

## WELL INSTALLATION REPORT

Pacific Convenience and Fuels Service Station #2705492 21208 68th Ave South, Kent, Washington, 98032 Facility Site ID # 15543314 VCP No. NW2686

Antea®Group Project No. I42705492 April 30, 2013

Prepared for: **Pacific Convenience & Fuels, LLC** 7180 Koll Center Parkway Suite 100 Pleasanton, CA 94566

*Prepared by: Antea Group* 4006 148<sup>th</sup> Avenue NE Redmond, WA 98052 800 477 7411





# **TABLE OF CONTENTS**

1.0	EXECUTIVE SUMMARY	1
2.0 2.1 2.2 2.2 2.2 2.2 2.2	.2 Historical Site Characterization Assessments, 1989 to 2012	1 2 2 2
3.0	SCOPE OF WORK	7
4.0	WELL INSTALLATION	7
5.0	WASTE MANAGEMENT	8
6.0 6.1 6.2	SAMPLE COLLECTION AND ANALYSIS Soil Sampling Laboratory Analysis	8
7.0	SOIL ANALYTICAL RESULTS	9
8.0	SUMMARY AND CONCLUSIONS	9
9.0	REMARKS1	0



# TABLE OF CONTENTS (Cont.)

## Tables

 Table 1
 Summary of Soil Sample Analytical Results

## Figures

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Soil Analytical Results Map – 10/30/2012

## Appendices

Appendix A	Boring Logs
Appendix B	Field Data Sheets
Appendix C	Waste Manifest Documentation
Appendix D	Analytical Laboratory Reports



# Well Installation Report

Pacific Convenience and Fuels Service Station #2705492 21208 68th Ave S, Kent, Washington Antea Group Project No. 142705492 Facility Site ID # 15543314 VCP No. NW2686

Antea Group (Antea Group) has prepared this report to summarize well installation activities performed at the Pacific Convenience & Fuels, LLC (PC&F) Service Station #2705492 (former ConocoPhillips Service Station) located at 21208 68<sup>th</sup> Avenue South, Kent, Washington (The Property, Figure 1). The work summarized in this report was performed to further delineate the lateral extent of petroleum hydrocarbon concentrations beneath the property.

## 1.0 EXECUTIVE SUMMARY

On October 30, 2012, Antea Group personnel directed the advancement of 1 soil boring (MW-13) at the Property (Figure 2). Boring MW-13 was advanced to a total depth of 19.5 feet below ground surface (bgs) and completed as 2inch groundwater monitoring well set at 18 feet bgs with 15 feet of 0.010" slotted screen. Soil samples were collected at 3 feet bgs with a hand auger during air-knifing activities and at approximate five foot intervals from a split spoon driven ahead of the drill bit into the undisturbed formation. Soil samples above groundwater were submitted for quantitative chemical analyses. Petroleum hydrocarbons were not detected above respective Washington State Model Toxic Control Act (MTCA) Method A cleanup levels and/or laboratory method reporting limits (MRLs) in any sample submitted for laboratory analyses.

## 2.0 BACKGROUND

## 2.1 Site Description

The facility is an operating service station. The Property is square in shape and is located at the southeast corner of the intersection of 68th Avenue South and South 212th Street in Kent, Washington (Figure 1). The Property has been assigned site number 2705492. The current service station facility consists of a station building, three underground storage tanks (USTs) and four dispensing islands. The USTs consist of one 10,000 gallon supreme and two 10,000-gallon regular unleaded tanks. The former station configuration included three dispenser islands diagonally oriented on a northwest-southeast axis with a cashier's building located adjacent to the center dispenser island. The former UST field was located adjacent to the southeastern dispenser island. Gasoline was stored in four 12,000 gallon USTs and diesel was stored in one 12,000 gallon UST (Figure 2).



