GC/MS VOA

Analysis Batch: 10144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-4	MW-104	Total/NA	Ground Water	NWTPH-Gx	
MB 590-10144/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-10144/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 10151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-1	MW-314	Total/NA	Water	8260C	
590-5249-2	MW-102	Total/NA	Ground Water	8260C	
590-5249-3	SH-04	Total/NA	Ground Water	8260C	
590-5249-5	MW-111	Total/NA	Ground Water	8260C	
590-5249-6	MW-105	Total/NA	Ground Water	8260C	
590-5249-7	MW-05	Total/NA	Ground Water	8260C	
590-5249-8	MW-214	Total/NA	Ground Water	8260C	
590-5249-9	Trip Blank	Total/NA	Ground Water	8260C	
590-5249-10	MW-304	Total/NA	Ground Water	8260C	
590-5249-11	MW-312	Total/NA	Ground Water	8260C	
590-5249-12	MW-310	Total/NA	Ground Water	8260C	
590-5249-13	MW-311	Total/NA	Ground Water	8260C	
590-5249-14	TX-03A	Total/NA	Ground Water	8260C	
590-5249-15	MW-302	Total/NA	Ground Water	8260C	
MB 590-10151/7	Method Blank	Total/NA	Water	8260C	
LCS 590-10151/1005	Lab Control Sample	Total/NA	Water	8260C	
590-5249-1 DU	MW-314	Total/NA	Water	8260C	

Analysis Batch: 10152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-1	MW-314	Total/NA	Water	NWTPH-Gx	
590-5249-2	MW-102	Total/NA	Ground Water	NWTPH-Gx	
590-5249-3	SH-04	Total/NA	Ground Water	NWTPH-Gx	
590-5249-5	MW-111	Total/NA	Ground Water	NWTPH-Gx	
590-5249-6	MW-105	Total/NA	Ground Water	NWTPH-Gx	
590-5249-7	MW-05	Total/NA	Ground Water	NWTPH-Gx	
590-5249-8	MW-214	Total/NA	Ground Water	NWTPH-Gx	
590-5249-10	MW-304	Total/NA	Ground Water	NWTPH-Gx	
590-5249-11	MW-312	Total/NA	Ground Water	NWTPH-Gx	
590-5249-12	MW-310	Total/NA	Ground Water	NWTPH-Gx	
590-5249-13	MW-311	Total/NA	Ground Water	NWTPH-Gx	
590-5249-14	TX-03A	Total/NA	Ground Water	NWTPH-Gx	
590-5249-15	MW-302	Total/NA	Ground Water	NWTPH-Gx	
MB 590-10152/7	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-10152/1006	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
590-5249-1 DU	MW-314	Total/NA	Water	NWTPH-Gx	

GC/MS Semi VOA

Analysis Batch: 10091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-8	MW-214	Total/NA	Ground Water	8270D SIM	10099
MB 590-10099/1-A	Method Blank	Total/NA	Water	8270D SIM	10099
LCS 590-10099/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	10099

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

GC/MS Semi VOA (Continued)

Analysis Batch: 10091 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 590-10099/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	10099

Prep Batch: 10099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-8	MW-214	Total/NA	Ground Water	3510C	
MB 590-10099/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-10099/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-10099/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

GC Semi VOA

Prep Batch: 10105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-1	MW-314	Total/NA	Water	3510C	
590-5249-2	MW-102	Total/NA	Ground Water	3510C	
590-5249-3	SH-04	Total/NA	Ground Water	3510C	
590-5249-4	MW-104	Total/NA	Ground Water	3510C	
590-5249-5	MW-111	Total/NA	Ground Water	3510C	
590-5249-6	MW-105	Total/NA	Ground Water	3510C	
590-5249-7	MW-05	Total/NA	Ground Water	3510C	
590-5249-8	MW-214	Total/NA	Ground Water	3510C	
590-5249-10	MW-304	Total/NA	Ground Water	3510C	
590-5249-12	MW-310	Total/NA	Ground Water	3510C	
590-5249-14	TX-03A	Total/NA	Ground Water	3510C	
590-5249-15	MW-302	Total/NA	Ground Water	3510C	
MB 590-10105/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-10105/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-10105/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 10109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-1	MW-314	Total/NA	Water	NWTPH-Dx	10105
590-5249-2	MW-102	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-3	SH-04	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-4	MW-104	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-5	MW-111	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-6	MW-105	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-7	MW-05	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-8	MW-214	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-10	MW-304	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-12	MW-310	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-14	TX-03A	Total/NA	Ground Water	NWTPH-Dx	10105
590-5249-15	MW-302	Total/NA	Ground Water	NWTPH-Dx	10105
MB 590-10105/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	10105
LCS 590-10105/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	10105
LCSD 590-10105/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	10105

