SUBSURFACE INVESTIGATION REPORT

Olympic Pipeline Company

Allen Pump Station

16292 Ovenell Road

Mount Vernon, Washington

Antea®Group Project No. WAALLEA132
March 26, 2014

Prepared for:
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OPLC Allen Pump Station
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1.0 INTRODUCTION

1.1 Purpose and Scope of Work

On behalf of Remediation Management (A BP affiliated company), Antea®Group (Antea Group) has prepared this *Subsurface Investigation Report* for work completed at Olympic Pipe Line Company (OPLC) Allen Pump Station located at 16292 Ovenell Road in Mount Vernon, Skagit County, Washington (hereinafter referred to as the "Site"). The objective of the investigation was to further delineate shallow soil and groundwater in regards to petroleum hydrocarbon concentrations at the Site. The investigation scope of work included the following:

- Preparing a site specific Health and Safety Plan (HASP);
- Placing a call to the Utility Notification Center requesting the marking of all public utilities;
- Contracting a private utility locator and licensed driller in the State of Washington;
- Conducting a pre-field Work Risk Assessment Tool (WRAT) meeting with all subcontractors to discuss Task Safety Environmental Analyses (TSEAs);
- Completing TSEAs for the associated work;
- Meeting the private utility locator to identify all private utilities at the site;
- Pre-clearing the soil boring locations to a minimum of 6.5 feet below ground surface (bgs) using a vacuum truck with air-knife and hand auger;
- Drilling six soil borings and subsequently completing them as monitoring wells MW-18 through MW-23;
- Collecting soil samples from two, three, and/or four feet bgs during pre-clearing activities;
- Developing newly installed groundwater monitoring wells MW-18 through MW-23;
- Collecting groundwater samples for quantitative chemical analyses;
- Surveying the top of casing elevations of the newly installed groundwater monitoring wells relative to existing groundwater monitoring wells;
- Interpreting the data obtained; and
- Preparing this report.

1.2 Site Description

The Site is an active petroleum pipeline pumping station operated by OPLC. The Site is located adjacent to State Route 20 (SR-20) between Avon-Allen Road and Higgins Airport Way in Mount Vernon, Washington. A Site Location Map is presented as Figure 1.

The pump station receives refined petroleum products from four refineries through two incoming 16-inch pipelines. The products received at Allen Station are pumped south to OPLC's Renton Station through an outgoing 16-inch pipeline and an outgoing 20-inch main pipeline. Allen Pump Station is fenced, and Site features include a control building, a storage facility, an 84,000-gallon above ground utility storage tank, and various pipeline, pumps, and monitoring equipment. A Puget Sound Energy (PSE) substation is located within the fenced perimeter of Allen Pump Station along the southern portion of the Site. Outside of the fenced perimeter of the pump station are pipe racks, miscellaneous equipment, an access road and an undeveloped field. The fenced portion of the pump station is approximately three acres in size; OPLC owns the adjacent 12-acre parcel located west of the fenced facility. A Site Map detailing the site features is presented as Figure 2.

The surface of the Site consists of gravel, asphalt, and concrete within the fenced facility, and undeveloped grassland outside of the fenced facility. The Site is generally flat with surrounding topography sloping gradually to the south. The site vicinity is predominately farmland with some residential. According to Google Earth, the Site is approximately 17 feet above sea level. The nearest surface water bodies are an un-named creek located along the eastern property boundary and the Skagit River located approximately 2,000 feet to the southeast.

1.3 Previous Investigations

1.3.1 1973 through 1983 - Documented Releases

According to GeoEngineers, OPLC records indicate that four releases of petroleum products to the environment occurred at the Site between 1973 and 1983. The first documented release reportedly occurred on December 21, 1973, when eight barrels of diesel were released. The diesel from all eight barrels was reportedly recovered. The second release occurred on August 8, 1985, when 570 barrels of gasoline and diesel were released, and 502 barrels were recovered. The third release occurred on August 18, 1980, when four barrels of diesel were released and no product was recovered. The fourth release occurred on August 14, 1983, when 1,019 barrels of diesel were released to the environment and 870 barrels of product were recovered.

Additional information may be found in GeoEngineers' *October 2000 Quarterly Ground Water Monitoring and 1992/1993 Site Characterization Data* report dated February 8, 2001.

1.3.2 August 1988 – Pipeline Rupture

On August 23, 1988, the 16-inch diameter high-pressure pipeline located under the OPLC Allen Pump Station ruptured. The pipeline ruptured in the southwest corner of the fenced perimeter of Allen Station, and released approximately 168,000 gallons of diesel fuel. Immediately following the 1988 release, vacuum trucks were used to remove diesel from a recovery trench and from product recovery wells that were installed in the affected area. 45,318 gallons of diesel had been recovered within two days after the release.

Records indicate that between September 1988 and February 1989, 28 monitoring wells and 8 recovery wells were installed in and around the affected area. The new wells were in addition to 20 monitoring wells that already existed at the station. A soil/bentonite cutoff wall was installed along the southwest corner of the fenced perimeter of the station. Additionally, a vapor extraction (VE) system was installed to reduce vapors under the station's control building. The total recorded quantity of recovered product was estimated to be 96,600-gallons.

In 1989, water samples were collected from shallow domestic water wells in the vicinity, and surface water samples were collected from two farms that surrounded the site. Analytical results from the water samples indicated hydrocarbon concentrations of less than 1.0 milligram per liter (mg/L).

1.3.3 April 1990 – Subsurface Investigation

In 1990, Rittenhouse Zeman and Associates, Inc. (RZA) collected 91 soil samples from 46 sample locations located on the property west of and adjacent to Allen Station, and from areas adjacent to the recovery trench. The samples were analyzed for Total Petroleum Hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 418.1. Twelve samples contained concentrations of TPH in excess of current MTCA Method A Cleanup Levels for diesel of 2,000 milligrams per kilogram (mg/kg), however, the 418.1 analytical method did not separate gasoline range hydrocarbons from diesel range hydrocarbons.

1.3.4 June 1991 – Subsurface Investigation and Interim Response

In June 1991, RZA directed the original recovery trench to be backfilled, and a second trench was installed 25 feet north of the previous recovery trench. An oil/water separator was installed within the new trench in the southwest corner of the undeveloped 12-acre parcel. Additionally, RZA collected ten soil samples at depths ranging from 2 to 4 feet below ground surface (bgs) in the vicinity of the new recovery trench. According to the GeoEngineers' summary, nine of the ten soil samples contained concentrations of TPH in excess of MTCA Method A Cleanup Levels.

1.3.5 October 1991 – Subsurface Investigation

In October 1991, GeoEngineers directed the installation of four hand auger borings in the vicinity of the product recovery trench and undeveloped 12-acre parcel adjacent to the fenced facility. According to GeoEngineers' summary of previous investigations, one of the four samples contained concentrations of TPH in excess of MTCA Method A Cleanup Levels. Additionally, groundwater samples were collected from the monitoring wells at the end of the recovery trench. One water sample was reported to contain concentrations of TPH in excess of MTCA Method A Cleanup Levels.

1.3.6 June 1992 through April 1993 – Subsurface Investigation

Between June 23, 1992, and April 14, 1993, GeoEngineers conducted a subsurface investigation of the adjacent 12-acre parcel. The investigation included the installation of 58 hand-auger soil borings to depths ranging between 2

and 13 feet bgs. GeoEngineers reported: "gasoline- and diesel-range hydrocarbons were detected at concentrations exceeding MTCA A Cleanup Levels in soil samples obtained from depths ranging from 2 to 13 feet bgs on the western portion of the Site as well as locations north, south, and west of the site. The limits of soil contamination north of the pump station were not clearly defined." Furthermore, GeoEngineers estimated the volume of petroleum contaminated soil west of the fenced facility to be approximately 21,400 to 53,600 cubic yards.

1.3.7 2002 – Groundwater Sampling

In 2002 and 2003, quarterly groundwater monitoring and sampling resumed after being suspended in 1994. Semi-annual or annual groundwater samples have been collected at the facility since 2004.

1.3.8 June 2007 – Subsurface Investigation

On July 16, 2007, and September 25, 2007, Delta Consultants, Inc. (Delta) conducted subsurface investigations. Activities included collecting 36 soil samples and 18 groundwater samples from soil borings installed west and south of the fenced facility. The soil borings were drilled to depths ranging between 10 and 32 feet bgs. Soil analytical results indicated concentrations of petroleum hydrocarbons in excess of MTCA Method A Cleanup Levels in 13 of the 36 soil samples submitted for analyses. Groundwater analytical results indicated concentrations of petroleum hydrocarbons in excess of MTCA Method A Cleanup Levels in 13 of the 18 groundwater samples submitted for analyses.

Additional information may be found in Delta's *Soil and Groundwater Assessment Report* dated March 2008.

1.3.9 August 2009 – Subsurface Investigation

On August 25, 2009, Delta advanced seven direct-push borings as part of a subsurface investigation to further delineate the extent of hydrocarbon impacts west of the fenced facility. Soil analytical data indicated five of the seven soil samples contained concentrations of petroleum hydrocarbons in excess of MTCA Method A Cleanup Levels. Laboratory analytical results for the groundwater samples collected from the borings indicated concentrations of petroleum hydrocarbons in excess of MTCA Method A Cleanup Levels in three of the seven borings.

Additional information may be found in Delta's *Supplemental Soil and Groundwater Assessment Report*, dated May 2010.

1.3.10 March 2010 – Site Hazard Assessment

On March 18, 2010, the Skagit County Health Department, on behalf of Ecology, conducted an Initial Site Hazard Assessment. On August 23, 2010, the Skagit County Health Department issued the results of the Site Hazard Assessment (SHA). Allen Station's hazard ranking, an estimation of the potential threat to human health and/or the

environment relative to all other Washington state sites assessed at the time, was determined to be a 1, where 1 represents the highest relative risk and 5 the lowest. Following the SHA, water sample collection from the oil/water separator was added to the semi-annual scope of work.

1.3.11 January 2011 – Agricultural Well

On January 31, 2011, following a request by the Skagit County Health Department, Antea Group collected a groundwater sample from an agricultural well located on the property north of and adjacent to Allen Station. Analytical results of the groundwater sample were below laboratory method detection limits and MTCA Method A Cleanup Levels. A report documenting the analytical results was submitted to the Skagit County Health Department on May 3, 2011.

1.4 Current Site Activities

Groundwater monitoring and sampling is conducted at the Site on a semi-annual basis. Multi-phase extraction (MPE) with a vacuum truck is conducted at the Site on an as-needed basis whenever measureable light non-aqueous phase liquid (LNAPL) is observed in any well.

2.0 PROJECT ACTIVITIES

2.1 Drilling and Soil Sampling

Prior to the commencement of work, Antea Group contacted the Utility Notification Center to identify and mark the locations of known public underground utilities in the area. Additionally, Antea Group conducted a WRAT meeting with Applied Professional Services, Inc. (APS) of North Bend, Washington and Cascade Drilling, Inc. (Cascade), of Woodinville, Washington to identify Site hazards and develop TSEAs for each task.

On October 28 and 29, 2013, Antea Group personnel directed the drilling activities and the installation of six monitoring wells (MW-18 through MW-23). Prior to ground disturbance activities, APS was contracted to mark the locations of private underground utilities on the property. Two boring locations needed minor adjustments due to the presence of underground utilities identified during private utility locating activities.

Antea Group contracted Cascade to complete the soil borings and well installation activities using a direct push Geoprobe® drill rig. Cascade cleared the boring locations with a vacuum truck and air knife to a minimum depth of 6.5 feet bgs. Shallow soil samples were collected using a hand auger advanced into the undisturbed soil ahead of the pre-cleared boring. Additional soil samples were collected using a disposable five-foot long acetate sleeve placed within a core barrel sampler and driven into the undisturbed formation. Both the hand auger and core barrels were washed with soap and water followed by a clean water rinse before each use.

Discrete soil samples were collected at 2, 3, and/or 4 feet bgs to characterize subsurface lithology and to provide samples for chemical analyses. An Antea Group geologist examined each soil sample and logged the borings using the Unified Soil Classification System. After collection, each soil sample was field screened for the presence of volatile organic compounds with a photoionization detector (PID) to facilitate selecting representative soil samples for laboratory chemical analyses. A total of twelve soil samples from the vadose zone were submitted to Test America in Tacoma, Washington for quantitative chemical analyses following chain-of-custody documentation.

The field procedures used during the investigation are provided in Appendix A.

2.2 Well Completion Details

Monitoring wells MW-18 and MW-23 were completed as 2-inch groundwater monitoring wells consisting of Schedule 40 (SCH 40) poly-vinyl chloride (PVC) casing with ten feet of 0.010" slotted screen set from 3 to 13 feet bgs. Monitoring wells MW-19 through MW-22 were completed as 2-inch groundwater monitoring wells consisting of SCH 40 PVC casing with ten feet of 0.010" slotted screen set from 2 to 12 feet bgs. The annular space of each monitoring well consisted of #2/12 filter sand 6 to 12 inches above the screen, followed with a seal of hydrated bentonite chips to approximately 1 foot bgs. The monitoring well was completed to the ground surface with a flush mounted well box cemented in place over the well head.

Boring logs detailing soil horizons, sample recovery, PID screening values, and well completion details are presented in Appendix B.

2.3 Well Development

On October 29, 2013, monitoring wells MW-18 through MW-23 were developed with a down well pump by purging a minimum of ten casing volumes, or until the purge water appeared clear.

2.4 Groundwater Sampling

Antea Group personnel collected groundwater samples from monitoring wells C, IW-1, MW-1, MW-2, MW-9, MW-12, MW-14, MW-17A, MW-18 through MW-23, MW-54, and SRW-1 on December 17, 2013. The monitoring wells were sampled utilizing the low flow sampling method with a Geotech peristaltic pump and dedicated polyethylene tubing. Groundwater was pumped through a flow-through cell in which groundwater quality field parameters are monitored. The field parameters are recorded at three to five minute intervals until stabilization. Field parameters include turbidity, temperature, specific conductivity, pH, oxidation reduction potential (ORP), and dissolved oxygen (DO). Once field parameters stabilized, groundwater was collected in laboratory supplied containers. The groundwater samples were submitted to Test America in Tacoma for quantitative hydrocarbon analysis following chain-of-custody documentation.

2.5 Investigation-Derived Waste

Investigation-derived waste in the form of soil cuttings, decontamination fluids, and purge water generated from the subsurface investigation were temporarily stored in 55 gallon drums onsite. The drums were securely sealed, properly labeled, and stored in a discreet location. Belshire Environmental, Inc. (Belshire) of Foothill Ranch, California coordinated the transportation, treatment, and disposal of the waste materials for RM. The waste disposal documentation is included in Appendix C.

3.0 PROJECT RESULTS

3.1 Subsurface Lithologic Conditions

The Site is located within the Skagit River Watershed. Groundwater flow direction at the Site is predominately to the southwest. Depth to groundwater ranges from 1.72 feet bgs to 9.80 feet bgs. Based on Antea Group's field observations, the site soils generally consist of clay, silt, silty-sand and sand. These observations are consistent with the geological classification of the area. More detailed descriptions of the materials are presented on the soil boring logs in Appendix B.

3.2 Quantitative Soil Analyses

Test America analyzed the soil samples for the presence of the following constituents:

- Total Petroleum Hydrocarbons as gasoline (TPH–G) by Northwest Method NWTPH-Gx;
- Total petroleum hydrocarbons as diesel (TPH-D) and oil (TPH-O) by Northwest Method NWTPH-Dx with silica gel cleanup;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B; and
- Total lead by EPA Method 6020.

Quantitative laboratory analyses indicated concentrations of TPH-G, TPH-D, benzene, ethylbenzene, and/or xylenes in excess of MTCA Method A Cleanup Levels in 8 of the 12 soil samples submitted. Soil sample MW-21-2 contained the highest concentrations of TPH-G, TPH-D, ethylbenzene, and xylenes at concentrations of 21,000 mg/kg, 7,100 mg/kg, 150 mg/kg, and 720 mg/kg, respectively. Soil sample MW-23-2 contained benzene at a concentration of 0.032 mg/kg. The laboratory analytical report for is presented in Appendix D and the soil analytical data are summarized in Table 1 and on Figure 3.

3.3 Quantitative Groundwater Analyses

Test America analyzed the groundwater samples for the presence of the following constituents:

- TPH-G by Northwest Method NWTPH-Gx;
- TPH-D by Northwest Method NWTPH-Dx with silica gel cleanup; and

- BTEX by EPA Method 8260.

Quantitative laboratory analyses indicated concentrations of TPH-G, TPH-D, benzene, ethylbenzene, and/or total xylenes in excess of MTCA Method A Cleanup Levels in 8 of 14 monitoring well samples. TPH-G, TPH-D, and xylenes were detected at maximum concentrations of 30,000 micrograms per liter (ug/L), 4,800 ug/L, and 3,500 ug/L, respectively, in well MW-18. Benzene and ethylbenzene were detected at maximum concentrations of 610 ug/L and 1,700 ug/L, respectively, in well MW-19. Groundwater elevations measured at the Site indicate mounding groundwater conditions near PW-4. A groundwater elevation contour map is included as Figure 4. The results of the groundwater analyses are summarized in Table 2 and on Figure 5. A copy of the groundwater laboratory analytical report is included as Appendix E.