According to information gathered by Rittenhouse–Zeman & Associates Inc. (RZA), the Property has been a gasoline service station since at least 1969. The station formerly operated under various retail gasoline company brands including Chevron USA, Southland Corporation, Mobil Oil Corporation, British Petroleum (BP) Oil Company, ConocoPhillips, and most recently, PC&F. The Property is at an approximate elevation of 25 feet above mean sea level. Topography in the vicinity of the Property is generally flat. The Green River is located approximately <sup>3</sup>/<sub>4</sub> mile west of the Property and flows in a northerly direction. State highway 167 is located approximately 1.3 miles east of the Property and Interstate 5 is located approximately 2 miles west of the Property. The surrounding land use is predominantly commercial.

## 2.2 Previous Investigations

## 2.2.1 Historical Motor Fuel Dispensing Facility Configurations, 1969 to 1991

The Property has reportedly operated as a gasoline and diesel-dispensing facility since at least 1969. According to review of the Washington State Department of Ecology (Ecology) UST database, five USTs were installed at the Property in 1964. Documentation regarding the decommissioning and/or removal of the original USTs has not been found. Between 1980 and 1981, the station was remodeled by Southland Corporation. The Underground Storage Tank Removal report prepared by RZA in April 1992 stated that Southland Corporation transferred five 12,000 gallon USTs from another location and installed them at the Property in 1980. The prior usage and condition of the USTs at the time of installation was not reported.

The station was remodeled again in September 1991 and included the demolition and replacement of the station building, dispenser islands, the USTs installed in 1980, and the associated product piping. According to RZA's April 1992 report, four 12,000-gallon gasoline USTs and one 12,000-gallon diesel UST were removed from the Property on October 2 and 3, 1991. A septic tank and associated drain field was also discovered and was subsequently removed during the station upgrade. Following UST decommissioning, the motor fuel products USTs were replaced by one 10,000 gallon supreme and two 10,000-gallon unleaded gasoline USTs oriented east-west in the west central portion of the Property. The station upgrade was completed in December 1991.

## 2.2.2 Historical Site Characterization Assessments, 1989 to 2012

A soil gas survey was conducted at the Property on February 26, 1989 by Target Environmental Services, Inc. (Target) in accordance with the Property transfer agreement between Mobil Oil Corporation and BP Oil Company. The results of the soil gas survey indicated that petroleum hydrocarbons were concentrated in the subsurface soil in the vicinity of the UST complex and along the product piping, with some migration northwestward along the edge of the dispenser island area. Target stated that low level hydrocarbon impacts were detected in the remaining areas of the Property.

In order to evaluate subsurface soil and groundwater for the presence of petroleum hydrocarbons, RZA conducted a limited subsurface investigation at the Property in April 1989. Prior to the investigation activities, RZA observed that four groundwater monitoring wells (named by RZA as wells "A" through "D") had been installed at the Property in



the region of the UST complex and dispenser islands. RZA installed monitoring well MW-1 to the west of the UST complex on April 12, 1989. Soil observed during the drilling consisted of soft to medium dense sandy silt to approximately 10 feet bgs, underlain by medium dense slightly silty sand to the bottom of the boring, 14 feet bgs. A soil sample was collected for analysis of total petroleum hydrocarbons (TPH) and for benzene, toluene, ethylbenzene, and total xylenes (BTEX). A concentration of TPH was detected at 36 milligrams per kilogram (mg/kg). During the groundwater monitoring activities conducted at the existing wells and at well MW-1 on April 18, 1989, approximately 0.26 feet of liquid petroleum hydrocarbons (LPH) was measured in well B, located southwest of the center dispenser island. Groundwater samples were collected from well MW-1 and well D for analysis of TPH and BTEX. Within the groundwater sample collected from well MW-1, TPH and BTEX were detected at concentrations of 28,000 micrograms per liter (μg/L), 13,040 μg/L, 2,250 μg/L, 290 μg/L, and 1,260 μg/L, respectively.