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

HPLC/IC

Analysis Batch: 10181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-10	MW-304	Total/NA	Ground Water	300.0	
590-5249-11	MW-312	Total/NA	Ground Water	300.0	
590-5249-12	MW-310	Total/NA	Ground Water	300.0	
590-5249-13	MW-311	Total/NA	Ground Water	300.0	
590-5249-14	TX-03A	Total/NA	Ground Water	300.0	
590-5249-15	MW-302	Total/NA	Ground Water	300.0	
MB 590-10181/1030	Method Blank	Total/NA	Water	300.0	
LCS 590-10181/1029	Lab Control Sample	Total/NA	Water	300.0	
590-5249-10 MS	MW-304	Total/NA	Ground Water	300.0	
590-5249-10 MSD	MW-304	Total/NA	Ground Water	300.0	
590-5249-10 DU	MW-304	Total/NA	Ground Water	300.0	

Metals

Prep Batch: 396422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-10	MW-304	Dissolved	Ground Water	3005A	
590-5249-11	MW-312	Dissolved	Ground Water	3005A	
590-5249-12	MW-310	Dissolved	Ground Water	3005A	
590-5249-13	MW-311	Dissolved	Ground Water	3005A	
590-5249-14	TX-03A	Dissolved	Ground Water	3005A	
590-5249-15	MW-302	Dissolved	Ground Water	3005A	
MB 490-396422/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-396422/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
590-5249-10 MS	MW-304	Dissolved	Ground Water	3005A	
590-5249-10 MSD	MW-304	Dissolved	Ground Water	3005A	

Prep Batch: 396490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-4	MW-104	Total/NA	Ground Water	3010A	
590-5249-6	MW-105	Total/NA	Ground Water	3010A	
MB 490-396490/1-A	Method Blank	Total/NA	Water	3010A	
LCS 490-396490/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 398225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-4	MW-104	Total/NA	Ground Water	6020A	396490
590-5249-6	MW-105	Total/NA	Ground Water	6020A	396490
590-5249-10	MW-304	Dissolved	Ground Water	6020A	396422
590-5249-11	MW-312	Dissolved	Ground Water	6020A	396422
590-5249-12	MW-310	Dissolved	Ground Water	6020A	396422
590-5249-13	MW-311	Dissolved	Ground Water	6020A	396422
590-5249-14	TX-03A	Dissolved	Ground Water	6020A	396422
590-5249-15	MW-302	Dissolved	Ground Water	6020A	396422
MB 490-396422/1-A	Method Blank	Total Recoverable	Water	6020A	396422
MB 490-396490/1-A	Method Blank	Total/NA	Water	6020A	396490
LCS 490-396422/2-A	Lab Control Sample	Total Recoverable	Water	6020A	396422
LCS 490-396490/2-A	Lab Control Sample	Total/NA	Water	6020A	396490
590-5249-10 MS	MW-304	Dissolved	Ground Water	6020A	396422
590-5249-10 MSD	MW-304	Dissolved	Ground Water	6020A	396422