4.0 SUMMARY

On behalf of Remediation Management, Antea Group conducted a subsurface investigation at OPLC Allen Pump Station. The investigation was performed to further delineate shallow soil and groundwater in regards to petroleum hydrocarbon concentrations at the Site. On October 28 and 29, 2013, Antea Group directed the installation of six groundwater monitoring wells on the Site. A total of twelve soil samples were collected and submitted to Test America for quantitative chemical analyses. Soil laboratory analytical results indicated that concentrations of TPH-G, TPH-D, benzene, ethylbenzene, and xylenes exceeded MTCA Method A Cleanup Levels. Groundwater samples were collected from all monitoring wells onsite and were submitted for analysis on December 17, 2013. Groundwater analytical results indicated concentrations of TPH-G, TPH-D, benzene, ethylbenzene, and xylenes in excess of MTCA Method Cleanup Levels.

5.0 REFERENCES

- *October 2000 Quarterly Ground Water Monitoring and 1992/1993 Site Characterization Data*, GeoEnginners, February 8, 2001.
- *Soil and Groundwater Assessment Report*, Delta Consultants, March 2008.
- *Supplemental Soil and Groundwater Assessment Report*, Delta Consultants, May 2010.

6.0 REMARKS

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

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Reviewed by:

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Date: March 26, 2014

Markham C. Hurd, L.G.
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File, Antea Group

Tables

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
OLYMPIC PIPELINE COMPANY
ALLEN PUMP STATION
16292 Ovenell Road
Mount Vernon, Washington

Sample ID	Sample Date	Depth (feet)	TPH-G (mg/kg)	TPH-D (mg/kg)	TPH-O (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total Lead (mg/kg)
MW-18-2	10/29/13	2	**160**	130	<60	<0.010	<0.10	0.31	<0.10	5.9
MW-18-4	10/29/13	4	**540**	190	<62	<0.012	<0.12	0.88	<0.12	1.9
MW-19-2	10/29/13	2	**3,200**	**2,700**	230	<0.0096	<0.096	**6.6**	**14**	12
MW-19-3	10/29/13	3	**1,500**	1,600	<56	<0.011	<0.11	**14**	6.7	6.8
MW-20-2	10/29/13	2	<12	<30	<60	<0.012	<0.12	<0.12	<0.12	5.3
MW-20-4	10/29/13	4	17	<27	<55	<0.012	<0.12	<0.12	<0.12	0.99
MW-21-2	10/28/13	2	**21,000**	**7,100**	71	**1.8**	<6.3	**150**	**330**	6.5
MW-21-3	10/28/13	3	**770**	450	<49	<0.020	<0.049	3.2	1.1	2.5
MW-22-2	10/28/13	2	7.2	86	<59	<0.025	<0.062	<0.062	<0.062	12
MW-22-3	10/28/13	3	13	42	<58	<0.025	<0.063	<0.063	<0.063	7.1
MW-23-2	10/28/13	2	**160**	940	<65	**0.032**	<0.075	<0.075	<0.075	14
MW-23-3	10/28/13	3	**240**	**3,000**	<65	<0.023	<0.058	<0.058	<0.058	4.8
MTCA Method A Cleanup Levels:			**30/100[a]**	**2,000**	**2,000**	**0.03**	**7**	**6**	**9**	**250**

NOTES:
mg/kg = milligrams per kilogram
Depth in feet below ground surface
TPH-G = Total Petroleum Hydrocarbons as Gasoline by Northwest Method NWTPH-Gx
TPH-D = Total Petroleum Hydrocarbons as Diesel by Northwest Method NWTPH-Dx with silica gel cleanup
TPH-O = Total Petroleum Hydrocarbons as Oil by Northwest Method NWTPH-Dx with silica gel cleanup
Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B
Total Lead by Method 6020
< = Less than the stated laboratory reporting limit or method detection limit
Bolded values equal or exceed MTCA Method A Cleanup Levels
MTCA = Model Toxics Control Act
[a] MTCA Method A Cleanup levels for TPH-G are 100 mg/kg when no benzene is present and 30 mg/kg when benzene is present

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
OLYMPIC PIPELINE COMPANY
ALLEN PUMP STATION
16292 Ovenell Road
Mount Vernon, Washington

Sample ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet)	TPH-G (ug/L)	TPH-D (ug/L)	TPH-O (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
C	12/17/13	101.40	7.21	--	94.19	63	140	<240	<1.0	<1.0	<1.0	<3.0
IW-1	12/17/13	NSVD	9.16	--	--	<50	<120	<240	<1.0	<1.0	<1.0	<3.0
MW-1	12/17/13	98.52	4.77	--	93.75	<50	<120	<240	<1.0	<1.0	<1.0	<3.0
MW-2	12/17/13	99.09	6.03	--	93.06	<50	320	<240	1.6	<1.0	<1.0	<3.0
MW-9	12/17/13	NSVD	DRY	--	--	--	--	--	--	--	--	--
MW-12	12/17/13	101.10	6.87	--	94.23	<50	<120	<240	<1.0	<1.0	<1.0	<3.0
MW-14	12/17/13	99.36	4.00	--	95.36	190	**2,600**	370	1.0	<1.0	1.5	<3.0
MW-17A	12/17/13	101.53	7.42	--	94.11	**2,100**	**610**	<240	**130**	1.8	8.5	<3.0
MW-18	12/17/13	97.08	5.92	--	91.16	**30,000**	**4,800**	<240	**8.4**	**5.1**	**1,300**	**3,500**
MW-19	12/17/13	97.69	4.56	--	93.13	**14,000**	**3,600**	<240	**610**	10	**1,700**	34
MW-20	12/17/13	97.94	7.69	--	90.25	**1,600**	**530**	<240	**590**	**6.6**	7.4	8.5
MW-21	12/17/13	96.96	4.32	--	92.64	**12,000**	**3,600**	<240	**62**	3.5	550	130
MW-22	12/17/13	95.93	4.32	--	91.61	**5,600**	**3,600**	240	<1.0	<1.0	41	31
MW-23	12/17/13	95.62	3.14	--	92.48	**1,500**	**2,200**	260	<1.0	<1.0	<1.0	<3.0
MW-54	12/17/13	101.75	DRY	--	--	--	--	--	--	--	--	--
SRW-1	12/17/13	99.19		--	--	170	160	<240	<1.0	<1.0	<1.0	<3.0
PW-1	12/17/13	NSVD	7.36	--	--	--	--	--	--	--	--	--
PW-2	12/17/13	NSVD	7.70	--	--	--	--	--	--	--	--	--
PW-3	12/17/13	NSVD	6.86	--	--	--	--	--	--	--	--	--
PW-4	12/17/13	99.94	3.49	0.04	96.48	--	--	--	--	--	--	--
PW-5A	12/17/13	NSVD	6.22	--	--	--	--	--	--	--	--	--
PW-6	12/17/13	NSVD	7.35	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Levels:						**800**	**500**	**500**	**5**	**1,000**	**700**	**1,000**

NOTES:
TOC = Top of casing elevation
NSVD = Not surveyed
LNAPL = Light non-aqueous phase liquid
ug/L = Micrograms per liter
TPH-G = Total Petroleum Hydrocarbons as Gasoline by Northwest Method NWTPH-Gx
TPH-D = Total Petroleum Hydrocarbons as Diesel by Northwest Method NWTPH-Dx with silica gel cleanup
TPH-O = Total Petroleum Hydrocarbons as Oil by Northwest Method NWTPH-Dx with silica gel cleanup
Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B
--' = Not samples or no information available.
< = Less than the stated laboratory reporting limit or method detection limit
Bolded values equal or exceed MTCA Method A Cleanup Levels
MTCA = Model Toxics Control Act

Figures

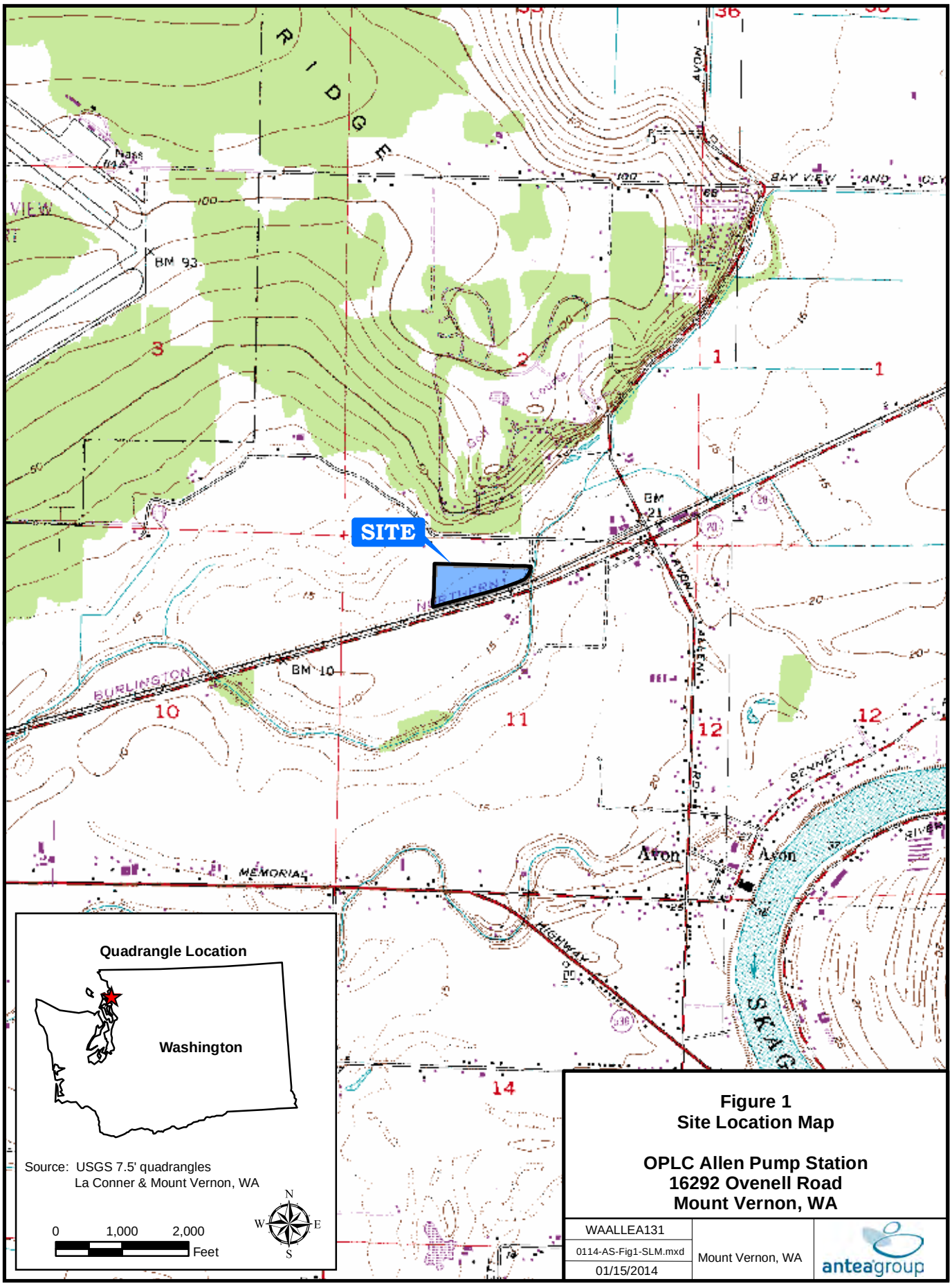
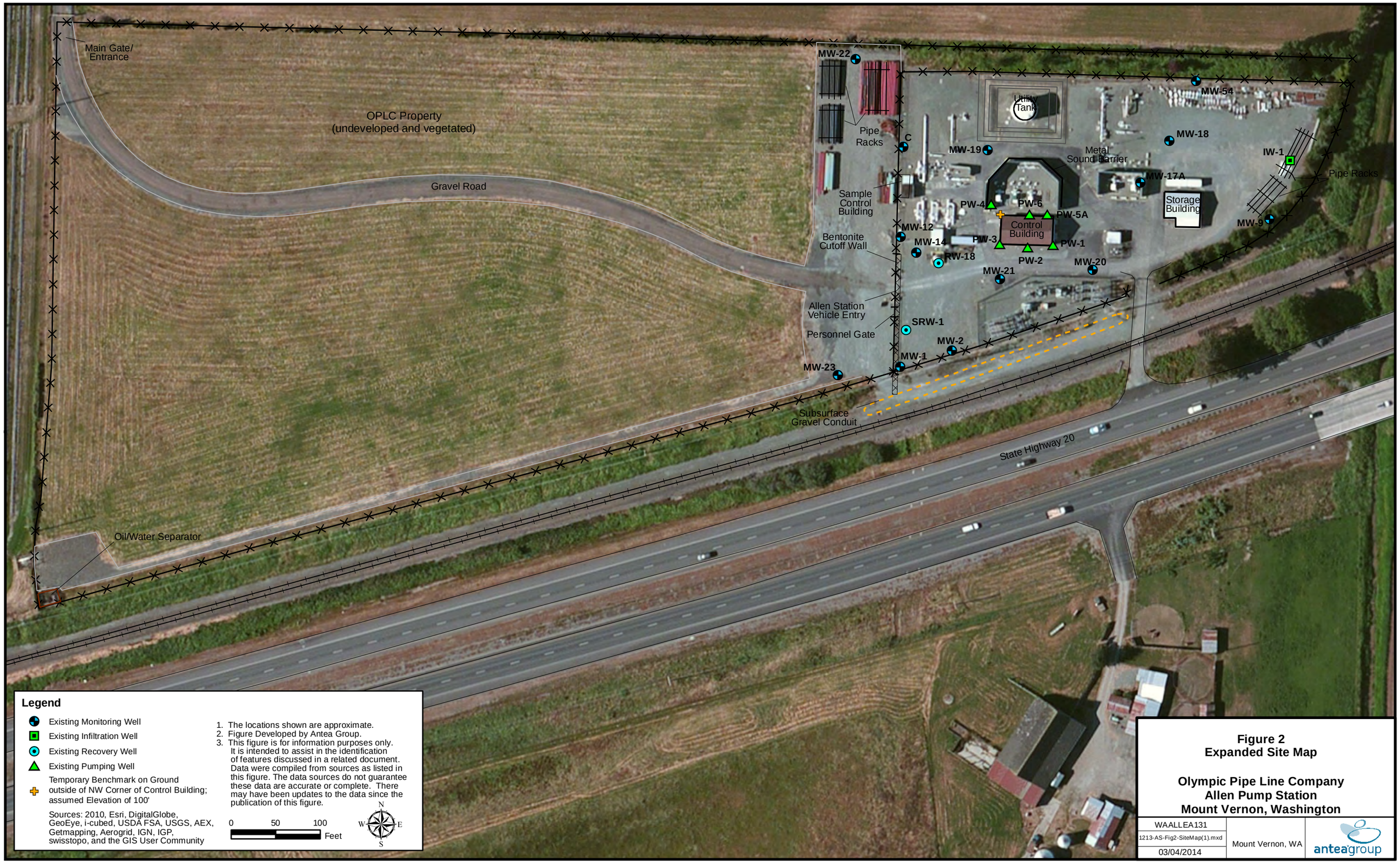


Figure 1
Site Location Map

OPLC Allen Pump Station
16292 Ovenell Road
Mount Vernon, WA

WAALLEA131	Mount Vernon, WA	anteagroup
0114-AS-Fig1-SLM.mxd		
01/15/2014		



Legend

- Existing Monitoring Well
- Existing Infiltration Well
- Existing Recovery Well
- Existing Pumping Well
- Temporary Benchmark on Ground outside of NW Corner of Control Building; assumed Elevation of 100'

Sources: 2010, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

1. The locations shown are approximate.
2. Figure Developed by Antea Group.
3. This figure is for information purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