RZA conducted a subsurface investigation in November 1989 which consisted of the installation of two new wells (MW-2 and MW-3) and the decommissioning of wells A, B, C, and D. Prior to the well decommissioning, approximately 0.5 feet of LPH was measured in well B. Wells MW-2 and MW-3 were installed on November 21, 1989 to a depth of 15 feet bgs. Laboratory analysis of soil samples collected from the borings indicated that concentrations of TPH and BTEX were detected in the 9-foot soil sample interval from boring MW-3 at 5,679 parts per million (ppm), 68.3 ppm, 312 ppm, 71.0 ppm, and 399 ppm, respectively. Concentrations of TPH and BTEX were also detected in groundwater samples collected from wells MW-1 through MW-3 on November 28, 1989.

Four additional groundwater monitoring wells (MW-4 through MW-7) were installed to a depth of 18.5 feet bgs by RZA in February 1991. The wells were installed to further delineate the extent of petroleum hydrocarbons in groundwater and soil beneath the Property. Soil samples were collected from the sample intervals of 2 feet to 3.5 feet bgs and from 7 feet to 8.5 feet bgs from each boring for analysis of petroleum hydrocarbons. Concentrations of TPH as diesel (TPH-D) ranged from 14 ppm to 40 ppm. Concentrations of BTEX were not detected above the laboratory method reporting limits. Groundwater samples were collected from the wells on February 14, 1991. A concentration of benzene was detected within the sample collected from well MW-4 at 232 parts per billion (ppb). Station upgrades including the demolition and replacement of the station building, dispenser islands, USTs and associated product piping were performed at the Property between September and December 1991. Prior to excavation of the new UST complex, an exploratory trench was excavated on September 9, 1991 along the perimeter of the proposed location of the new UST complex. During the limited excavation, large pieces of asphalt and concrete, steel product lines, and a concrete dispenser island with an attached canopy footing were discovered in the northwest corner of the proposed UST location at a depth of approximately 6 feet to 7 feet bgs. Several of the product lines were observed to contain groundwater. According to RZA's April 1992 report, all debris found during the excavation was removed. Well MW-3 was also removed during the excavation activities for the new USTs.

Excavation of the new UST complex began on September 24, 1991. Excavated soil was field screened with a PID. The highest PID readings were observed from soil samples obtained near the groundwater interface at depths between 11 feet and 12 feet bgs. Soil samples collected from the new UST complex from depths between 7 feet and 12 feet



bgs contained concentrations of TPH as gasoline (TPH-G) ranging from 8 ppm to 1,400 ppm and total BTEX ranging up to 20 ppm. During excavation dewatering operations, three groundwater samples were collected for laboratory analysis of petroleum hydrocarbons. Concentrations of TPH-G and BTEX were detected up to 60,000 ppm, 6,600 ppm, 12,000 ppm, 360 ppm, and 11,000 ppm, respectively. Upon installation of the new USTs, four UST observation wells (TW-1 through TW-4) were installed in the four corners of the new UST complex. Historic documents indicate that observation well TW-1 was used during groundwater monitoring events conducted by RZA.

The five 12,000-gallon USTs were removed from the Property on October 2 and 3, 1991. Upon removal, a hole approximately the diameter of a pencil was found in the bottom of the unleaded gasoline UST. RZA observed a "brownish emulsion" on the groundwater present at 10.5 feet to 11 feet bgs within the excavation. Soil samples were collected from the sidewalls and bottom of the excavation between 7 feet and 12 feet bgs. Concentrations of TPH-G, TPH-D, and BTEX were detected up to 7,200 ppm, 2,600 ppm, 90 ppm, 540 ppm, 160 ppm, and 1,000 ppm, respectively. The excavation was backfilled with a combination of the previously excavated soil and imported clean fill consisting of silty sand and gravel.

During excavation of the former UST complex, several concrete and polyvinyl chloride (PVC) pipes were discovered in the sidewalls of the UST excavation. The pipes as well as some previously abandoned monitoring wells and well MW-2 were removed during the excavation activities. Another well RZA identified as well "E" was also abandoned during the UST removals. In addition, an 18-inch concrete pipe was also discovered along the southwest corner of the former UST excavation at a depth of 7 feet bgs. Upon checking with the City of Kent, the pipe was grouted at the western and southeastern Property boundary to prevent migration of petroleum hydrocarbons.