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

General Chemistry

Analysis Batch: 396293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-5249-10	MW-304	Total/NA	Ground Water	353.2	
590-5249-11	MW-312	Total/NA	Ground Water	353.2	
590-5249-12	MW-310	Total/NA	Ground Water	353.2	
590-5249-13	MW-311	Total/NA	Ground Water	353.2	
590-5249-14	TX-03A	Total/NA	Ground Water	353.2	
590-5249-15	MW-302	Total/NA	Ground Water	353.2	
MB 490-396293/6	Method Blank	Total/NA	Water	353.2	
LCS 490-396293/7	Lab Control Sample	Total/NA	Water	353.2	
LCSD 490-396293/8	Lab Control Sample Dup	Total/NA	Water	353.2	
590-5249-13 MS	MW-311	Total/NA	Ground Water	353.2	
590-5249-13 MSD	MW-311	Total/NA	Ground Water	353.2	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-314

Date Collected: 12/14/16 08:20

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 16:49	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 16:49	MRS	TAL SPK
Total/NA	Prep	3510C			250.3 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 13:50	NMI	TAL SPK

Client Sample ID: MW-102

Date Collected: 12/14/16 08:35

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 17:31	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 17:31	MRS	TAL SPK
Total/NA	Prep	3510C			241.9 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 14:08	NMI	TAL SPK

Client Sample ID: SH-04

Date Collected: 12/14/16 09:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 17:52	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 17:52	MRS	TAL SPK
Total/NA	Prep	3510C			250.2 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 14:25	NMI	TAL SPK

Client Sample ID: MW-104

Date Collected: 12/14/16 10:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10144	12/21/16 22:52	MRS	TAL SPK
Total/NA	Prep	3510C			231.9 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 14:43	NMI	TAL SPK
Total/NA	Prep	3010A			50 mL	50 mL	396490	12/22/16 11:08	CAH	TAL NSH
Total/NA	Analysis	6020A		1			398225	12/30/16 13:09	CME	TAL NSH

Client Sample ID: MW-111

Date Collected: 12/14/16 10:20

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	10151	12/22/16 18:33	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
 Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-111

Date Collected: 12/14/16 10:20

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	10152	12/22/16 18:33	MRS	TAL SPK
Total/NA	Prep	3510C			250.7 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 15:00	NMI	TAL SPK

Client Sample ID: MW-105

Date Collected: 12/14/16 11:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 18:54	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 18:54	MRS	TAL SPK
Total/NA	Prep	3510C			249.8 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 15:18	NMI	TAL SPK
Total/NA	Prep	3010A			50 mL	50 mL	396490	12/22/16 11:08	CAH	TAL NSH
Total/NA	Analysis	6020A		1			398225	12/30/16 13:14	CME	TAL NSH

Client Sample ID: MW-05

Date Collected: 12/14/16 11:50

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 19:14	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 19:14	MRS	TAL SPK
Total/NA	Prep	3510C			229.3 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 15:36	NMI	TAL SPK

Client Sample ID: MW-214

Date Collected: 12/14/16 13:25

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 19:35	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 19:35	MRS	TAL SPK
Total/NA	Prep	3510C			254.7 mL	2 mL	10099	12/20/16 08:36	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			10091	12/20/16 11:07	NMI	TAL SPK
Total/NA	Prep	3510C			250 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 16:11	NMI	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: Trip Blank

Date Collected: 12/14/16 00:00

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 19:56	MRS	TAL SPK

Client Sample ID: MW-304

Date Collected: 12/15/16 08:15

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	10151	12/22/16 20:16	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	10152	12/22/16 20:16	MRS	TAL SPK
Total/NA	Prep	3510C			241.8 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 16:28	NMI	TAL SPK
Total/NA	Analysis	300.0		1			10181	12/28/16 13:39	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	396422	12/22/16 09:47	CAH	TAL NSH
Dissolved	Analysis	6020A		1			398225	12/30/16 06:41	CME	TAL NSH
Total/NA	Analysis	353.2		1	50 mL	50 mL	396293	12/21/16 15:45	MJA	TAL NSH