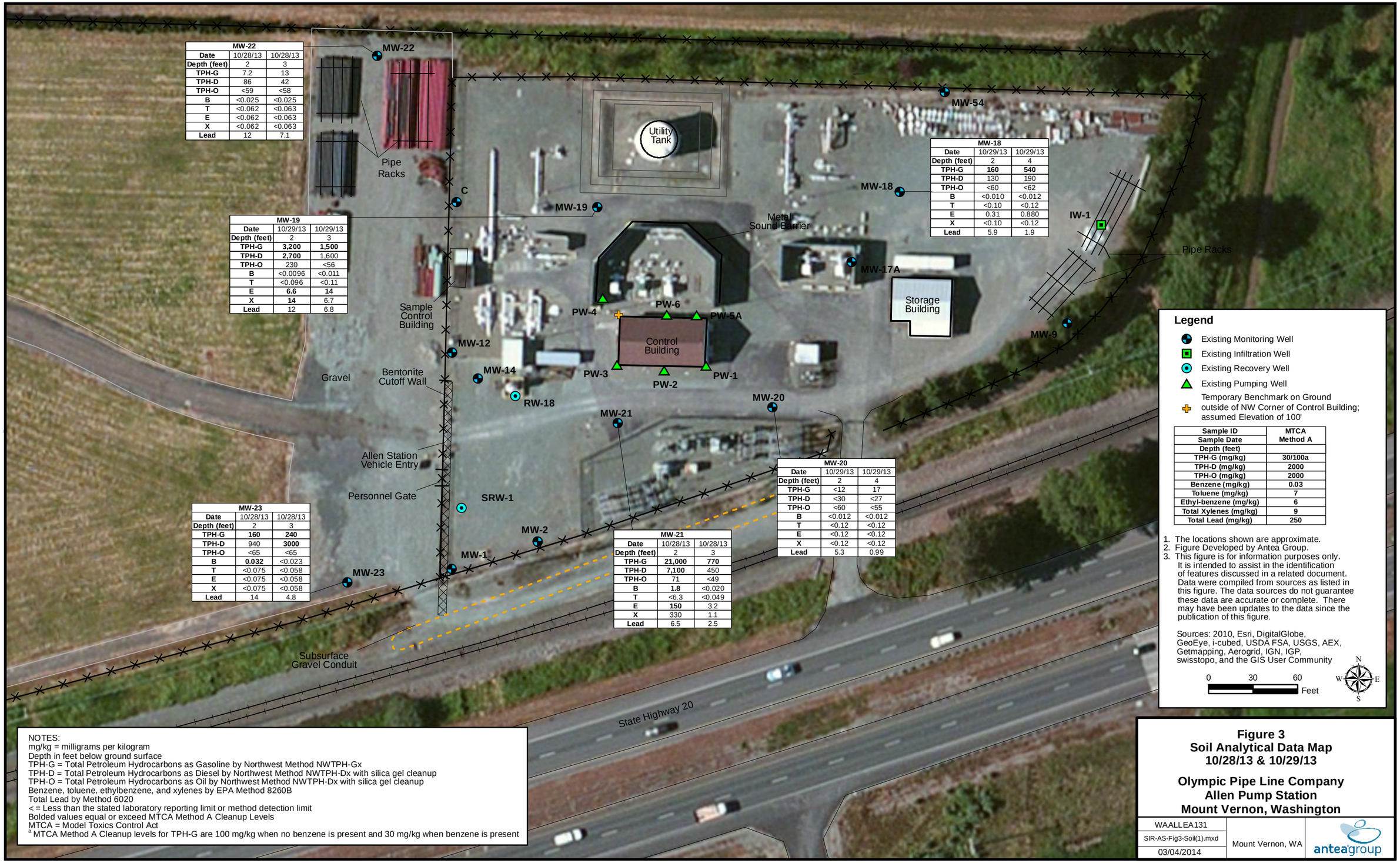
0 50 100 Feet

N W E S

Figure 2
Expanded Site Map

Olympic Pipe Line Company
Allen Pump Station
Mount Vernon, Washington

WAALLEA131	Mount Vernon, WA	antea group
1213-AS-Fig2-SiteMap(1).mxd		
03/04/2014		



MW-22		
Date	10/28/13	10/28/13
Depth (feet)	2	3
TPH-G	7.2	13
TPH-D	86	42
TPH-O	<59	<58
B	<0.025	<0.025
T	<0.062	<0.063
E	<0.062	<0.063
X	<0.062	<0.063
Lead	12	7.1

MW-19		
Date	10/29/13	10/29/13
Depth (feet)	2	3
TPH-G	**3,200**	**1,500**
TPH-D	**2,700**	1,600
TPH-O	230	<56
B	<0.0096	<0.011
T	<0.096	<0.11
E	**6.6**	**14**
X	**14**	6.7
Lead	12	6.8

MW-18		
Date	10/29/13	10/29/13
Depth (feet)	2	4
TPH-G	**160**	**540**
TPH-D	130	190
TPH-O	<60	<62
B	<0.010	<0.012
T	<0.10	<0.12
E	0.31	0.880
X	<0.10	<0.12
Lead	5.9	1.9

MW-23		
Date	10/28/13	10/28/13
Depth (feet)	2	3
TPH-G	**160**	**240**
TPH-D	940	**3000**
TPH-O	<65	<65
B	**0.032**	<0.023
T	<0.075	<0.058
E	<0.075	<0.058
X	<0.075	<0.058
Lead	14	4.8

MW-21		
Date	10/28/13	10/28/13
Depth (feet)	2	3
TPH-G	**21,000**	**770**
TPH-D	**7,100**	450
TPH-O	71	<49
B	**1.8**	<0.020
T	<6.3	<0.049
E	**150**	3.2
X	330	1.1
Lead	6.5	2.5

MW-20		
Date	10/29/13	10/29/13
Depth (feet)	2	4
TPH-G	<12	17
TPH-D	<30	<27
TPH-O	<60	<55
B	<0.012	<0.012
T	<0.12	<0.12
E	<0.12	<0.12
X	<0.12	<0.12
Lead	5.3	0.99

Legend

- Existing Monitoring Well
- Existing Infiltration Well
- Existing Recovery Well
- Existing Pumping Well
- Temporary Benchmark on Ground outside of NW Corner of Control Building; assumed Elevation of 100'

Sample ID	MTCA Method A
Sample Date	
Depth (feet)	
TPH-G (mg/kg)	30/100a
TPH-D (mg/kg)	2000
TPH-O (mg/kg)	2000
Benzene (mg/kg)	0.03
Toluene (mg/kg)	7
Ethyl-benzene (mg/kg)	6
Total Xylenes (mg/kg)	9
Total Lead (mg/kg)	250

1. The locations shown are approximate.
2. Figure Developed by Antea Group.
3. This figure is for information purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

Sources: 2010, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 30 60 Feet

N W E S

NOTES:
mg/kg = milligrams per kilogram
Depth in feet below ground surface
TPH-G = Total Petroleum Hydrocarbons as Gasoline by Northwest Method NWTPH-Gx
TPH-D = Total Petroleum Hydrocarbons as Diesel by Northwest Method NWTPH-Dx with silica gel cleanup
TPH-O = Total Petroleum Hydrocarbons as Oil by Northwest Method NWTPH-Dx with silica gel cleanup
Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B
Total Lead by Method 6020
< = Less than the stated laboratory reporting limit or method detection limit
Bolded values equal or exceed MTCA Method A Cleanup Levels
MTCA = Model Toxics Control Act
[a] MTCA Method A Cleanup levels for TPH-G are 100 mg/kg when no benzene is present and 30 mg/kg when benzene is present

Figure 3
Soil Analytical Data Map
10/28/13 & 10/29/13

Olympic Pipe Line Company
Allen Pump Station
Mount Vernon, Washington

WAALLEA131	Mount Vernon, WA	antea group
SIR-AS-Fig3-Soil(1).mxd		
03/04/2014		

Legend

- Existing Monitoring Well
- Existing Infiltration Well
- Existing Recovery Well
- Existing Pumping Well
- Temporary Benchmark on Ground outside of NW Corner of Control Building; assumed Elevation of 100'
- Potentiometric Surface Contour
- (91.16) Groundwater Elevation (In feet)
- (--) Not sampled, not measured, or not analyzed
- (NSVD) Not Surveyed

1. The locations shown are approximate.
2. Figure Developed by Antea Group.
3. This figure is for information purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

Sources: 2010, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

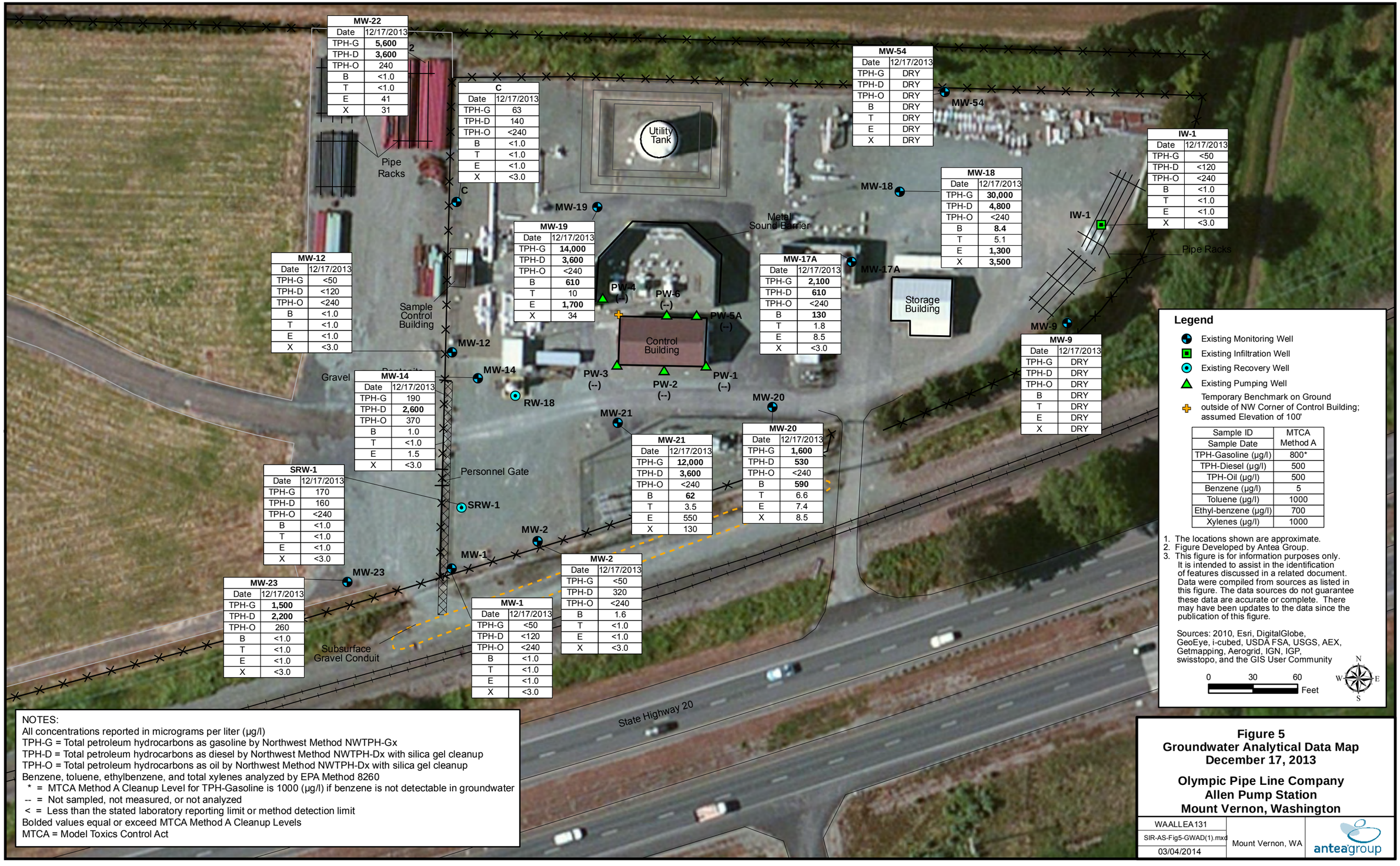
0 30 60 Feet

N W E S

Figure 4
Groundwater Elevation Contour Map
December 17, 2013

Olympic Pipe Line Company
Allen Pump Station
Mount Vernon, Washington

WAALLEA131	Mount Vernon, WA	antea group
SIR-AS-Fig4-GW(1).mxd		
03/04/2014		



Legend

- Existing Monitoring Well
- Existing Infiltration Well
- Existing Recovery Well
- Existing Pumping Well
- Temporary Benchmark on Ground outside of NW Corner of Control Building; assumed Elevation of 100'

Sample ID	MTCA
Sample Date	Method A
TPH-Gasoline (µg/l)	800*
TPH-Diesel (µg/l)	500
TPH-Oil (µg/l)	500
Benzene (µg/l)	5
Toluene (µg/l)	1000
Ethyl-benzene (µg/l)	700
Xylenes (µg/l)	1000

1. The locations shown are approximate.
2. Figure Developed by Antea Group.
3. This figure is for information purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

Sources: 2010, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 30 60 Feet

N W E S

NOTES:
All concentrations reported in micrograms per liter (µg/l)
TPH-G = Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx
TPH-D = Total petroleum hydrocarbons as diesel by Northwest Method NWTPH-Dx with silica gel cleanup
TPH-O = Total petroleum hydrocarbons as oil by Northwest Method NWTPH-Dx with silica gel cleanup
Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260
* = MTCA Method A Cleanup Level for TPH-Gasoline is 1000 (µg/l) if benzene is not detectable in groundwater
-- = Not sampled, not measured, or not analyzed
< = Less than the stated laboratory reporting limit or method detection limit
Bolded values equal or exceed MTCA Method A Cleanup Levels
MTCA = Model Toxics Control Act

Figure 5
Groundwater Analytical Data Map
December 17, 2013

Olympic Pipe Line Company
Allen Pump Station
Mount Vernon, Washington

WAALLEA131	Mount Vernon, WA	antea group
SIR-AS-Fig5-GWAD(1).mxd		
03/04/2014		

Appendix A

Summary of Field Procedures and Quality Assurance Plan

FIELD PROCEDURES

Discrete soil samples were collected from each boring to characterize site soils with respect to petroleum hydrocarbon impacts. All samples submitted for analyses were collected using a hand auger or a core barrel sampler with a 1.15-inch outside diameter by 48-inch long acetate liner. The samples were labeled and immediately placed in cold storage until submitted to the laboratory for analyses. The soil samples were collected in accordance with EPA Method 5035A. The samples were transported to the laboratory under chain-of-custody procedures to document sample integrity. Test America of Tacoma, Washington performed all laboratory analyses.

During the drilling activities, soil samples were screened using a photoionization detector (PID). The PID was a MiniRAE VOC vapor meter equipped with a 10.6 electron volt (eV) ultraviolet (UV) lamp and calibrated to benzene standards with isobutylene for direct readings in parts per million (ppm). The operating range of the detector is from 0 to 15,000 parts per million (ppm) with a minimum detection limit of 0.1 ppm. It should be noted that the PID measurements are considered semi-quantitative data since the instrument detects all organic compounds with ionization potentials less than 10.6 eV. A portion of the soil samples were removed from the sampler and placed in plastic bags, sealed and brought to approximately ambient air temperature. The PID probe was inserted into an opening of the plastic bag and the reading noted. The soil within the bag was agitated during the reading process to aid in mobilization of volatile organic vapors. Although the PID is not capable of quantifying or identifying specific organic compounds, it is capable of measuring a variety of organic vapors frequently associated with petroleum hydrocarbons.

ANALYTICAL METHODS

Sample Identification and Chain-of-Custody Procedures

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

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

Analytical Quality Assurance

In addition to routine calibration of the analytical instruments with standards and blanks, the analyst is required to run duplicates and spikes on 10 percent of the analyses to insure an added measure of precision and accuracy. Accuracy is also verified through the following:

1. U.S. Environmental Protection Agency (EPA) and State certification programs.
2. Participation in an inter-laboratory or "round-robin" quality assurance program.
3. Verification of results with an alternative method. For example, calcium may be determined by atomic absorption, ion chromatography, or titrimetric methods.

Analytical Methods

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

1. Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx;
2. Total petroleum hydrocarbons as diesel and oil by Northwest Method NWTPH-Dx with silica gel cleanup; and
3. Benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA Method 8260.

Appendix B

Boring Logs

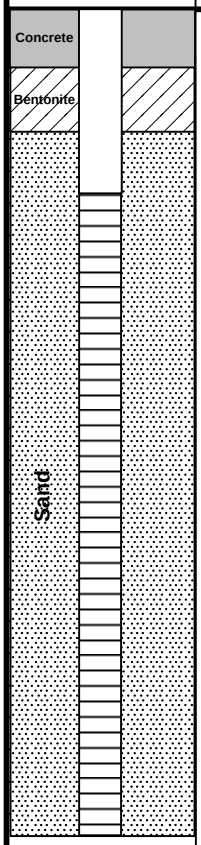
Antea Group

WELL/BORING: MW-18

INSTALLATION DATE: 10/29/13	DRILLING METHOD: Geoprobe
PROJECT: Allen Station	SAMPLING METHOD: HA/Acetate Sleeve
CLIENT: OPLC	BORING DIAMETER: 4"
LOCATION: 16292 Ovenell Road	BORING DEPTH: 13'
CITY: Mount Vernon	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 3-13' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 2-13' (2X12)

CASING ELEVATION	-
SURVEY DATE:	-
DTW:	-

DESCRIPTION/LOGGED BY: Megan Richard



DEPTH (FEET)	FIRST ▽	STABILIZED ▼	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	DESCRIPTION
2			DMP	193	NA			SM		Silty SAND: gray; 20% silt; 80% fine sand; odor.
3			DMP	134	NA			SP		SAND: gray; fine grained sand; odor.
4			MST	130	NA			SP		Same as Above.
5			WET	0	NA			SM		Silty SAND: gray; 20% silt; 80% fine sand.
8								SM		Silty SAND: gray; 20% silt; 80% fine sand; odor.
10			WET	1,082	NA			SP		SAND: gray; medium grained sand; odor.
11								ML		Sandy SILT: gray; 60% silt; 40% sand; strong odor.
12			WET	22.9	NA			SM		Silty SAND: gray; 30% silt; 70% fine sand; woody organic debris; odor.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

3/4/2014

Antea Group

WELL/BORING: MW-19

INSTALLATION DATE: 10/29/13	DRILLING METHOD: Geoprobe
PROJECT: Allen Station	SAMPLING METHOD: HA/Acetate Sleeve
CLIENT: OPLC	BORING DIAMETER: 4"
LOCATION: 16292 Ovenell Road	BORING DEPTH: 12'
CITY: Mount Vernon	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 2-12' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 1.5-12' (2X12)

CASING ELEVATION	-
SURVEY DATE:	-
DTW:	-

DESCRIPTION/LOGGED BY: Megan Richard

WELL/BORING COMPLETION	FIRST ▽	STABILIZED ▼	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	DESCRIPTION
Concrete / Bentonite						1					
			DMP	313	NA	2			ML		Sandy SILT: gray; 80% silt; 20% sand; strong odor.
			MST	455	NA	3			SP		SAND: gray; fine grained sand; strong odor.
	▽		WET	63.2	NA	4			SM		Silty SAND: 20% silt; 80% fine sand.
						5					
						6					
						7					
						8			SP		SAND: gray; medium grained sand; sheen; strong odor.
											SAND: gray; fine grained sand; odor.
			WET	900	NA	9			SM		Silty SAND
						10			ML		Sandy SILT: 70% silt; 30% sand.
						11			CL		CLAY: gray; moderate plasticity; odor.
			WET	9.4	NA	12					
						13					
						14					
						15					
						16					
						17					
						18					
						19					
						20					
						21					
						22					