The dispenser islands and associated canopy were demolished and removed from the Property in October 1991. Elevated PID readings were observed in soil located near the central footing of the former canopy. During the excavation activities conducted for the new canopy footings, soil samples were collected between 5 feet and 6 feet bgs. Concentrations of TPH-G and TPH-D were detected up to 70 ppm and 110 ppm, respectively. The soil sample collected from the southern-central canopy footing at 5 feet bgs contained concentrations of BTEX at 2.2 ppm, 12 ppm, 7.6 ppm, and 41 ppm, respectively. During the excavations for the new canopy footings, all product lines, vent lines, and former utility lines were traced and subsequently removed to prevent preferential pathways. During the excavation of the product line trench to the southern dispenser island on November 5, 1991, a 750-gallon concrete septic tank and associated drain field was discovered. Prior to having the septic pumped and cleaned by a septic tank cleaning service, samples were collected from the contents of the septic tank. Concentrations of TPH-G, TPH-D, and BTEX were detected at 320 ppm, 6,200 ppm, 9.6 ppm, 4.2 ppm, 5.6 ppm, and 31 ppm, respectively. The septic tank was removed on November 7, 1991 and a soil sample was collected from beneath the tank between 6 feet and 7.5 feet bgs. Analytical results indicated concentrations of TPH-G, TPH-D, BTEX, and lead were detected at 2,600 ppm, 750 ppm, 13 ppm, 120 ppm, 53 ppm, 300 ppm, and 101 ppm, respectively. All concrete drain pipes associated with the septic tank were removed from the Property during the septic tank excavation activities.



Additional soil was removed from the Property from the region surrounding the three catch basins and the associated storm drain lines. RZA removed black oily sludge from the catch basins and the storm drain line for disposal with the other impacted soil generated during the station upgrades. The former oil water separator was removed from the Property and replaced with two oil water separators installed near the northern and western Property boundaries. During the installation of the northern oil water separator, a small stained soil horizon was noted at approximately 2 feet bgs.

Groundwater monitoring conducted between 1989 and 1993 indicated that the groundwater flow direction was to the north. In order to evaluate if petroleum hydrocarbons had migrated off-Property, an additional investigation was conducted in March 1993. Monitoring well MW-8 was drilled and installed within the right-of-way on the north side of South 212th Street, directly opposite of the Property to a depth of 20 feet bgs. Two soil samples and one groundwater sample were submitted for laboratory analysis of petroleum hydrocarbons. Concentrations of TPH-G, TPH-D, and BTEX were not detected above the laboratory method reporting limits in the soil and groundwater samples.

On January 9, 2008, ATC Associates, Inc. (ATC) performed a Due Diligence site assessment to generate a baseline assessment of the Property at the time of the Property transfer from ConocoPhillips to PC&F. The assessment included the collection of groundwater samples from wells MW-1, MW-4, MW-5, MW-6, MW-7, TW-1, and TW-3 for analysis of petroleum hydrocarbons. The depth to groundwater ranged from 7.58 feet to 8.43 feet bgs. Concentrations of TPH-G and benzene were detected above the MTCA Method A cleanup levels in the groundwater sample collected from tank observation well TW-1 at 2,200 µg/L and 150 µg/L, respectively.

On August 3, 2010, Antea Group personnel directed the drilling and installation of one groundwater monitoring well (MW-9) at the Property. Boring MW-9 was advanced to a depth of 18 feet bgs and completed as a monitoring well. Soil samples were collected from MW-9 at depths of 6, 10, and 15 feet bgs.

Petroleum hydrocarbon concentrations were not detected above the respective MTCA Method A cleanup levels in any of the soil samples collected from boring MW-9. During the drilling and installation of well MW-9, a well was identified approximately 15 feet to the northwest of existing well DC-4. Due to lack of information provided by previous consultants, this well has been arbitrarily named well MW-10.