Client Sample ID: MW-312

Date Collected: 12/15/16 08:35

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	10151	12/22/16 20:37	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	10152	12/22/16 20:37	MRS	TAL SPK
Total/NA	Analysis	300.0		1			10181	12/28/16 14:03	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	396422	12/22/16 09:47	CAH	TAL NSH
Dissolved	Analysis	6020A		1			398225	12/30/16 07:08	CME	TAL NSH
Total/NA	Analysis	353.2		1	50 mL	50 mL	396293	12/21/16 15:46	MJA	TAL NSH

Client Sample ID: MW-310

Date Collected: 12/15/16 09:40

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	10151	12/22/16 20:57	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	10152	12/22/16 20:57	MRS	TAL SPK
Total/NA	Prep	3510C			240.2 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 16:45	NMI	TAL SPK
Total/NA	Analysis	300.0		1			10181	12/28/16 14:27	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	396422	12/22/16 09:47	CAH	TAL NSH
Dissolved	Analysis	6020A		1			398225	12/30/16 07:14	CME	TAL NSH
Total/NA	Analysis	353.2		1	50 mL	50 mL	396293	12/21/16 15:47	MJA	TAL NSH

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Client Sample ID: MW-311

Date Collected: 12/15/16 10:00

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	10151	12/22/16 21:18	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	10152	12/22/16 21:18	MRS	TAL SPK
Total/NA	Analysis	300.0		1			10181	12/28/16 14:40	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	396422	12/22/16 09:47	CAH	TAL NSH
Dissolved	Analysis	6020A		1			398225	12/30/16 07:19	CME	TAL NSH
Total/NA	Analysis	353.2		1	50 mL	50 mL	396293	12/21/16 15:52	MJA	TAL NSH

Client Sample ID: TX-03A

Date Collected: 12/15/16 11:00

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	10151	12/22/16 21:38	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	10152	12/22/16 21:38	MRS	TAL SPK
Total/NA	Prep	3510C			250.4 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 17:02	NMI	TAL SPK
Total/NA	Analysis	300.0		1			10181	12/28/16 14:52	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	396422	12/22/16 09:47	CAH	TAL NSH
Dissolved	Analysis	6020A		1			398225	12/30/16 07:36	CME	TAL NSH
Total/NA	Analysis	353.2		1	50 mL	50 mL	396293	12/21/16 15:56	MJA	TAL NSH

Client Sample ID: MW-302

Date Collected: 12/15/16 11:05

Date Received: 12/16/16 14:50

Lab Sample ID: 590-5249-15

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	10151	12/22/16 22:19	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	10152	12/22/16 22:19	MRS	TAL SPK
Total/NA	Prep	3510C			238.1 mL	2 mL	10105	12/20/16 09:33	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			10109	12/20/16 17:18	NMI	TAL SPK
Total/NA	Analysis	300.0		1			10181	12/28/16 15:16	CBW	TAL SPK
Dissolved	Prep	3005A			50 mL	50 mL	396422	12/22/16 09:47	CAH	TAL NSH
Dissolved	Analysis	6020A		1			398225	12/30/16 07:41	CME	TAL NSH
Total/NA	Analysis	353.2		1	50 mL	50 mL	396293	12/21/16 15:57	MJA	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Certification Summary

Client: AECOM, Inc.
Project/Site: 2555 13th Avenue, Seattle (60411076)

TestAmerica Job ID: 590-5249-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C569	01-06-17
Analysis Method	Prep Method	Matrix	Analyte	

Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Washington	State Program	10	C789	07-19-17

COOLER RECEIPT FORM



590-5249 Chain of Custody

Cooler Received/Opened On 12/20/2016 @0955

Time Samples Removed From Cooler _____ Time Samples Placed In Storage _____ (2 Hour Window)

1. Tracking # 3113 (last 4 digits, FedEx) Courier: FEDEX
IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 2.3 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: one side

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) DA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) DA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) SW

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) SW

I certify that I attached a label with the unique LIMS number to each container (initial) SW

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

TestAmerica Spokane

11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

590-5249



THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)

Client Contact: **TestAmerica Laboratories, Inc**
Shipping/Receiving

Sampler: **Arrington, Randee E**
Phone: **randee.arrington@testamericainc.com**
E-Mail: **randee.arrington@testamericainc.com**