Antea Group

WELL/BORING: MW-20

INSTALLATION DATE: 10/29/13	DRILLING METHOD: Geoprobe
PROJECT: Allen Station	SAMPLING METHOD: HA/Acetate Sleeve
CLIENT: OPLC	BORING DIAMETER: 4"
LOCATION: 16292 Ovenell Road	BORING DEPTH: 12'
CITY: Mount Vernon	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 2-12' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 1.5-13' (2X12)

CASING ELEVATION	-
SURVEY DATE:	-
DTW:	-

DESCRIPTION/LOGGED BY: Megan Richard

DEPTH (FEET)	WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	DESCRIPTION
1	Concrete / Bentonite										
2				DRY	0.0	NA			SP		SAND: brown; fine grained sand; no odor.
3				DMP	0.0	NA			SP		Same as Above.
4				MST	0.0	NA			SP		SAND: gray; fine grained sand; no odor.
5		▽		MST	0.0	NA			SP		Same as Above.
6											
7											
8									SP		SAND: gray; fine grained sand.
9				WET	0.0	NA			SM		Silty SAND: gray; 40% silt; 60% fine sand;
10									CL		CLAY: gray; moderate plasticity; odor.
11									SM		Silty SAND
12				WET	41.8	NA			SP		SAND: gray; fine sand; no odor.
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											

Antea Group

WELL/BORING: MW-21

INSTALLATION DATE: 10/28/13	DRILLING METHOD: Geoprobe
PROJECT: Allen Station	SAMPLING METHOD: HA/Acetate Sleeve
CLIENT: OPLC	BORING DIAMETER: 4"
LOCATION: 16292 Ovenell Road	BORING DEPTH: 12'
CITY: Mount Vernon	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 2-12' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 1.5-12' (2X12)

CASING ELEVATION	-
SURVEY DATE:	-
DTW:	-

DESCRIPTION/LOGGED BY: Megan Richard

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	DESCRIPTION
Concrete / Bentonite						1					
			DMP	2,082	NA	2			SP		SAND: gray; very fine to fine sand; odor.
			MST	1,647	NA	3			SP		SAND: gray; medium grained sand; odor.
	▽		WET	1,797	NA	4			SP		SAND: gray; fine to medium sand; odor.
						5					
						6					
						7					
			WET	1,964	NA	8			SP		Same as Above.
						9					
						10					
						11					
			WET	101	NA	12			SM		Silty SAND: brown; 40% silt; 60% sand; mild odor.
						13					
						14					
						15					
						16					
						17					
						18					
						19					
						20					
						21					
						22					

3/4/2014

Antea Group

WELL/BORING: MW-22

INSTALLATION DATE: 10/28/13	DRILLING METHOD: Geoprobe
PROJECT: Allen Station	SAMPLING METHOD: HA/Acetate Sleeve
CLIENT: OPLC	BORING DIAMETER: 4"
LOCATION: 16292 Ovenell Road	BORING DEPTH: 12'
CITY: Mount Vernon	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 2-12' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 1.5-12' (2X12)

CASING ELEVATION	-
SURVEY DATE:	-
DTW:	-

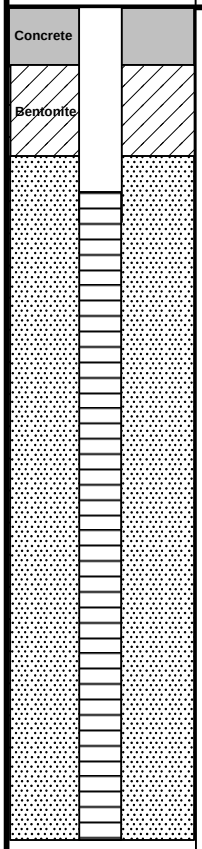
DESCRIPTION/LOGGED BY: Megan Richard

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	DESCRIPTION
Concrete / Bentonite						1					
			DMP	0.0	NA	2			SM		Silty SAND: brown; 30% silt; 70% fine to medium sand; no staining; no odor.
			MST	0.0	NA	3			ML		Sandy SILT: brown; 70% silt; 30% very fine sand.
	▽		WET	78.2	NA	4			SP		SAND: gray; medium grained sand; odor.
						5					
						6					
						7					
			WET	51.7	NA	8			SP		Same as Above.
						9			CL		CLAY: gray; lens with sand; mild odor.
						10			ML		Sandy SILT: 70% silt; 30% fine sand; mild odor.
			WET	0.0	NA	11			SP		SAND: gray; very fine sand; no odor.
						12					
						13					
						14					
						15					
						16					
						17					
						18					
						19					
						20					
						21					
						22					

Antea Group	WELL/BORING: MW-23
INSTALLATION DATE: 10/28/13	DRILLING METHOD: Geoprobe
PROJECT: Allen Station	SAMPLING METHOD: HA/Acetate Sleeve
CLIENT: OPLC	BORING DIAMETER: 4"
LOCATION: 16292 Ovenell Road	BORING DEPTH: 13'
CITY: Mount Vernon	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 3-13' (0.010")
DRILLER: Cascade Drilling, Inc.	SAND PACK: 1.5-13' (2X12)

CASING ELEVATION	-
SURVEY DATE:	-
DTW:	-

DESCRIPTION/LOGGED BY: Megan Richard



DEPTH (FEET)	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	USCS SYMBOL	DESCRIPTION
2	DMP	38.4	NA	SM	Silty SAND: brown; 40% silt; 60% very fine sand; odor.
3	MST	98.9	NA	SM	Silty SAND: gray; 40% silt; 60% very fine sand; odor.
7				SM	Same as Above.
8	WET	322	NA		
9				SP	SAND: gray; medium to coarse sand; odor. Grades down to
10	WET	-	NA	SP	SAND: gray; fine sand; odor.
11				SM	Silty SAND: gray; 40% silt; 60% fine sand;
12	WET	28.7	NA	ML	Silty SAND: 70% silt; 30% fine to medium sand.

3/4/2014

Appendix C

Waste Disposal Documentation

*** 24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

SHIPPING PAPER

Lading Manifest: 979355-13

	DELIVERY DATE: JOB # 1753498
SHIPPER / CUSTOMER: OLYMPIC PIPELINE COMPANY	POINT OF CONTACT: LARRY MOOTHART
ADDRESS: 2210 LIND AVE SW	PHONE #: (949)460-5200
CITY, STATE, ZIP: RENTON WA 98055	
CARRIER / TRANSPORTER: BURLINGTON ENVIRONMENTAL, LLC	PHONE #: (253)383-3044
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS: 20245 77TH AVENUE SOUTH	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT , WA 98032	

HM	US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	Containers No.	Containers Type	Total Quantity	UOM
A	MATERIAL NOT REGULATED BY DOT	3	DM	1584	P
B	NOT REGULATED BY DOT	1	DM	265	P
C					
D					

33472

Special Handling Instruction and Additional Information:

a) 551166-01 NON HAZARDOUS SOIL LF01 STAR01 (1) b) 554172-01 NON-HAZARDOUS WATER WA05 (2) FIELD SERVICE ORDER 230153

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations." I also certify that all times listed above are true and correct.

		MONTH	DAY	YEAR
(SHIPPER) PRINT OR TYPE NAME: x Susan Mohann ON BEHALF OF OLYMPIC PIPELINE Cox	SIGNATURE: x Sue Mohann	01	09	14
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: x Joseph L Gonzalez	SIGNATURE: x	1	9	14
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: x Christine Crisostomo	SIGNATURE: x	01	14	14

CONSIGNEE

'14 JAN 14 PM 9:26

Appendix D

Soil Laboratory Analytical Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 580-41059-1
Client Project/Site: Allen Station
Revision: 1

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

Attn: Bryan Taylor

Authorized for release by:
12/26/2013 11:47:43 AM

Ai Pham, Project Manager I
(253)922-2310
ai.pham@testamericainc.com

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

Ai Pham
Project Manager I
12/26/2013 11:47:43 AM

Table of Contents

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Job ID: 580-41059-1

Laboratory: TestAmerica Seattle

Narrative

Receipt
The samples were received on 10/30/2013 2:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.0º C.

GC/MS VOA - Method(s) 8260B:
Sample MW-21-2 (580-41059-7) was analyzed outside the 12 hour tune window on 11/06/13. The sample was re-analyzed within the tune window on 11/12/13. However, the re-analysis of the sample was performed outside of analytical holding time. Both sets of data have been reported.

No other analytical or quality issues were noted.

GC/MS VOA - Method(s) NWTPH-Gx:
The matrix spike duplicate (MSD) recoveries and RPD's for prep batch 148527 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria. The data have been "F" qualified and reported.

No other analytical or quality issues were noted.

GC Semi VOA - Method(s) NWTPH-Dx:
The matrix spike / matrix spike duplicate (MS/MSD) recoveries of #2 Diesel Fuel (C10-C24) for prep batch 148678 were outside the upper control limits. The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount; therefore, control limits are not applicable.

In analysis batch 148668, for samples MW-18-2 (580-41059-1), MW-18-4 (580-41059-2), MW-19-2 (580-41059-3), MW-19-3 (580-41059-4), MW-21-3 (580-41059-8), MW-23-2 (580-41059-11) and MW-23-3 (580-41059-12), the results in the #2 Diesel Fuel (C10-C24) and/or Motor Oil (>C24-C36) ranges are due to what most closely resembles a complex mixture of a weathered kerosene range product, weathered/degraded diesel fuel and/or motor oil. The affected analyte ranges have been "Y" qualified and reported.

In analysis batch 148668, for sample MW-21-2 (580-41059-7), the results in the #2 Diesel Fuel (C10-C24) and Motor Oil (>C24-C36) ranges are due to what most closely resembles a complex mixture of overlap from the gasoline range, weathered/degraded diesel fuel and a mineral/transformer oil range product. The affected analyte ranges have been "Y" qualified and reported.

In analysis batch 148668, for samples MW-22-2 (580-41059-9) and MW-22-3 (580-41059-10), the results in the #2 Diesel Fuel (C10-C24) range are due to what most closely resembles a mineral/transformer oil range product. The affected analyte range has been "Y" qualified and reported.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

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.
H	Sample was prepped or analyzed beyond the specified holding time

GC VOA

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.
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.
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.

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
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-18-2
Date Collected: 10/29/13 10:55
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-1
Matrix: Solid
Percent Solids: 79.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.042	0.010	mg/Kg	☼	11/01/13 15:45	11/05/13 12:27	1
Toluene	ND		0.10	0.026	mg/Kg	☼	11/01/13 15:45	11/05/13 12:27	1
Ethylbenzene	**0.31**		0.10	0.026	mg/Kg	☼	11/01/13 15:45	11/05/13 12:27	1
Xylenes, Total	ND		0.10	0.052	mg/Kg	☼	11/01/13 15:45	11/05/13 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*104*		*80 - 120*	*11/01/13 15:45*	*11/05/13 12:27*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*11/01/13 15:45*	*11/05/13 12:27*	*1*
Ethylbenzene-d10	*91*		*70 - 120*	*11/01/13 15:45*	*11/05/13 12:27*	*1*
4-Bromofluorobenzene (Surr)	*79*		*70 - 120*	*11/01/13 15:45*	*11/05/13 12:27*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**160**		10	1.3	mg/Kg	☼	11/01/13 15:45	11/05/13 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*50 - 150*	*11/01/13 15:45*	*11/05/13 12:27*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/05/13 12:27*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**130**	**Y**	30	6.8	mg/Kg	☼	11/05/13 09:13	11/05/13 16:26	1
Motor Oil (>C24-C36)	**21**	**J B**	60	11	mg/Kg	☼	11/05/13 09:13	11/05/13 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*11/05/13 09:13*	*11/05/13 16:26*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**5.9**		0.23	0.015	mg/Kg	☼	11/06/13 13:48	11/07/13 11:45	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80**		0.10		%			11/01/13 13:58	1
Percent Moisture	**20**		0.10		%			11/01/13 13:58	1

Client Sample ID: MW-18-4
Date Collected: 10/29/13 11:00
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-2
Matrix: Solid
Percent Solids: 80.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.049	0.012	mg/Kg	☼	11/01/13 15:45	11/05/13 13:51	1
Toluene	ND		0.12	0.031	mg/Kg	☼	11/01/13 15:45	11/05/13 13:51	1
Ethylbenzene	**0.88**		0.12	0.031	mg/Kg	☼	11/01/13 15:45	11/05/13 13:51	1
Xylenes, Total	ND		0.12	0.061	mg/Kg	☼	11/01/13 15:45	11/05/13 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*104*		*80 - 120*	*11/01/13 15:45*	*11/05/13 13:51*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/05/13 13:51*	*1*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 13:51*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 120*	*11/01/13 15:45*	*11/05/13 13:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**540**		12	1.5	mg/Kg	☼	11/01/13 15:45	11/05/13 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*		*50 - 150*	*11/01/13 15:45*	*11/05/13 13:51*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/05/13 13:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**190**	**Y**	31	7.0	mg/Kg	☼	11/05/13 09:13	11/05/13 17:13	1
Motor Oil (>C24-C36)	**22**	**J B**	62	11	mg/Kg	☼	11/05/13 09:13	11/05/13 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*11/05/13 09:13*	*11/05/13 17:13*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**1.9**		0.24	0.016	mg/Kg	☼	11/06/13 13:48	11/07/13 12:18	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80**		0.10		%			11/01/13 13:58	1
Percent Moisture	**20**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-19-2
Date Collected: 10/29/13 13:00
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-3
Matrix: Solid
Percent Solids: 81.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.039	0.0096	mg/Kg	☼	11/01/13 15:45	11/05/13 14:13	1
Toluene	ND		0.096	0.024	mg/Kg	☼	11/01/13 15:45	11/05/13 14:13	1
Ethylbenzene	**6.6**		0.096	0.024	mg/Kg	☼	11/01/13 15:45	11/05/13 14:13	1
Xylenes, Total	**14**		0.096	0.048	mg/Kg	☼	11/01/13 15:45	11/05/13 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 14:13*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*11/01/13 15:45*	*11/05/13 14:13*	*1*
Ethylbenzene-d10	*89*		*70 - 120*	*11/01/13 15:45*	*11/05/13 14:13*	*1*
4-Bromofluorobenzene (Surr)	*85*		*70 - 120*	*11/01/13 15:45*	*11/05/13 14:13*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**3200**		480	60	mg/Kg	☼	11/01/13 15:45	11/07/13 19:01	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*	*11/01/13 15:45*	*11/07/13 19:01*	*50*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 19:01*	*50*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2700**	**Y**	30	6.7	mg/Kg	☼	11/05/13 09:13	11/05/13 17:28	1
Motor Oil (>C24-C36)	**230**	**Y B**	59	11	mg/Kg	☼	11/05/13 09:13	11/05/13 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*113*		*50 - 150*	*11/05/13 09:13*	*11/05/13 17:28*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**12**		0.22	0.014	mg/Kg	☼	11/06/13 13:48	11/07/13 12:22	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82**		0.10		%			11/01/13 13:58	1
Percent Moisture	**18**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-19-3
Date Collected: 10/29/13 13:05
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-4
Matrix: Solid
Percent Solids: 82.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.043	0.011	mg/Kg	☼	11/01/13 15:45	11/05/13 14:35	1
Toluene	ND		0.11	0.027	mg/Kg	☼	11/01/13 15:45	11/05/13 14:35	1
Ethylbenzene	**14**		0.11	0.027	mg/Kg	☼	11/01/13 15:45	11/05/13 14:35	1
Xylenes, Total	**6.7**		0.11	0.054	mg/Kg	☼	11/01/13 15:45	11/05/13 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*102*		*80 - 120*	*11/01/13 15:45*	*11/05/13 14:35*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*11/01/13 15:45*	*11/05/13 14:35*	*1*
Ethylbenzene-d10	*89*		*70 - 120*	*11/01/13 15:45*	*11/05/13 14:35*	*1*
4-Bromofluorobenzene (Surr)	*73*		*70 - 120*	*11/01/13 15:45*	*11/05/13 14:35*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**1500**		540	67	mg/Kg	☼	11/01/13 15:45	11/07/13 19:23	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*	*11/01/13 15:45*	*11/07/13 19:23*	*50*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 19:23*	*50*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1600**	**Y**	28	6.4	mg/Kg	☼	11/05/13 09:13	11/05/13 17:44	1
Motor Oil (>C24-C36)	**50**	**J B**	56	10	mg/Kg	☼	11/05/13 09:13	11/05/13 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*11/05/13 09:13*	*11/05/13 17:44*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**6.8**		0.24	0.015	mg/Kg	☼	11/06/13 13:48	11/07/13 12:27	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**83**		0.10		%			11/01/13 13:58	1
Percent Moisture	**17**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-20-2
Date Collected: 10/29/13 09:20
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-5
Matrix: Solid
Percent Solids: 80.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.048	0.012	mg/Kg	☼	11/01/13 15:45	11/05/13 15:22	1
Toluene	ND		0.12	0.030	mg/Kg	☼	11/01/13 15:45	11/05/13 15:22	1
Ethylbenzene	ND		0.12	0.030	mg/Kg	☼	11/01/13 15:45	11/05/13 15:22	1
Xylenes, Total	ND		0.12	0.060	mg/Kg	☼	11/01/13 15:45	11/05/13 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 15:22*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/05/13 15:22*	*1*
Ethylbenzene-d10	*91*		*70 - 120*	*11/01/13 15:45*	*11/05/13 15:22*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 120*	*11/01/13 15:45*	*11/05/13 15:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**5.3**	**J**	12	1.5	mg/Kg	☼	11/01/13 15:45	11/07/13 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*	*11/01/13 15:45*	*11/07/13 23:02*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 23:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		30	6.9	mg/Kg	☼	11/05/13 09:13	11/05/13 18:00	1
Motor Oil (>C24-C36)	**16**	**J B**	60	11	mg/Kg	☼	11/05/13 09:13	11/05/13 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*50 - 150*	*11/05/13 09:13*	*11/05/13 18:00*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**5.3**		0.24	0.016	mg/Kg	☼	11/06/13 13:48	11/07/13 12:32	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80**		0.10		%			11/01/13 13:58	1
Percent Moisture	**20**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-20-4
Date Collected: 10/29/13 09:30
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-6
Matrix: Solid
Percent Solids: 90.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.047	0.012	mg/Kg	☼	11/01/13 15:45	11/05/13 15:44	1
Toluene	ND		0.12	0.029	mg/Kg	☼	11/01/13 15:45	11/05/13 15:44	1
Ethylbenzene	ND		0.12	0.029	mg/Kg	☼	11/01/13 15:45	11/05/13 15:44	1
Xylenes, Total	ND		0.12	0.058	mg/Kg	☼	11/01/13 15:45	11/05/13 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 15:44*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*11/01/13 15:45*	*11/05/13 15:44*	*1*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 15:44*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 15:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**17**		12	1.5	mg/Kg	☼	11/01/13 15:45	11/07/13 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*	*11/01/13 15:45*	*11/07/13 21:34*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 21:34*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**7.9**	**J**	27	6.2	mg/Kg	☼	11/05/13 09:13	11/05/13 18:46	1
Motor Oil (>C24-C36)	**16**	**J B**	55	10	mg/Kg	☼	11/05/13 09:13	11/05/13 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*11/05/13 09:13*	*11/05/13 18:46*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.99**		0.21	0.014	mg/Kg	☼	11/06/13 13:48	11/07/13 12:36	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**91**		0.10		%			11/01/13 13:58	1
Percent Moisture	**9.2**		0.10		%			11/01/13 13:58	1