Groundwater samples were collected from the newly installed well MW-9 and from existing wells MW-1, MW-4 through MW-7, MW-10, DC-1, DC-3, DC-4, TW-1, and TW-3 on September 23, 2010. The laboratory analytical results indicated that concentrations of TPH-G and benzene exceeded the MTCA Method A cleanup level in well MW-10. A concentration of TPH-G was also detected above the MTCA Method A cleanup level in the groundwater sample collected from well TW-1. Petroleum hydrocarbon concentrations were not detected above the respective MTCA Method A cleanup levels in any of the groundwater samples collected from the remaining wells.



On April 16, 2012, Antea Group personnel directed the advancement of 6 soil borings (B-1 through B-6) at the property. An additional boring (B-7) was attempted but was abandoned due to utilities found approximately 18" bgs. Borings B-1 and B-5 were advanced to a total depth of 15 feet bgs and boring B-6 was terminated at a total depth of 7 feet bgs due to the presence of concrete. Soil samples were collected at approximate 5-foot intervals. Laboratory analytical results indicated that petroleum hydrocarbons were detected above respective MTCA Method A cleanup levels for benzene and/or TPH-G in soil samples collected from B-2-10, B-3-3, B-4-3, B-4-10, B-4-15, and B-5-10. Maximum observed concentrations of benzene and TPH-G were 0.0364 mg/kg in sample B-4-10 and 424 mg/kg in sample B-2-10, respectively.

On July 9 and 10, 2012, Antea Group personnel directed the advancement of 3 soil borings (MW-11, MW-12, and AS-1) at the property. Borings MW-11 and MW-12 were advanced to a total depth of 18 feet bgs and completed as 2inch groundwater monitoring wells with 15 feet of 0.010" slotted screen. Boring AS-1 was advanced at a total depth of 17 feet bgs and completed as an air-sparge well with two feet of 0.020" slotted screen from 13 to 15 feet bgs. Soil samples were collected at 3 feet bgs with a hand auger during air-knifing activities and at approximate 5-foot intervals from a split spoon driven ahead of the drill bit into the undisturbed formation. Petroleum hydrocarbons were detected above respective MTCA Method A cleanup levels for benzene and/or TPH-G in soil samples collected from MW-11-10, AS-1-3, and AS-1-10. Maximum observed concentrations of benzene and TPH-G were 4.51 mg/kg and 8,080 mg/kg in samples collected from MW-11-10.

## 2.2.3 Historical Site Remedial Activities, 1991 to Present

Groundwater was pumped from well MW-3 during a 24-hour pump test conducted on April 26 and 27, 1991. Flow rates measured during the test ranged from 2.40 gallons per minute (gpm) to 3.04 gpm. Water pumped during the test was treated with an air stripper prior to discharge to the sanitary sewer. The total volume of water discharged was not reported.

During excavation of the new UST complex in September 1991, approximately 850 to 900 cubic yards of soil were removed from the Property and transported to the Fields Shotwell Corporation located in Port Angeles, Washington for thermal treatment. In addition, an estimated total volume of 110,000 gallons of water was pumped from the new UST complex and treated by a portable air stripper prior to discharging to the sanitary sewer.

Following the removal of the USTs in October 1991, a two-inch horizontal PVC vapor recovery line extending approximately 20 feet to the north and south of the building center was installed in the UST excavation at a depth of 7 feet bgs. A 40-foot section of two-inch blank PVC pipe was connected to the vapor line. The blank PVC vapor line reportedly extended to the west and was brought to the surface for future utilization. Four wells (DC-1 through DC-4) were also installed at the Property in late 1991 or early 1992 for possible future use as either groundwater recovery wells or as sparge points for remediation of the impacted groundwater. Documentation of the well installations and installation of a groundwater remediation system has not been found.



According to a Combined Groundwater and SVES Monitoring Report prepared by RZA on February 21, 1994, a soil vapor extraction (SVE) system was reportedly installed at the Property and was activated on November 10, 1993. Based on laboratory analysis of an effluent air sample, RZA calculated the TPH-G and total BTEX recovery rates to be approximately 0.23 pounds per day and 0.01 pounds per day, respectively. A report detailing the SVE system layout, installation, operation, and maintenance has not been found.