Lab P/N: **Washington**
Accreditations Required (See note): **Washington**
State Program - **Washington**

JOB #: **390-2375-1**
Page: **Page 1 of 1**

Address: **2960 Foster Creighton Drive,**

Due Date Requested: **12/29/2016**

City: **Nashville**

TAT Requested (days):

Analysis Requested

Preservation Codes:

State Zip: **TN, 37204**

Phone: **615-726-0177(Tel) 615-726-3404(Fax)**

PO #:

Email:

WO #:

Project Name: **2555 13th Avenue, Seattle (60411076)**

Project #: **59000733**

Site: **AECOM - 2555 13th Avenue, Seattle**

SSOW#:

Sample Identification - Client ID (Lab ID)

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Soil, Sediment, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3010A (MOD) Lead only	353.2/ Nitrate-Nitrite	6020A/FIELD_FLTRD (MOD) Diss Fe & Mn	Total Number of containers	Special Instructions/Note:
MMW-104 (590-5249-4)	12/14/16	10:15	Pacific	Water			X			1	
MMW-105 (590-5249-6)	12/14/16	11:15	Pacific	Water			X			1	
MMW-304 (590-5249-10)	12/15/16	08:15	Pacific	Water			X	X		2	
MMW-312 (590-5249-11)	12/15/16	08:35	Pacific	Water			X	X		2	
MMW-310 (590-5249-12)	12/15/16	09:40	Pacific	Water			X	X		2	
MMW-311 (590-5249-13)	12/15/16	10:00	Pacific	Water			X	X		2	
TX-03A (590-5249-14)	12/15/16	11:00	Pacific	Water			X	X		2	
MMW-302 (590-5249-15)	12/15/16	11:05	Pacific	Water			X	X		2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out 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/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

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:

Empty Kit Relinquished by:

Date:

Time:

Method of Shipment:

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Custody Seals Intact: Yes No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

2,3

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-5249-1

Login Number: 5249

List Source: TestAmerica Spokane

List Number: 1

Creator: Kratz, Sheila J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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	



Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-5249-1

Login Number: 5249
List Number: 2
Creator: Vest, Laura E

List Source: TestAmerica Nashville
List Creation: 12/20/16 06:01 PM

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.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Appendix C

Boring and Monitoring Well Logs

Project: Shell Seattle Harbor Island Terminal
Project Location: 2555 SW 13th Street, Seattle WA
Project Number:

Log of Well MW-313

Sheet 1 of 1

Date(s) Drilled	July 19, 2016	Logged By	L. Brown	Checked By	N. Moody
Drilling Method	Direct Push	Drill Bit Size/Type	2.25-inch Macrocore	Total Depth of Borehole	15.0 feet
Drill Rig Type	Geoprobe 6600	Drilling Contractor	Cascade Drilling	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	7.20 feet bgs on July 19, 2016	Sampling Method(s)	Grab	Hammer Data	N/A
Borehole Backfill	Monitoring Well Installed	Location	See Figure		

Elevation, feet	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Well Graphic	REMARKS
		Type	Number	% Recovery	PID, ppm				
0						Asphalt pavement Crushed rock		Boring air knifed from 0 to 5.5 feet bgs	
2				100		SAND Brown, dry. No odor, no staining.			
4						Changes to black, fine to medium grained. No odor.		Hydrated bentonite (2 - 4 feet bgs).	
6				0.0		Changes to grey to black, moist. No odor, no sheen, no staining.		2-inch Schedule 40 PVC Well Casing (0 - 5 feet bgs).	
8				80		Changes to wet. No staining, no sheen.			
10				0.0				10/20 Silica Sand (4 - 15 feet bgs).	
12				0.0				Pre-packed 2-inch 0.010 Slot Screen (5 - 15 feet bgs).	
14				0.0		SAND with SILT Grey to black, wet. Trace organics.			
16						Boring terminated at 15 feet bgs. Monitoring well installed.			
18						Well ID: BGY-106			
20									

Project: Shell Seattle Harbor Island Terminal
Project Location: 2555 SW 13th Street, Seattle WA
Project Number:

Log of Well MW-314

Sheet 1 of 1

Date(s) Drilled	July 19, 2016	Logged By	L. Brown	Checked By	N. Moody
Drilling Method	Direct Push	Drill Bit Size/Type	2.25-inch Macrocore	Total Depth of Borehole	15.0 feet
Drill Rig Type	Geoprobe 6600	Drilling Contractor	Cascade Drilling	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	7.95 feet bgs on July 19, 2016	Sampling Method(s)	Grab	Hammer Data	N/A
Borehole Backfill	Monitoring Well Installed	Location	See Figure		

Elevation, feet	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Well Graphic	REMARKS
		Type	Number	% Recovery	PID, ppm				
0						Asphalt pavement Crushed rock approximately 1-inch with trace silt. Sub angular to angular.		Boring air knifed from 0 to 5 feet bgs	
2				100		SAND Dark grey to black, dry. Fine to medium grained with trace silt. No odor.		Hydrated bentonite (2 - 4 feet bgs).	
4						5-inch subrounded cobble. Changes to moist.		2-inch Schedule 40 PVC Well Casing (0 - 5 feet bgs).	
6				0.0					
8				90	5.7	Changes to wet. Slight hydrocarbon odor. Brick "flakes" at 8 feet bgs.		10/20 Silica Sand (4 - 15 feet bgs).	
10					1.2				
12				80	0.8	Trace silt, slight hydrocarbon odor.		Pre-packed 2-inch 0.010 Slot Screen (5 - 15 feet bgs).	
14					0.6				
					0.0	SILTY SAND Wet. Slight hydrocarbon odor.			
						Boring terminated at 15 feet bgs. Monitoring well installed.			
16						Well ID: BJY-104			
18									
20									

Project: Shell Seattle Harbor Island Terminal
Project Location: 2555 SW 13th Street, Seattle WA
Project Number:

Log of Well MW-315

Sheet 1 of 1

Date(s) Drilled	July 19, 2016	Logged By	L. Brown	Checked By	N. Moody
Drilling Method	Direct Push	Drill Bit Size/Type	2.25-inch Macrocore	Total Depth of Borehole	15.0 feet
Drill Rig Type	Geoprobe 6600	Drilling Contractor	Cascade Drilling	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	8.80 feet bgs on July 19, 2016	Sampling Method(s)	Grab	Hammer Data	N/A
Borehole Backfill	Monitoring Well Installed	Location	See Figure		

Elevation, feet	Depth, feet	SAMPLES				MATERIAL DESCRIPTION	Well Graphic	REMARKS
		Type	Number	% Recovery	PID, ppm			
0						Asphalt pavement Crushed rock Sub angular to angular		Boring air knifed from 0 to 5 feet bgs
2				100		SAND Brown, dry. Fine grained. No odor, no staining.> Plastic debris. Becomes very hard and solid from 2 -2.5 feet bgs. Changes to dark grey to black. Slight hydrocarbon odor.		Hydrated bentonite (2 - 4 feet bgs).
4						Changes to moist, fine to medium grained sand with trace silt. Brick "flakes". Moderate hydrocarbon odor.		2-inch Schedule 40 PVC Well Casing (0 - 5 feet bgs).
6				10.1		Changes to wet. Strong hydrocarbon odor.		10/20 Silica Sand (4 - 15 feet bgs).
8				80	737.4	Strong hydrocarbon odor decreasing to slight hydrocarbon odor with depth.		Pre-packed 2-inch 0.010 Slot Screen (5 - 15 feet bgs).
10					503.9			
12				100	169.7			
14					29.2	SAND with SILT Dark grey to black, wet. Fine to medium grained sand.		
15						Boring terminated at 15 feet bgs. Monitoring well installed.		
16						Well ID: BGY-105		
18								
20								

About AECOM

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 45,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and collaborative technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and has annual revenue in excess of \$6 billion.

More information on AECOM and its services can be found at www.aecom.com.

111 SW Columbia, Suite 1500
Portland, OR 97201-5850
(503) 222-7200