Client Sample ID: MW-21-2

Date Collected: 10/28/13 12:50
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-7

Matrix: Solid
Percent Solids: 82.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.8**	**J**	2.5	0.63	mg/Kg	☼	11/01/13 15:45	11/06/13 06:46	100
Toluene	ND		6.3	1.6	mg/Kg	☼	11/01/13 15:45	11/06/13 06:46	100
Ethylbenzene	**150**		6.3	1.6	mg/Kg	☼	11/01/13 15:45	11/06/13 06:46	100
Xylenes, Total	**330**		6.3	3.1	mg/Kg	☼	11/01/13 15:45	11/06/13 06:46	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/06/13 06:46*	*100*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/06/13 06:46*	*100*
Ethylbenzene-d10	*91*		*70 - 120*	*11/01/13 15:45*	*11/06/13 06:46*	*100*
4-Bromofluorobenzene (Surr)	*85*		*70 - 120*	*11/01/13 15:45*	*11/06/13 06:46*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	H	0.25	0.063	mg/Kg	☼	11/01/13 15:45	11/12/13 20:56	10
Toluene	ND	H	0.63	0.16	mg/Kg	☼	11/01/13 15:45	11/12/13 20:56	10
Xylenes, Total	**240**	**H**	0.63	0.31	mg/Kg	☼	11/01/13 15:45	11/12/13 20:56	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*	*11/01/13 15:45*	*11/12/13 20:56*	*10*
Toluene-d8 (Surr)	*100*		*80 - 120*	*11/01/13 15:45*	*11/12/13 20:56*	*10*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/12/13 20:56*	*10*
4-Bromofluorobenzene (Surr)	*90*		*70 - 120*	*11/01/13 15:45*	*11/12/13 20:56*	*10*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**150**	**H**	6.3	1.6	mg/Kg	☼	11/01/13 15:45	11/14/13 10:26	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*102*		*80 - 120*	*11/01/13 15:45*	*11/14/13 10:26*	*100*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/14/13 10:26*	*100*
Ethylbenzene-d10	*93*		*70 - 120*	*11/01/13 15:45*	*11/14/13 10:26*	*100*
4-Bromofluorobenzene (Surr)	*94*		*70 - 120*	*11/01/13 15:45*	*11/14/13 10:26*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**21000**		630	79	mg/Kg	☼	11/01/13 15:45	11/07/13 18:40	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*	*11/01/13 15:45*	*11/07/13 18:40*	*100*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 18:40*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**7100**	**Y**	30	6.8	mg/Kg	☼	11/05/13 09:13	11/05/13 19:02	1
Motor Oil (>C24-C36)	**71**	**Y B**	59	11	mg/Kg	☼	11/05/13 09:13	11/05/13 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*113*		*50 - 150*	*11/05/13 09:13*	*11/05/13 19:02*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**6.5**		0.22	0.014	mg/Kg	☼	11/06/13 13:48	11/07/13 12:41	10

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-21-2
Date Collected: 10/28/13 12:50
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-7
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			11/01/13 13:58	1
Percent Moisture	17		0.10		%			11/01/13 13:58	1

Client Sample ID: MW-21-3
Date Collected: 10/28/13 12:55
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-8
Matrix: Solid
Percent Solids: 94.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0049	mg/Kg	☼	11/01/13 15:45	11/05/13 16:25	1
Toluene	ND		0.049	0.012	mg/Kg	☼	11/01/13 15:45	11/05/13 16:25	1
Ethylbenzene	**3.2**		0.049	0.012	mg/Kg	☼	11/01/13 15:45	11/05/13 16:25	1
Xylenes, Total	**1.1**		0.049	0.025	mg/Kg	☼	11/01/13 15:45	11/05/13 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*104*		*80 - 120*	*11/01/13 15:45*	*11/05/13 16:25*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/05/13 16:25*	*1*
Ethylbenzene-d10	*89*		*70 - 120*	*11/01/13 15:45*	*11/05/13 16:25*	*1*
4-Bromofluorobenzene (Surr)	*76*		*70 - 120*	*11/01/13 15:45*	*11/05/13 16:25*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**770**		120	15	mg/Kg	☼	11/01/13 15:45	11/07/13 19:45	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*50 - 150*	*11/01/13 15:45*	*11/07/13 19:45*	*25*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 19:45*	*25*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**450**	**Y**	25	5.6	mg/Kg	☼	11/05/13 09:13	11/05/13 19:17	1
Motor Oil (>C24-C36)	**17**	**J B**	49	9.0	mg/Kg	☼	11/05/13 09:13	11/05/13 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*100*		*50 - 150*	*11/05/13 09:13*	*11/05/13 19:17*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**2.5**		0.18	0.012	mg/Kg	☼	11/06/13 13:48	11/07/13 12:46	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**95**		0.10		%			11/01/13 13:58	1
Percent Moisture	**5.2**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-22-2
Date Collected: 10/28/13 10:45
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-9
Matrix: Solid
Percent Solids: 78.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	0.0062	mg/Kg	☼	11/01/13 15:45	11/05/13 16:47	1
Toluene	ND		0.062	0.015	mg/Kg	☼	11/01/13 15:45	11/05/13 16:47	1
Ethylbenzene	ND		0.062	0.015	mg/Kg	☼	11/01/13 15:45	11/05/13 16:47	1
Xylenes, Total	ND		0.062	0.031	mg/Kg	☼	11/01/13 15:45	11/05/13 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 16:47*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*11/01/13 15:45*	*11/05/13 16:47*	*1*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 16:47*	*1*
4-Bromofluorobenzene (Surr)	*91*		*70 - 120*	*11/01/13 15:45*	*11/05/13 16:47*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**7.2**		6.2	0.77	mg/Kg	☼	11/01/13 15:45	11/07/13 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*	*11/01/13 15:45*	*11/07/13 22:40*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 22:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**86**	**Y**	29	6.7	mg/Kg	☼	11/05/13 09:13	11/05/13 19:33	1
Motor Oil (>C24-C36)	**40**	**J B**	59	11	mg/Kg	☼	11/05/13 09:13	11/05/13 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*50 - 150*	*11/05/13 09:13*	*11/05/13 19:33*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**12**		0.22	0.014	mg/Kg	☼	11/06/13 13:48	11/07/13 12:50	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79**		0.10		%			11/01/13 13:58	1
Percent Moisture	**21**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-22-3
Date Collected: 10/28/13 10:50
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-10
Matrix: Solid
Percent Solids: 77.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	0.0063	mg/Kg	☼	11/01/13 15:45	11/05/13 17:10	1
Toluene	ND		0.063	0.016	mg/Kg	☼	11/01/13 15:45	11/05/13 17:10	1
Ethylbenzene	ND		0.063	0.016	mg/Kg	☼	11/01/13 15:45	11/05/13 17:10	1
Xylenes, Total	ND		0.063	0.031	mg/Kg	☼	11/01/13 15:45	11/05/13 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 17:10*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*11/01/13 15:45*	*11/05/13 17:10*	*1*
Ethylbenzene-d10	*93*		*70 - 120*	*11/01/13 15:45*	*11/05/13 17:10*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 17:10*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**13**		6.3	0.79	mg/Kg	☼	11/01/13 15:45	11/07/13 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*	*11/01/13 15:45*	*11/07/13 21:13*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 21:13*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**42**		29	6.7	mg/Kg	☼	11/05/13 09:13	11/05/13 19:49	1
Motor Oil (>C24-C36)	**19**	**J B**	58	11	mg/Kg	☼	11/05/13 09:13	11/05/13 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*11/05/13 09:13*	*11/05/13 19:49*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**7.1**		0.23	0.015	mg/Kg	☼	11/06/13 13:48	11/07/13 12:55	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**78**		0.10		%			11/01/13 13:58	1
Percent Moisture	**22**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-23-2
Date Collected: 10/28/13 09:20
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-11
Matrix: Solid
Percent Solids: 73.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.032		0.030	0.0075	mg/Kg	☼	11/01/13 15:45	11/05/13 17:32	1
Toluene	0.022	J	0.075	0.019	mg/Kg	☼	11/01/13 15:45	11/05/13 17:32	1
Ethylbenzene	0.039	J	0.075	0.019	mg/Kg	☼	11/01/13 15:45	11/05/13 17:32	1
Xylenes, Total	ND		0.075	0.037	mg/Kg	☼	11/01/13 15:45	11/05/13 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 17:32*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*11/01/13 15:45*	*11/05/13 17:32*	*1*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 17:32*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 120*	*11/01/13 15:45*	*11/05/13 17:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	160		7.5	0.94	mg/Kg	☼	11/01/13 15:45	11/05/13 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*	*11/01/13 15:45*	*11/05/13 17:32*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/05/13 17:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	940	Y	33	7.4	mg/Kg	☼	11/05/13 09:13	11/05/13 20:04	1
Motor Oil (>C24-C36)	63	J Y B	65	12	mg/Kg	☼	11/05/13 09:13	11/05/13 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*11/05/13 09:13*	*11/05/13 20:04*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	14		0.24	0.016	mg/Kg	☼	11/06/13 13:48	11/07/13 13:00	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	73		0.10		%			11/01/13 13:58	1
Percent Moisture	27		0.10		%			11/01/13 13:58	1

Client Sample ID: MW-23-3
Date Collected: 10/28/13 09:25
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-12
Matrix: Solid
Percent Solids: 76.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	0.0058	mg/Kg	☼	11/01/13 15:45	11/05/13 18:39	1
Toluene	**0.048**	**J**	0.058	0.015	mg/Kg	☼	11/01/13 15:45	11/05/13 18:39	1
Ethylbenzene	ND		0.058	0.015	mg/Kg	☼	11/01/13 15:45	11/05/13 18:39	1
Xylenes, Total	ND		0.058	0.029	mg/Kg	☼	11/01/13 15:45	11/05/13 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*105*		*80 - 120*	*11/01/13 15:45*	*11/05/13 18:39*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/05/13 18:39*	*1*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 18:39*	*1*
4-Bromofluorobenzene (Surr)	*94*		*70 - 120*	*11/01/13 15:45*	*11/05/13 18:39*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**240**		58	7.3	mg/Kg	☼	11/01/13 15:45	11/07/13 20:07	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*	*11/01/13 15:45*	*11/07/13 20:07*	*10*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/07/13 20:07*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**3000**		33	7.4	mg/Kg	☼	11/05/13 09:13	11/05/13 20:20	1
Motor Oil (>C24-C36)	**37**	**J B**	65	12	mg/Kg	☼	11/05/13 09:13	11/05/13 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*50 - 150*	*11/05/13 09:13*	*11/05/13 20:20*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**4.8**		0.26	0.017	mg/Kg	☼	11/06/13 13:48	11/08/13 07:54	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**77**		0.10		%			11/01/13 13:58	1
Percent Moisture	**23**		0.10		%			11/01/13 13:58	1

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: Trip Blanks
Date Collected: 10/28/13 00:00
Date Received: 10/30/13 14:25

Lab Sample ID: 580-41059-13
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016	0.0039	mg/Kg		11/01/13 15:45	11/05/13 12:02	1
Toluene	ND		0.039	0.0098	mg/Kg		11/01/13 15:45	11/05/13 12:02	1
Ethylbenzene	ND		0.039	0.0098	mg/Kg		11/01/13 15:45	11/05/13 12:02	1
Xylenes, Total	ND		0.039	0.020	mg/Kg		11/01/13 15:45	11/05/13 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*104*		*80 - 120*	*11/01/13 15:45*	*11/05/13 12:02*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/05/13 12:02*	*1*
Ethylbenzene-d10	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 12:02*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 120*	*11/01/13 15:45*	*11/05/13 12:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		3.9	0.49	mg/Kg		11/01/13 15:45	11/05/13 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*	*11/01/13 15:45*	*11/05/13 12:02*	*1*
Trifluorotoluene (Surr)				*11/01/13 15:45*	*11/05/13 12:02*	*1*

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

Lab Sample ID: MB 580-148527/1-A
Matrix: Solid
Analysis Batch: 148496

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 148527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.016	0.0040	mg/Kg		11/01/13 15:45	11/05/13 10:49	1
Toluene	ND		0.040	0.010	mg/Kg		11/01/13 15:45	11/05/13 10:49	1
Ethylbenzene	ND		0.040	0.010	mg/Kg		11/01/13 15:45	11/05/13 10:49	1
Xylenes, Total	ND		0.040	0.020	mg/Kg		11/01/13 15:45	11/05/13 10:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*104*		*80 - 120*	*11/01/13 15:45*	*11/05/13 10:49*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*11/01/13 15:45*	*11/05/13 10:49*	*1*
Ethylbenzene-d10	*91*		*70 - 120*	*11/01/13 15:45*	*11/05/13 10:49*	*1*
Trifluorotoluene (Surr)	*106*		*65 - 140*	*11/01/13 15:45*	*11/05/13 10:49*	*1*
4-Bromofluorobenzene (Surr)	*91*		*70 - 120*	*11/01/13 15:45*	*11/05/13 10:49*	*1*

Lab Sample ID: LCS 580-148527/18-A
Matrix: Solid
Analysis Batch: 148496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 148527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.800	0.749		mg/Kg		94	70 - 128
Toluene	0.800	0.768		mg/Kg		96	75 - 126
Ethylbenzene	0.800	0.715		mg/Kg		89	78 - 126
Xylenes, Total	2.40	2.22		mg/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*
Ethylbenzene-d10	*92*		*70 - 120*
Trifluorotoluene (Surr)	*101*		*65 - 140*
4-Bromofluorobenzene (Surr)	*92*		*70 - 120*

Lab Sample ID: 580-41059-12 MS
Matrix: Solid
Analysis Batch: 148496

Client Sample ID: MW-23-3
Prep Type: Total/NA
Prep Batch: 148527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		1.16	1.21		mg/Kg	☼	105	75 - 125
Toluene	0.048	J	1.16	1.27		mg/Kg	☼	106	70 - 125
Ethylbenzene	ND		1.16	1.11		mg/Kg	☼	96	75 - 125
Xylenes, Total	ND		3.47	3.42		mg/Kg	☼	99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*
Ethylbenzene-d10	*92*		*70 - 120*
4-Bromofluorobenzene (Surr)	*93*		*70 - 120*

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

Lab Sample ID: 580-41059-12 MSD — **Client Sample ID: MW-23-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148496 — **Prep Batch: 148527**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		1.16	1.21		mg/Kg	☼	105	75 - 125	0	30
Toluene	0.048	J	1.16	1.29		mg/Kg	☼	107	70 - 125	1	30
Ethylbenzene	ND		1.16	1.10		mg/Kg	☼	95	75 - 125	1	30
Xylenes, Total	ND		3.47	3.39		mg/Kg	☼	98	70 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*
Ethylbenzene-d10	*92*		*70 - 120*
4-Bromofluorobenzene (Surr)	*92*		*70 - 120*

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

Lab Sample ID: MB 580-148527/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148497 — **Prep Batch: 148527**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0	0.50	mg/Kg		11/01/13 15:45	11/05/13 10:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*	*11/01/13 15:45*	*11/05/13 10:49*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*	*11/01/13 15:45*	*11/05/13 10:49*	*1*

Lab Sample ID: LCS 580-148527/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148497 — **Prep Batch: 148527**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	39.1		mg/Kg		98	68 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*
Trifluorotoluene (Surr)	*118*		*50 - 150*

Lab Sample ID: 580-41059-12 MS — **Client Sample ID: MW-23-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148911 — **Prep Batch: 148527**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	240		670	814		mg/Kg	☼	86	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*

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

Lab Sample ID: 580-41059-12 MSD — **Client Sample ID: MW-23-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148911 — **Prep Batch: 148527**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	240		670	458	F	mg/Kg	☼	32	50 - 150	56	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*

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

Lab Sample ID: MB 580-148678/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148668 — **Prep Batch: 148678**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25	5.7	mg/Kg		11/05/13 09:13	11/05/13 15:39	1
Motor Oil (>C24-C36)	14.8	J	50	9.1	mg/Kg		11/05/13 09:13	11/05/13 15:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*11/05/13 09:13*	*11/05/13 15:39*	*1*

Lab Sample ID: LCS 580-148678/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148668 — **Prep Batch: 148678**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	498		mg/Kg		100	64 - 127
Motor Oil (>C24-C36)	500	511		mg/Kg		102	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*110*		*50 - 150*

Lab Sample ID: LCSD 580-148678/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148668 — **Prep Batch: 148678**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	490		mg/Kg		98	64 - 127	2	16
Motor Oil (>C24-C36)	500	506		mg/Kg		101	70 - 125	1	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*102*		*50 - 150*

Lab Sample ID: 580-41059-1 MS — **Client Sample ID: MW-18-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148668 — **Prep Batch: 148678**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	130	Y	594	560		mg/Kg	☼	72	70 - 125
Motor Oil (>C24-C36)	21	J B	594	483		mg/Kg	☼	78	64 - 127

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

Lab Sample ID: 580-41059-1 MS
Matrix: Solid
Analysis Batch: 148668

Client Sample ID: MW-18-2
Prep Type: Total/NA
Prep Batch: 148678

Surrogate	MS %Recovery	MS Qualifier	Limits
o-Terphenyl	81		50 - 150

Lab Sample ID: 580-41059-1 MSD
Matrix: Solid
Analysis Batch: 148668

Client Sample ID: MW-18-2
Prep Type: Total/NA
Prep Batch: 148678

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	130	Y	597	619		mg/Kg	☼	82	70 - 125	10	16
Motor Oil (>C24-C36)	21	J B	597	551		mg/Kg	☼	89	64 - 127	13	17

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	95		50 - 150

Lab Sample ID: 580-41059-12 MS
Matrix: Solid
Analysis Batch: 148668

Client Sample ID: MW-23-3
Prep Type: Total/NA
Prep Batch: 148678

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	3000		623	4420	4	mg/Kg	☼	235	70 - 125
Motor Oil (>C24-C36)	37	J B	623	615		mg/Kg	☼	93	64 - 127

Surrogate	MS %Recovery	MS Qualifier	Limits
o-Terphenyl	104		50 - 150

Lab Sample ID: 580-41059-12 MSD
Matrix: Solid
Analysis Batch: 148668

Client Sample ID: MW-23-3
Prep Type: Total/NA
Prep Batch: 148678

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	3000		642	4290	4	mg/Kg	☼	207	70 - 125	3	16
Motor Oil (>C24-C36)	37	J B	642	599		mg/Kg	☼	88	64 - 127	3	17

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	120		50 - 150

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-148811/17-A
Matrix: Solid
Analysis Batch: 148919

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 148811

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.20	0.013	mg/Kg		11/06/13 13:48	11/07/13 11:21	10

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

Lab Sample ID: LCS 580-148811/18-A
Matrix: Solid
Analysis Batch: 148919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 148811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	50.4		mg/Kg		101	80 - 120

Lab Sample ID: LCSD 580-148811/19-A
Matrix: Solid
Analysis Batch: 148919

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 148811

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	50.0	51.2		mg/Kg		102	80 - 120	2	20

Lab Sample ID: 580-41059-1 MS
Matrix: Solid
Analysis Batch: 148919

Client Sample ID: MW-18-2
Prep Type: Total/NA
Prep Batch: 148811

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	5.9		58.9	68.1		mg/Kg	☼	106	80 - 120

Lab Sample ID: 580-41059-1 MSD
Matrix: Solid
Analysis Batch: 148919

Client Sample ID: MW-18-2
Prep Type: Total/NA
Prep Batch: 148811

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	5.9		60.7	69.4		mg/Kg	☼	105	80 - 120	2	20

Lab Sample ID: 580-41059-1 DU
Matrix: Solid
Analysis Batch: 148919

Client Sample ID: MW-18-2
Prep Type: Total/NA
Prep Batch: 148811

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	5.9		6.36		mg/Kg	☼	7	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-41059-12 DU
Matrix: Solid
Analysis Batch: 148498

Client Sample ID: MW-23-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	77		76		%		0.3	20
Percent Moisture	23		24		%		0.8	20

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-18-2

Lab Sample ID: 580-41059-1

Date Collected: 10/29/13 10:55
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 12:27	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148497	11/05/13 12:27	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 16:26	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 11:45	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-18-4

Lab Sample ID: 580-41059-2

Date Collected: 10/29/13 11:00
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 80.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 13:51	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148497	11/05/13 13:51	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 17:13	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:18	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-19-2

Lab Sample ID: 580-41059-3

Date Collected: 10/29/13 13:00
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 14:13	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		50	148911	11/07/13 19:01	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 17:28	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:22	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-19-3

Lab Sample ID: 580-41059-4

Date Collected: 10/29/13 13:05
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 82.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 14:35	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		50	148911	11/07/13 19:23	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 17:44	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:27	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-20-2

Lab Sample ID: 580-41059-5

Date Collected: 10/29/13 09:20
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 15:22	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148911	11/07/13 23:02	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 18:00	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:32	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-20-4

Lab Sample ID: 580-41059-6

Date Collected: 10/29/13 09:30
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 15:44	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148911	11/07/13 21:34	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 18:46	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:36	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-21-2

Lab Sample ID: 580-41059-7

Date Collected: 10/28/13 12:50
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		100	148496	11/06/13 06:46	ERZ	TAL SEA
Total/NA	Prep	5035	RA		148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B	RA	10	149160	11/12/13 20:56	ERZ	TAL SEA
Total/NA	Prep	5035	RA2		148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B	RA2	100	149272	11/14/13 10:26	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		100	148911	11/07/13 18:40	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 19:02	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:41	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-21-3

Lab Sample ID: 580-41059-8

Date Collected: 10/28/13 12:55
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 16:25	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		25	148911	11/07/13 19:45	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 19:17	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:46	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-22-2

Lab Sample ID: 580-41059-9

Date Collected: 10/28/13 10:45
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 78.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 16:47	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148911	11/07/13 22:40	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 19:33	EKK	TAL SEA

Client Sample ID: MW-22-2

Lab Sample ID: 580-41059-9

Date Collected: 10/28/13 10:45
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 78.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:50	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-22-3

Lab Sample ID: 580-41059-10

Date Collected: 10/28/13 10:50
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 77.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 17:10	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148911	11/07/13 21:13	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 19:49	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 12:55	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-23-2

Lab Sample ID: 580-41059-11

Date Collected: 10/28/13 09:20
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 73.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 17:32	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148497	11/05/13 17:32	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 20:04	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148919	11/07/13 13:00	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: MW-23-3

Lab Sample ID: 580-41059-12

Date Collected: 10/28/13 09:25
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 76.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 18:39	ERZ	TAL SEA

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Client Sample ID: MW-23-3

Lab Sample ID: 580-41059-12

Date Collected: 10/28/13 09:25
Matrix: Solid
Date Received: 10/30/13 14:25
Percent Solids: 76.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		10	148911	11/07/13 20:07	ERZ	TAL SEA
Total/NA	Prep	3546			148678	11/05/13 09:13	RBD	TAL SEA
Total/NA	Cleanup	3630C			148710	11/05/13 11:54	RBD	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	148668	11/05/13 20:20	EKK	TAL SEA
Total/NA	Prep	3050B			148811	11/06/13 13:48	ZF	TAL SEA
Total/NA	Analysis	6020		10	148966	11/08/13 07:54	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	148498	11/01/13 13:58	JJP	TAL SEA

Client Sample ID: Trip Blanks

Lab Sample ID: 580-41059-13

Date Collected: 10/28/13 00:00
Matrix: Solid
Date Received: 10/30/13 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	8260B		1	148496	11/05/13 12:02	ERZ	TAL SEA
Total/NA	Prep	5035			148527	11/01/13 15:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	148497	11/05/13 12:02	ERZ	TAL SEA

Laboratory References:

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

Certification Summary

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-14
California	NELAP	9	01115CA	01-31-14
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-14
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-14

Sample Summary

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41059-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-41059-1	MW-18-2	Solid	10/29/13 10:55	10/30/13 14:25
580-41059-2	MW-18-4	Solid	10/29/13 11:00	10/30/13 14:25
580-41059-3	MW-19-2	Solid	10/29/13 13:00	10/30/13 14:25
580-41059-4	MW-19-3	Solid	10/29/13 13:05	10/30/13 14:25
580-41059-5	MW-20-2	Solid	10/29/13 09:20	10/30/13 14:25
580-41059-6	MW-20-4	Solid	10/29/13 09:30	10/30/13 14:25
580-41059-7	MW-21-2	Solid	10/28/13 12:50	10/30/13 14:25
580-41059-8	MW-21-3	Solid	10/28/13 12:55	10/30/13 14:25
580-41059-9	MW-22-2	Solid	10/28/13 10:45	10/30/13 14:25
580-41059-10	MW-22-3	Solid	10/28/13 10:50	10/30/13 14:25
580-41059-11	MW-23-2	Solid	10/28/13 09:20	10/30/13 14:25
580-41059-12	MW-23-3	Solid	10/28/13 09:25	10/30/13 14:25
580-41059-13	Trip Blanks	Solid	10/28/13 00:00	10/30/13 14:25

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Olympic Pipe Line Company
Req Due Date (mm/dd/yy): Standard
Rush TAT: Yes ___ No ✓
BP/ARC Facility No: Allen Station
Lab Work Order Number: 41059

Lab Name:	Test America	BP/ARC Facility Address:	16292 Ovenell Road	Consultant/Contractor:	Antea Group
Lab Address:	5755 8th Street E., Tacoma, WA 98424	City, State, ZIP Code:	Mt. Vernon WA 98421	Consultant/Contractor Project No:	WAALLEA131
Lab PM:	Ai Pham	Lead Regulatory Agency:	WA Department of Ecology	Address:	4006 148th Avenue NE, Redmond, WA 98052
Lab Phone:	253-922-2310	California Global ID No.:	NA	Consultant/Contractor PM:	Bryan Taylor
Lab Shipping Accnt:	NA	Enfos Proposal No:	008VC-0002 / WR269623	Phone:	P: 425.498.7727 F: 425.869.1892
Lab Bottle Order No:	NA	Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	
Other Info:		Stage:	4_Execute (40) Activity: Project Spend (80)	Invoice To:	BP/ARC X Contractor ___

BP/ARC EBM: Paul Supple
EBM Phone: 925-275-3801
EBM Email: paul.supple@bp.com

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	NaOH zn Acetate	Requested Analyses: 8260BTEX	NWTPH-Gx	NWTPH-Dx with silica gel cleanup	Total Lead
-1	MW-18-2	10/29/2013	10:55	X				3	1				2		X	X	X	X
-2	MW-18-4	10/29/2013	11:00	X				3	1				2		X	X	X	X
-3	MW-19-2	10/29/2013	13:00	X				3	1				2		X	X	X	X
-4	MW-19-3	10/29/2013	13:05	X				3	1				2		X	X	X	X
-5	MW-20-2	10/29/2013	09:20	X				3	1				2		X	X	X	X
-6	MW-20-4	10/29/2013	09:30	X				3	1				2		X	X	X	X
-7	MW-21-2	10/28/2013	12:50	X				3	1				2		X	X	X	X
-8	MW-21-3	10/28/2013	12:55	X				3	1				2		X	X	X	X
-9	MW-22-2	10/28/2013	10:45	X				3	1				2		X	X	X	X
-10	MW-22-3	10/28/2013	10:50	X				3	1				2		X	X	X	X

Report Type & QC Level
Standard Y
Full Data Package ___

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Sampler's Name:	Megan Richard	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	Antea Group	MR - Antea Group	10/30/13	1425	ITA-SEH	10/30/13	1425
Shipment Method:	Courier Ship Date: 10/30/2013						
Shipment Tracking No:	NA						

Special Instructions:

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

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Olympic Pipe Line Company
Req Due Date (mm/dd/yy): Standard **Rush TAT:** Yes ___ No ___
BP/ARC Facility No: Allen Station
Lab Work Order Number: 41059

Lab Name:	Test America	BP/ARC Facility Address:	16292 Ovenell Road	Consultant/Contractor:	Antea Group
Lab Address:	5755 8th Street E., Tacoma, WA 98424	City, State, ZIP Code:	Mt. Vernon WA 98421	Consultant/Contractor Project No:	WAALLEA131
Lab PM:	Ai Pham	Lead Regulatory Agency:	WA Department of Ecology	Address:	4006 148th Avenue NE, Redmond, WA 98052
Lab Phone:	253-922-2310	California Global ID No.:	NA	Consultant/Contractor PM:	Bryan Taylor
Lab Shipping Accnt:	NA	Enfos Proposal No:	008VC-0002 / WR269623	Phone:	P: 425.498.7727 F: 425.869.1892
Lab Bottle Order No:	NA	Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	
Other Info:		Stage:	4_Execute (40) Activity: Project Spend (80)	Invoice To:	BP/ARC X Contractor ___

BP/ARC EBM: Paul Supple
EBM Phone: 925-275-3801
EBM Email: paul.supple@bp.com

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	NaOH zn Acetate	Requested Analyses: 8260BTEX	NWTPH-Gx	NWTPH-Dx with silica gel cleanup	Total Lead
-11	MW-23-2	10/28/13	09:20	X			3	1				2		X	X	X	X
-12	MW-23-3	10/28/2013	09:25	X			3	1				2		X	X	X	X
-13	Trip Blanks	—	—				3					3		X	X		

Report Type & QC Level: Standard Y / Full Data Package ___

Comments: Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Cooler contains 6 Extra VOAs (NDSoil, MeOH) for disposal.

~~Cooler/TB~~ Dig/IR cor 6.0 °C unc 6.0 °C
Cooler Dsc Lg Blue/white @ Lab 1525
Wet/Packs Packing Bubble
w/o

Sampler's Name:	Megan Richard	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	Antea Group	MR → / Antea Group	10/30/13	1425	/ TA-SEA	10/30/13	1425
Shipment Method:	Courier	Ship Date:					
Shipment Tracking No:	NA						

Special Instructions:

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

Login Sample Receipt Checklist

Client: Antea USA, Inc.

Job Number: 580-41059-1

Login Number: 41059

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	It appears that only 5g of soil was placed in each vial.
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	

Appendix E

Groundwater Laboratory Analytical Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 580-41703-1
Client Project/Site: Allen Station
Revision: 1

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

Attn: Bryan Taylor

Authorized for release by:
1/14/2014 3:02:05 PM

Ai Pham, Project Manager I
(253)922-2310
ai.pham@testamericainc.com

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

Ai Pham
Project Manager I
1/14/2014 3:02:05 PM

Table of Contents

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Job ID: 580-41703-1

Laboratory: TestAmerica Seattle

Narrative

Revised Report 1/14/14 - Client requests TPH-O to be reported. This analyte was not originally requested on the COCs. The login was updated and all samples were reprocessed.

Receipt

The samples were received on 12/18/2013 11:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.7º C.

Except:

The Chain-of-Custody lists a sample, TB-02_20131217, that was not received at the laboratory.

GC/MS VOA - Method(s) 8260B

Samples MW-17A_20131217 (580-41703-7), MW-18_20131217 (580-41703-8), MW-19_20131217 (580-41703-9), MW-20_20131217 (580-41703-10), MW-20_20131217 (580-41703-10 MS), MW-20_20131217 (580-41703-10 MSD) and MW-21_20131217 (580-41703-11) were diluted to bring the concentration of target analytes within the calibration range. Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC VOA - Method(s) NWTPH-Gx

Sample MW-18_20131217 (580-41703-8) was diluted to bring the concentration of target analytes within the calibration range. Elevated reporting limits (RLs) are provided.

Surrogate recoveries for samples MW-19_20131217 (580-41703-9) and MW-21_20131217 (580-41703-11) were outside control limits. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. The results have been "X" qualified and reported.

The first CCV for analysis batch 151507 recoverd high for Gasoline. This CCV enclosed only the batch QC with all subsequent CCVs passing. This analytical batch was used to run one dilution for sample MW-18_20131217 (580-41703-8) within hold.

Surrogate Trifluorotoluene recovered high in the CCVs for analysis batch 151507. Both Trifluorotoluene and 4-Bromofluorobenzene surrogates passed in all associated QC and samples. The results have been reported with client approval.

No other analytical or quality issues were noted.

GC Semi VOA - Method(s) NWTPH-Dx

In analysis batch 151759, for samples C-20131217 (580-41703-1), MW-2_20131217 (580-41703-4), MW-14_20131217 (580-41703-6), MW-17A_20131217 (580-41703-7), MW-18_20131217 (580-41703-8), MW-19_20131217 (580-41703-9), MW-20_20131217 (580-41703-10), MW-21_20131217 (580-41703-11), MW-22_20131217 (580-41703-12), MW-23_20131217 (580-41703-13), O/W Seperator_20131217 (580-41703-15) and SRW-1_20131217 (580-41703-14), the results in the #2 Diesel Fuel (C10-C24) and/or Motor Oil (>C24-C36) ranges are due to what most closely resembles a complex mixture of a jet fuel range product and/or heavily weathered/degraded diesel fuel. The affected analyte ranges have been "Y" qualified and reported.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

Qualifiers

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.

Glossary

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

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: C_20131217
Date Collected: 12/17/13 11:00
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 06:56	1
Toluene	ND		1.0		ug/L			12/25/13 06:56	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 06:56	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 06:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 06:56*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 06:56*	*1*
Ethylbenzene-d10	*105*		*80 - 120*		*12/25/13 06:56*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/25/13 06:56*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*12/25/13 06:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**63**		50		ug/L			12/25/13 06:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 06:56*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*12/25/13 06:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**140**	**Y**	120		ug/L		12/26/13 11:58	01/06/14 16:16	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/06/14 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*12/26/13 11:58*	*01/06/14 16:16*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: IW-1_20131217
Date Collected: 12/17/13 11:35
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 07:18	1
Toluene	ND		1.0		ug/L			12/25/13 07:18	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 07:18	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 07:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 07:18*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 07:18*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 07:18*	*1*
Trifluorotoluene (Surr)	*93*		*80 - 120*		*12/25/13 07:18*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*12/25/13 07:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 07:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 07:18*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/25/13 07:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120		ug/L		12/26/13 11:58	01/06/14 16:34	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/06/14 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*12/26/13 11:58*	*01/06/14 16:34*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-1_20131217
Date Collected: 12/17/13 10:00
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 07:40	1
Toluene	ND		1.0		ug/L			12/25/13 07:40	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 07:40	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 07:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 07:40*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 07:40*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 07:40*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/25/13 07:40*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*12/25/13 07:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 07:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 07:40*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*12/25/13 07:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120		ug/L		12/26/13 11:58	01/06/14 16:52	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/06/14 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*50 - 150*	*12/26/13 11:58*	*01/06/14 16:52*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-2_20131217
Date Collected: 12/17/13 10:10
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.6**		1.0		ug/L			12/25/13 08:02	1
Toluene	ND		1.0		ug/L			12/25/13 08:02	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 08:02	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 08:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 08:02*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 08:02*	*1*
Ethylbenzene-d10	*107*		*80 - 120*		*12/25/13 08:02*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/25/13 08:02*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*12/25/13 08:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 08:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 08:02*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*12/25/13 08:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**320**	**Y**	120		ug/L		12/26/13 11:58	01/06/14 17:10	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/06/14 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*12/26/13 11:58*	*01/06/14 17:10*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-12_20131217
Date Collected: 12/17/13 10:45
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 08:25	1
Toluene	ND		1.0		ug/L			12/25/13 08:25	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 08:25	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 08:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 08:25*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 08:25*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 08:25*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*12/25/13 08:25*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*12/25/13 08:25*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 08:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 08:25*	*1*
Trifluorotoluene (Surr)	*109*		*50 - 150*		*12/25/13 08:25*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120		ug/L		12/26/13 11:58	01/06/14 17:27	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/06/14 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*12/26/13 11:58*	*01/06/14 17:27*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-14_20131217
Date Collected: 12/17/13 10:30
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0		1.0		ug/L			12/25/13 08:47	1
Toluene	ND		1.0		ug/L			12/25/13 08:47	1
Ethylbenzene	1.5		1.0		ug/L			12/25/13 08:47	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 08:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 08:47*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 08:47*	*1*
Ethylbenzene-d10	*107*		*80 - 120*		*12/25/13 08:47*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/25/13 08:47*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*12/25/13 08:47*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	190		50		ug/L			12/25/13 08:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 08:47*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*12/25/13 08:47*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2600	Y	120		ug/L		12/26/13 11:58	01/06/14 17:45	1
Motor Oil (>C24-C36)	370	Y	240		ug/L		12/26/13 11:58	01/06/14 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*12/26/13 11:58*	*01/06/14 17:45*	*1*

Client Sample ID: MW-17A_20131217
Date Collected: 12/17/13 11:40
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**1.8**		1.0		ug/L			12/25/13 09:09	1
Ethylbenzene	**8.5**		1.0		ug/L			12/25/13 09:09	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 09:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/25/13 09:09*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/25/13 09:09*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 09:09*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*12/25/13 09:09*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*12/25/13 09:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**130**		10		ug/L			12/31/13 21:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*85 - 120*		*12/31/13 21:18*	*10*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/31/13 21:18*	*10*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/31/13 21:18*	*10*
Dibromofluoromethane (Surr)	*100*		*85 - 115*		*12/31/13 21:18*	*10*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 120*		*12/31/13 21:18*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**2100**		50		ug/L			12/25/13 09:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 09:09*	*1*
Trifluorotoluene (Surr)	*125*		*50 - 150*		*12/25/13 09:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**610**	**Y**	120		ug/L		12/26/13 11:58	01/06/14 18:03	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/06/14 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*12/26/13 11:58*	*01/06/14 18:03*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-18_20131217
Date Collected: 12/17/13 11:20
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	8.4		1.0		ug/L			12/25/13 10:16	1
Toluene	5.1		1.0		ug/L			12/25/13 10:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/25/13 10:16*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 10:16*	*1*
Ethylbenzene-d10	*109*		*80 - 120*		*12/25/13 10:16*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*12/25/13 10:16*	*1*
4-Bromofluorobenzene (Surr)	*111*		*75 - 120*		*12/25/13 10:16*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	1300		100		ug/L			12/31/13 17:48	100
Xylenes, Total	3500		300		ug/L			12/31/13 17:48	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*85 - 120*		*12/31/13 17:48*	*100*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/31/13 17:48*	*100*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*		*12/31/13 17:48*	*100*
Dibromofluoromethane (Surr)	*100*		*85 - 115*		*12/31/13 17:48*	*100*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 120*		*12/31/13 17:48*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	30000		1300		ug/L			12/31/13 19:06	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*		*12/31/13 19:06*	*25*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*12/31/13 19:06*	*25*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	4800	Y	120		ug/L		12/26/13 11:58	01/08/14 09:18	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/08/14 09:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*12/26/13 11:58*	*01/08/14 09:18*	*1*

Client Sample ID: MW-19_20131217
Date Collected: 12/17/13 10:55
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**10**		1.0		ug/L			12/25/13 10:38	1
Xylenes, Total	**34**		3.0		ug/L			12/25/13 10:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/25/13 10:38*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/25/13 10:38*	*1*
Ethylbenzene-d10	*105*		*80 - 120*		*12/25/13 10:38*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*12/25/13 10:38*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*12/25/13 10:38*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**610**		100		ug/L			12/31/13 18:18	100
Ethylbenzene	**1700**		100		ug/L			12/31/13 18:18	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/31/13 18:18*	*100*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*12/31/13 18:18*	*100*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/31/13 18:18*	*100*
Dibromofluoromethane (Surr)	*100*		*85 - 115*		*12/31/13 18:18*	*100*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 120*		*12/31/13 18:18*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**14000**		50		ug/L			12/25/13 10:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 10:38*	*1*
Trifluorotoluene (Surr)	*157*	*X*	*50 - 150*		*12/25/13 10:38*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**3600**	**Y**	120		ug/L		12/26/13 11:58	01/08/14 09:36	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/08/14 09:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*113*		*50 - 150*	*12/26/13 11:58*	*01/08/14 09:36*	*1*

Client Sample ID: MW-20_20131217
Date Collected: 12/17/13 12:00
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**6.6**		1.0		ug/L			12/25/13 04:20	1
Ethylbenzene	**7.4**		1.0		ug/L			12/25/13 04:20	1
Xylenes, Total	**8.5**		3.0		ug/L			12/25/13 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*12/25/13 04:20*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/25/13 04:20*	*1*
Ethylbenzene-d10	*104*		*80 - 120*		*12/25/13 04:20*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/25/13 04:20*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*12/25/13 04:20*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**590**		100		ug/L			12/31/13 18:48	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*85 - 120*		*12/31/13 18:48*	*100*
Trifluorotoluene (Surr)	*109*		*80 - 120*		*12/31/13 18:48*	*100*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/31/13 18:48*	*100*
Dibromofluoromethane (Surr)	*97*		*85 - 115*		*12/31/13 18:48*	*100*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 120*		*12/31/13 18:48*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**1600**		50		ug/L			12/25/13 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 04:20*	*1*
Trifluorotoluene (Surr)	*120*		*50 - 150*		*12/25/13 04:20*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**530**	**Y**	120		ug/L		12/26/13 11:58	01/08/14 09:54	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/08/14 09:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*12/26/13 11:58*	*01/08/14 09:54*	*1*

Client Sample ID: MW-21_20131217
Date Collected: 12/17/13 12:00
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	3.5		1.0		ug/L			12/25/13 11:01	1
Xylenes, Total	130		3.0		ug/L			12/25/13 11:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 11:01*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 11:01*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 11:01*	*1*
Trifluorotoluene (Surr)	*96*		*80 - 120*		*12/25/13 11:01*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*12/25/13 11:01*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	62		10		ug/L			12/31/13 21:48	10
Ethylbenzene	550		10		ug/L			12/31/13 21:48	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/31/13 21:48*	*10*
Trifluorotoluene (Surr)	*103*		*80 - 120*		*12/31/13 21:48*	*10*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*12/31/13 21:48*	*10*
Dibromofluoromethane (Surr)	*99*		*85 - 115*		*12/31/13 21:48*	*10*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 120*		*12/31/13 21:48*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	12000		50		ug/L			12/25/13 11:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*50 - 150*		*12/25/13 11:01*	*1*
Trifluorotoluene (Surr)	*164*	*X*	*50 - 150*		*12/25/13 11:01*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	3600	Y	120		ug/L		12/26/13 11:58	01/08/14 10:48	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/08/14 10:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*108*		*50 - 150*	*12/26/13 11:58*	*01/08/14 10:48*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-22_20131217
Date Collected: 12/17/13 10:35
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 11:23	1
Toluene	ND		1.0		ug/L			12/25/13 11:23	1
Ethylbenzene	**41**		1.0		ug/L			12/25/13 11:23	1
Xylenes, Total	**31**		3.0		ug/L			12/25/13 11:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 11:23*	*1*
Toluene-d8 (Surr)	*103*		*85 - 120*		*12/25/13 11:23*	*1*
Ethylbenzene-d10	*107*		*80 - 120*		*12/25/13 11:23*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/25/13 11:23*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*12/25/13 11:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**5600**		50		ug/L			12/25/13 11:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 11:23*	*1*
Trifluorotoluene (Surr)	*112*		*50 - 150*		*12/25/13 11:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**3600**	**Y**	120		ug/L		12/26/13 11:58	01/08/14 11:06	1
Motor Oil (>C24-C36)	**240**	**Y**	240		ug/L		12/26/13 11:58	01/08/14 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*115*		*50 - 150*	*12/26/13 11:58*	*01/08/14 11:06*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-23_20131217
Date Collected: 12/17/13 10:25
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 11:45	1
Toluene	ND		1.0		ug/L			12/25/13 11:45	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 11:45	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 11:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/25/13 11:45*	*1*
Toluene-d8 (Surr)	*103*		*85 - 120*		*12/25/13 11:45*	*1*
Ethylbenzene-d10	*107*		*80 - 120*		*12/25/13 11:45*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*12/25/13 11:45*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*12/25/13 11:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**1500**		50		ug/L			12/25/13 11:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 11:45*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*12/25/13 11:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2200**	**Y**	120		ug/L		12/26/13 11:58	01/08/14 11:24	1
Motor Oil (>C24-C36)	**260**	**Y**	240		ug/L		12/26/13 11:58	01/08/14 11:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*122*		*50 - 150*	*12/26/13 11:58*	*01/08/14 11:24*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: SRW-1_20131217
Date Collected: 12/17/13 14:30
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 12:07	1
Toluene	ND		1.0		ug/L			12/25/13 12:07	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 12:07	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/25/13 12:07*	*1*
Toluene-d8 (Surr)	*103*		*85 - 120*		*12/25/13 12:07*	*1*
Ethylbenzene-d10	*107*		*80 - 120*		*12/25/13 12:07*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*12/25/13 12:07*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*12/25/13 12:07*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**170**		50		ug/L			12/25/13 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 12:07*	*1*
Trifluorotoluene (Surr)	*109*		*50 - 150*		*12/25/13 12:07*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**160**	**Y**	120		ug/L		12/26/13 11:58	01/08/14 11:42	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/08/14 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*117*		*50 - 150*	*12/26/13 11:58*	*01/08/14 11:42*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: O/W Seperator_20131217
Date Collected: 12/17/13 14:20
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-15
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 12:30	1
Toluene	ND		1.0		ug/L			12/25/13 12:30	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 12:30	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 12:30*	*1*
Toluene-d8 (Surr)	*103*		*85 - 120*		*12/25/13 12:30*	*1*
Ethylbenzene-d10	*107*		*80 - 120*		*12/25/13 12:30*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*12/25/13 12:30*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*12/25/13 12:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 12:30*	*1*
Trifluorotoluene (Surr)	*110*		*50 - 150*		*12/25/13 12:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**170**	**Y**	120		ug/L		12/26/13 11:58	01/08/14 12:22	1
Motor Oil (>C24-C36)	ND		240		ug/L		12/26/13 11:58	01/08/14 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*109*		*50 - 150*	*12/26/13 11:58*	*01/08/14 12:22*	*1*

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: TB-01_20131217
Date Collected: 12/17/13 00:00
Date Received: 12/18/13 11:40

Lab Sample ID: 580-41703-16
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 03:58	1
Toluene	ND		1.0		ug/L			12/25/13 03:58	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 03:58	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*96*		*80 - 120*		*12/25/13 03:58*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 03:58*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 03:58*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/25/13 03:58*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*12/25/13 03:58*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*		*12/25/13 03:58*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*12/25/13 03:58*	*1*

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

Lab Sample ID: MB 580-151290/4
Matrix: Water
Analysis Batch: 151290

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/25/13 02:07	1
Toluene	ND		1.0		ug/L			12/25/13 02:07	1
Ethylbenzene	ND		1.0		ug/L			12/25/13 02:07	1
Xylenes, Total	ND		3.0		ug/L			12/25/13 02:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/25/13 02:07*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/25/13 02:07*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/25/13 02:07*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/25/13 02:07*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*12/25/13 02:07*	*1*

Lab Sample ID: LCS 580-151290/5
Matrix: Water
Analysis Batch: 151290

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			25.0	25.7		ug/L		103	80 - 120		
Toluene			25.0	25.5		ug/L		102	75 - 120		
Ethylbenzene			25.0	25.3		ug/L		101	75 - 125		
Xylenes, Total			75.0	74.5		ug/L		99	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*104*		*80 - 120*
Trifluorotoluene (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*75 - 120*

Lab Sample ID: LCSD 580-151290/6
Matrix: Water
Analysis Batch: 151290

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			25.0	26.3		ug/L		105	80 - 120	2	30
Toluene			25.0	26.3		ug/L		105	75 - 120	3	30
Ethylbenzene			25.0	26.4		ug/L		106	75 - 125	4	30
Xylenes, Total			75.0	77.0		ug/L		103	75 - 125	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*105*		*80 - 120*
Trifluorotoluene (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*

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

Lab Sample ID: 580-41703-10 MS
Matrix: Water
Analysis Batch: 151290

Client Sample ID: MW-20_20131217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	6.6		20.1	25.5		ug/L		94	75 - 120
Ethylbenzene	7.4		20.1	24.8		ug/L		87	75 - 125
Xylenes, Total	8.5		60.2	67.3		ug/L		98	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*104*		*80 - 120*
Trifluorotoluene (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*

Lab Sample ID: 580-41703-10 MSD
Matrix: Water
Analysis Batch: 151290

Client Sample ID: MW-20_20131217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	6.6		20.1	27.3		ug/L		103	75 - 120	7	30
Ethylbenzene	7.4		20.1	27.7		ug/L		101	75 - 125	11	30
Xylenes, Total	8.5		60.2	70.5		ug/L		103	75 - 125	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*104*		*80 - 120*
Trifluorotoluene (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*75 - 120*

Lab Sample ID: MB 580-151471/18
Matrix: Water
Analysis Batch: 151471

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/31/13 15:47	1
Toluene	ND		1.0		ug/L			12/31/13 15:47	1
Ethylbenzene	ND		1.0		ug/L			12/31/13 15:47	1
Xylenes, Total	ND		3.0		ug/L			12/31/13 15:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/31/13 15:47*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*12/31/13 15:47*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/31/13 15:47*	*1*
Dibromofluoromethane (Surr)	*102*		*85 - 115*		*12/31/13 15:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 120*		*12/31/13 15:47*	*1*

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

Lab Sample ID: LCS 580-151471/19
Matrix: Water
Analysis Batch: 151471

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			20.1	20.9		ug/L		104	80 - 120		
Toluene			20.1	20.2		ug/L		101	75 - 120		
Ethylbenzene			20.1	20.5		ug/L		102	75 - 125		
Xylenes, Total			40.1	42.4		ug/L		106	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*85 - 120*
Trifluorotoluene (Surr)	*120*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*
Dibromofluoromethane (Surr)	*101*		*85 - 115*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 120*

Lab Sample ID: LCSD 580-151471/20
Matrix: Water
Analysis Batch: 151471

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			20.1	20.9		ug/L		104	80 - 120	0	30
Toluene			20.1	20.4		ug/L		102	75 - 120	1	30
Ethylbenzene			20.1	19.8		ug/L		99	75 - 125	4	30
Xylenes, Total			40.1	41.9		ug/L		104	75 - 125	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*85 - 120*
Trifluorotoluene (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*
Dibromofluoromethane (Surr)	*102*		*85 - 115*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 120*

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

Lab Sample ID: 580-41703-10 MS
Matrix: Water
Analysis Batch: 151471

Client Sample ID: MW-20_20131217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene - DL	590		2010	2540		ug/L		97	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr) - DL	*102*		*85 - 120*
Trifluorotoluene (Surr) - DL	*103*		*80 - 120*
4-Bromofluorobenzene (Surr) - DL	*98*		*75 - 120*
Dibromofluoromethane (Surr) - DL	*102*		*85 - 115*
1,2-Dichloroethane-d4 (Surr) - DL	*102*		*70 - 120*

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

Lab Sample ID: 580-41703-10 MSD
Matrix: Water
Analysis Batch: 151471

Client Sample ID: MW-20_20131217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene - DL	590		2010	2620		ug/L		101	80 - 120	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr) - DL	*98*		*85 - 120*
Trifluorotoluene (Surr) - DL	*107*		*80 - 120*
4-Bromofluorobenzene (Surr) - DL	*98*		*75 - 120*
Dibromofluoromethane (Surr) - DL	*99*		*85 - 115*
1,2-Dichloroethane-d4 (Surr) - DL	*98*		*70 - 120*

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

Lab Sample ID: MB 580-151288/5
Matrix: Water
Analysis Batch: 151288

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/25/13 02:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*		*12/25/13 02:07*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*12/25/13 02:07*	*1*

Lab Sample ID: LCS 580-151288/6
Matrix: Water
Analysis Batch: 151288

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1000	879		ug/L		88	79 - 110		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*50 - 150*
Trifluorotoluene (Surr)	*102*		*50 - 150*

Lab Sample ID: LCSD 580-151288/7
Matrix: Water
Analysis Batch: 151288

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1000	910		ug/L		91	79 - 110	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*50 - 150*
Trifluorotoluene (Surr)	*104*		*50 - 150*

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

Lab Sample ID: 580-41703-10 MS
Matrix: Water
Analysis Batch: 151288

Client Sample ID: MW-20_20131217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1600		1160	2330		ug/L		60	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*50 - 150*
Trifluorotoluene (Surr)	*117*		*50 - 150*

Lab Sample ID: 580-41703-10 MSD
Matrix: Water
Analysis Batch: 151288

Client Sample ID: MW-20_20131217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1600		1160	2610		ug/L		84	50 - 150	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*50 - 150*
Trifluorotoluene (Surr)	*121*		*50 - 150*

Lab Sample ID: MB 580-151507/5
Matrix: Water
Analysis Batch: 151507

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			12/31/13 16:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*		*12/31/13 16:29*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*12/31/13 16:29*	*1*

Lab Sample ID: LCS 580-151507/6
Matrix: Water
Analysis Batch: 151507

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	936		ug/L		94	79 - 110

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*50 - 150*
Trifluorotoluene (Surr)	*102*		*50 - 150*

Lab Sample ID: LCSD 580-151507/7
Matrix: Water
Analysis Batch: 151507

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1000	973		ug/L		97	79 - 110	4	20

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

Lab Sample ID: LCSD 580-151507/7
Matrix: Water
Analysis Batch: 151507

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		50 - 150
Trifluorotoluene (Surr)	104		50 - 150

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

Lab Sample ID: MB 580-151343/1-B
Matrix: Water
Analysis Batch: 151642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 151343

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		130		ug/L		12/26/13 11:58	01/06/14 15:03	1
Motor Oil (>C24-C36)	ND		250		ug/L		12/26/13 11:58	01/06/14 15:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	75		50 - 150	12/26/13 11:58	01/06/14 15:03	1

Lab Sample ID: LCS 580-151343/2-B
Matrix: Water
Analysis Batch: 151642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 151343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	4000	3530		ug/L		88	70 - 130
Motor Oil (>C24-C36)	4000	3900		ug/L		97	70 - 130

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

Lab Sample ID: LCSD 580-151343/3-B
Matrix: Water
Analysis Batch: 151642

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 151343

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4000	3550		ug/L		89	70 - 130	1	30
Motor Oil (>C24-C36)	4000	3750		ug/L		94	70 - 130	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	85		50 - 150

Lab Sample ID: 580-41703-10 MS
Matrix: Water
Analysis Batch: 151759

Client Sample ID: MW-20_20131217
Prep Type: Total/NA
Prep Batch: 151343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	530	Y	3830	3880	Y	ug/L		88	70 - 130
Motor Oil (>C24-C36)	ND		3830	3790		ug/L		95	70 - 130

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

Lab Sample ID: 580-41703-10 MS
Matrix: Water
Analysis Batch: 151759

Client Sample ID: MW-20_20131217
Prep Type: Total/NA
Prep Batch: 151343

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*95*		*50 - 150*

Lab Sample ID: 580-41703-10 MSD
Matrix: Water
Analysis Batch: 151759

Client Sample ID: MW-20_20131217
Prep Type: Total/NA
Prep Batch: 151343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	530	Y	3850	4670	Y	ug/L		108	70 - 130	18	30
Motor Oil (>C24-C36)	ND		3850	4410		ug/L		110	70 - 130	15	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*113*		*50 - 150*

Client Sample ID: C_20131217

Lab Sample ID: 580-41703-1

Date Collected: 12/17/13 11:00

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 06:56	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 06:56	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 16:16	CGM	TAL SEA

Client Sample ID: IW-1_20131217

Lab Sample ID: 580-41703-2

Date Collected: 12/17/13 11:35

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 07:18	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 07:18	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 16:34	CGM	TAL SEA

Client Sample ID: MW-1_20131217

Lab Sample ID: 580-41703-3

Date Collected: 12/17/13 10:00

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 07:40	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 07:40	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 16:52	CGM	TAL SEA

Client Sample ID: MW-2_20131217

Lab Sample ID: 580-41703-4

Date Collected: 12/17/13 10:10

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 08:02	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 08:02	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 17:10	CGM	TAL SEA

Client Sample ID: MW-12_20131217

Lab Sample ID: 580-41703-5

Date Collected: 12/17/13 10:45

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 08:25	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 08:25	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 17:27	CGM	TAL SEA

Client Sample ID: MW-14_20131217

Lab Sample ID: 580-41703-6

Date Collected: 12/17/13 10:30

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 08:47	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 08:47	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 17:45	CGM	TAL SEA

Client Sample ID: MW-17A_20131217

Lab Sample ID: 580-41703-7

Date Collected: 12/17/13 11:40

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 09:09	ERZ	TAL SEA
Total/NA	Analysis	8260B	DL	10	151471	12/31/13 21:18	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 09:09	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151642	01/06/14 18:03	CGM	TAL SEA

Client Sample ID: MW-18_20131217

Lab Sample ID: 580-41703-8

Date Collected: 12/17/13 11:20

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 10:16	ERZ	TAL SEA
Total/NA	Analysis	8260B	DL	100	151471	12/31/13 17:48	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx	DL	25	151507	12/31/13 19:06	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 09:18	CGM	TAL SEA

Client Sample ID: MW-19_20131217

Lab Sample ID: 580-41703-9

Date Collected: 12/17/13 10:55

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 10:38	ERZ	TAL SEA
Total/NA	Analysis	8260B	DL	100	151471	12/31/13 18:18	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 10:38	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 09:36	CGM	TAL SEA

Client Sample ID: MW-20_20131217

Lab Sample ID: 580-41703-10

Date Collected: 12/17/13 12:00

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 04:20	ERZ	TAL SEA
Total/NA	Analysis	8260B	DL	100	151471	12/31/13 18:48	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 04:20	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 09:54	CGM	TAL SEA

Client Sample ID: MW-21_20131217

Lab Sample ID: 580-41703-11

Date Collected: 12/17/13 12:00

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 11:01	ERZ	TAL SEA
Total/NA	Analysis	8260B	DL	10	151471	12/31/13 21:48	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 11:01	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 10:48	CGM	TAL SEA

Client Sample ID: MW-22_20131217

Lab Sample ID: 580-41703-12

Date Collected: 12/17/13 10:35

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 11:23	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 11:23	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 11:06	CGM	TAL SEA

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Client Sample ID: MW-23_20131217

Lab Sample ID: 580-41703-13

Date Collected: 12/17/13 10:25

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 11:45	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 11:45	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 11:24	CGM	TAL SEA

Client Sample ID: SRW-1_20131217

Lab Sample ID: 580-41703-14

Date Collected: 12/17/13 14:30

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 12:07	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 12:07	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 11:42	CGM	TAL SEA

Client Sample ID: O/W Seperator_20131217

Lab Sample ID: 580-41703-15

Date Collected: 12/17/13 14:20

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 12:30	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 12:30	ERZ	TAL SEA
Total/NA	Prep	3510C			151343	12/26/13 11:58	RBL	TAL SEA
Total/NA	Cleanup	3630C			151367	12/26/13 16:42	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	151759	01/08/14 12:22	CGM	TAL SEA

Client Sample ID: TB-01_20131217

Lab Sample ID: 580-41703-16

Date Collected: 12/17/13 00:00

Matrix: Water

Date Received: 12/18/13 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	151290	12/25/13 03:58	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	151288	12/25/13 03:58	ERZ	TAL SEA

Laboratory References:

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

Certification Summary

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-14
California	NELAP	9	01115CA	01-31-14
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-14
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-14

Sample Summary

Client: Antea USA, Inc.
Project/Site: Allen Station

TestAmerica Job ID: 580-41703-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-41703-1	C_20131217	Water	12/17/13 11:00	12/18/13 11:40
580-41703-2	IW-1_20131217	Water	12/17/13 11:35	12/18/13 11:40
580-41703-3	MW-1_20131217	Water	12/17/13 10:00	12/18/13 11:40
580-41703-4	MW-2_20131217	Water	12/17/13 10:10	12/18/13 11:40
580-41703-5	MW-12_20131217	Water	12/17/13 10:45	12/18/13 11:40
580-41703-6	MW-14_20131217	Water	12/17/13 10:30	12/18/13 11:40
580-41703-7	MW-17A_20131217	Water	12/17/13 11:40	12/18/13 11:40
580-41703-8	MW-18_20131217	Water	12/17/13 11:20	12/18/13 11:40
580-41703-9	MW-19_20131217	Water	12/17/13 10:55	12/18/13 11:40
580-41703-10	MW-20_20131217	Water	12/17/13 12:00	12/18/13 11:40
580-41703-11	MW-21_20131217	Water	12/17/13 12:00	12/18/13 11:40
580-41703-12	MW-22_20131217	Water	12/17/13 10:35	12/18/13 11:40
580-41703-13	MW-23_20131217	Water	12/17/13 10:25	12/18/13 11:40
580-41703-14	SRW-1_20131217	Water	12/17/13 14:30	12/18/13 11:40
580-41703-15	O/W Seperator_20131217	Water	12/17/13 14:20	12/18/13 11:40
580-41703-16	TB-01_20131217	Water	12/17/13 00:00	12/18/13 11:40

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Olympic Pipeline Company | **Req Due Date (mm/dd/yy):** Standart TAT | **Rush TAT:** Yes ___ No X

BP/ARC Facility No: Allen Station | **Lab Work Order Number:** 41703

Lab Name:	Test America, Inc.	BP/ARC Facility Address:	16292 Ovenell Road	Consultant/Contractor:	Antea Group
Lab Address:	5755 8th Street East, Tacoma, WA	City, State, ZIP Code:	Mount Vernon, WA	Consultant/Contractor Project No:	WAALLHA131
Lab PM:	Ai Pham	Lead Regulatory Agency:	Washington State Department of Ecology	Address:	4006 148th Ave NE, Redmond, WA 98052
Lab Phone:	(253) 922-2310	California Global ID No.:	NA	Consultant/Contractor PM:	Bryan Taylor
Lab Shipping Accnt:		Enfos Proposal No:	006SM-0004 / WR261102	Phone:	(425) 498-7727
Lab Bottle Order No:		Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	bryan.taylor@anteagroup.com
Other Info:		Stage: 60	Activity: 81	Invoice To:	BP/ARC X Contractor ___

BP/ARC EBM: Paul Supple
EBM Phone: (925) 275-3801
EBM Email: Paul.Supple@bp.com

Report Type & QC Level: Standard X w/ Access; Full Data Package ___

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	$Na_2S_2O_3$	BTEX by EPA 8260	MTBE by EPA 8260	NWTPH-Gx	NWTPH-D w/ silica gel	NWTPH-O w/ silica gel	Pb-T by EPA 6020	Pb-D by EPA 6020	EDB by EPA 8011	EDC by EPA 8260	NAPHTHALENE	Comments
1	C_20131217	12/17/13	1100		X		8				8		X		X	X							
2	IW-1_20131217	12/17/13	1135		X		8				8		X		X	X							
3	MW-1_20131217	12/17/13	1000		X		8				8		X		X	X							
4	MW-2_20131217	12/17/13	1010		X		8				8		X		X	X							
~~—~~	~~MW-9_20131217~~	~~12/17/13~~			~~X~~		~~8~~				~~8~~		~~X~~		~~X~~	~~X~~							LH
5	MW-12_20131217	12/17/13	1045		X		8				8		X		X	X							
6	MW-14_20131217	12/17/13	1030		X		8				8		X		X	X							
7	MW-17A_20131217	12/17/13	1140		X		8				8		X		X	X							
8	MW-18_20131217	12/17/13	1120		X		8				8		X		X	X							
9	MW-19_20131217	12/17/13	1055		X		8				8		X		X	X							

580-41703 Chain of Custody

Sampler's Name:	T. Robers, L. Hamilton, & C. Crawford	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	Antea Group	Lam Hamilton / ANTGR	12/18/13	1140	Tom Blount / TA-Sea	12/18/13	1140
Shipment Method:	Ship Date:						
Shipment Tracking No:							

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No

A2 w/o
Cooler/(TB) Dig/IR cor 3.7 unc 3.6
Cooler Dsc Lg Blu/whi @ Lab ___
(Wet)/Packs Packing bub
Client drop

A2 w/o
Cooler (TB) Dig/IR cor 3.3 unc 3.2
Cooler Dsc Lg Blu/whi @ Lab ___
(Wet)/Packs Packing bub

Sample Submitted: Yes / No

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Olympic Pipeline Company
Req Due Date (mm/dd/yy): Standart TAT **Rush TAT:** Yes ___ No ___
BP/ARC Facility No: Allen Station
Lab Work Order Number: 41703

Lab Name:	Test America, Inc.	BP/ARC Facility Address:	16292 Ovenell Road	Consultant/Contractor:	Antea Group
Lab Address:	5755 8th Street East, Tacoma, WA	City, State, ZIP Code:	Mount Vernon, WA	Consultant/Contractor Project No:	WAALLHA131
Lab PM:	Ai Pham	Lead Regulatory Agency:	Washington State Department of Ecology	Address:	4006 148th Ave NE, Redmond, WA 98052
Lab Phone:	(253) 922-2310	California Global ID No.:	NA	Consultant/Contractor PM:	Bryan Taylor
Lab Shipping Accnt:		Enfos Proposal No:	006SM-0004 / WR261102	Phone:	(425) 498-7727
Lab Bottle Order No:		Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	bryan.taylor@anteagroup.com
Other Info:		Stage: 60	Activity: 81	Invoice To:	BP/ARC X Contractor ___

BP/ARC EBM: Paul Supple
EBM Phone: (925) 275-3801
EBM Email: Paul.Supple@bp.com

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	$Na_2S_2O_3$		Requested Analyses: BTEX by EPA 8260	MTBE by EPA 8260	NWTPH-Gx	NWTPH-Dx w/silica gel	NWTPH-Ox w/silica gel	Pb-T by EPA 6020	Pb-D by EPA 6020	EDB by EPA 8011	EDC by EPA 8260	Naphthalenes	Comments
10-	MW-20_20131217	12/17/13	1200		X			24	HN			24	HN		X		X	X							MS/MSD
11-	MW-21_20131217	12/17/13	1200		X			8				8			X		X	X							
12-	MW-22_20131217	12/17/13	1035		X			8				8			X		X	X							
13-	MW-23_20131217	12/17/13	1025		X			8				8			X		X	X							
~~—~~	~~MW-24_20131217~~				~~X~~			~~8~~				~~8~~			~~X~~		~~X~~	~~X~~							LH
~~—~~	~~RW-18_20131217~~		HH		~~X~~			~~8~~				~~8~~			~~X~~		~~X~~	~~X~~							LH
14-	SRW-1_20131217	12/17/13	1430		X			8				8			X		X	X							
15-	O/W Seperator_20131217	12/17/13	1420		X			8				8			X		X	X							
16-	TB-01_20131217	12/17/13	0000		X			6				6			X		X								
17-	TB-02_20131217	12/17/13	0000		X			6				6			X		X								

Report Type & QC Level: Standard X w/ Access; Full Data Package ___

		Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name:	T. Roberts, L. Hamilton, & C. Crawford	Shawn Hamilton / ANTEA	12/18/13	1140	Tom Blount / TA-Sea	12/18/13	1140
Sampler's Company:	Antea Group						
Shipment Method:	Ship Date:						
Shipment Tracking No:							

Special Instructions:

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

Login Sample Receipt Checklist

Client: Antea USA, Inc.

Job Number: 580-41703-1

Login Number: 41703
List Number: 1
Creator: Balles, Racheal M

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	False	No vials forTB-2 were received.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	