On November 29 and 30, 2010, Antea Group personnel directed the drilling and installation of three injection wells (IW-1 through IW-3). All three borings were advanced to a depth of 10 feet bgs and constructed of schedule 40 (SCH 40) PVC with 5-feet of 0.020-inch slotted screen. Soil samples were collected from the drill cuttings for field screening using a photo-ionization detector (PID) and for lithologic descriptions. Soil samples were not submitted for laboratory quantitative chemical analysis. Currently, the injection wells are used to inject 250-gallons of sulfate solution into the subsurface on a bi-weekly basis.

## 3.0 SCOPE OF WORK

The scope of work performed by Antea Group included the following tasks:

- Development of a site-specific Health and Safety Plan;
- Contracting One-Call and a private underground utility locater to delineate the location and marking of underground utilities and other potential subsurface obstructions in the vicinity of the proposed boring location;
- Clearing for utilities to a minimum depth of 5 feet bgs using an air knife/vacuum rig;
- Collection of a soil sample at 3 feet bgs with a hand auger during utility clearance activities;
- Drilling of 1 soil boring (MW-13);
- Completing MW-13 as 2-inch groundwater monitoring well;
- Collection of soil samples at approximate 5-foot intervals to the maximum depth explored using split-spoons driven into the undisturbed formation with a hollow stem auger drill rig;
- Examination and description of each sample using the Unified Soil Classification System (USCS) and standard geologic techniques;
- Submitting select soil samples for quantitative chemical analysis from each boring interval;
- Profiling, removal, and proper disposal of investigative derived waste; and
- Preparing a report summarizing the findings of the subsurface investigation.

## 4.0 WELL INSTALLATION

On October 30, 2012, Antea Group personnel directed drilling of one boring (MW-13) at the Property. Prior to the drilling activities, Antea Group coordinated the location and marking of underground utilities in the vicinity of the



proposed boring locations. The utilities survey included contacting the local utility locating service and contracting with a private locating service.

Prior to drilling, the boring location was cleared to a final depth of five feet bgs with an air-knife and vacuum truck. A soil sample was collected with a hand auger at 3 feet bgs during air-knife/vacuum activities. Following air-knifing, the boring was advanced using hollow stem auger drilling equipment. Boring MW-13 was advanced to a total depth of 19.5 feet bgs. Where recovered, soil samples were collected using split spoons advanced approximately every 5 feet to the maximum depth explored. Select soil samples were submitted for quantitative chemical analysis. Boring MW-13 was completed as a 2-inch diameter groundwater monitoring well set at 18 feet bgs with 15 feet of 0.010" slotted screen. Boring log, soil sampling intervals, and lithology descriptions are included in Appendix A. Field data sheets are included in Appendix B.

Soil encountered during drilling included fine to medium grained sands, gravelly sands, and sandy silts. Groundwater was encountered in MW-13 at a depth of approximately 11 feet bgs. No odors or visible staining were noted in MW-13.

## 5.0 WASTE MANAGEMENT

Soil cuttings and decontamination fluids generated during drilling activities were temporarily stored in properly labeled 55-gallon DOT drums. Analytical data for soil samples were used for disposal profiling. The drums were removed by PSC Environmental on January 11, 2013 and properly disposed of by Burlington Environmental in Kent Washington. Waste manifest documentation is included in Appendix C.

## 6.0 SAMPLE COLLECTION AND ANALYSIS

### 6.1 Soil Sampling

Soil samples were field screened using a PID for volatile petroleum hydrocarbons. Based on PID readings, soil samples from each boring were selected for quantitative chemical analysis for petroleum hydrocarbons. The soil samples were individually labeled, registered on a Chain-of-Custody form, and placed in a chilled cooler pending delivery to a certified analytical laboratory. Soil analytical results are presented in Table 1 and shown on Figure 3.

## 6.2 Laboratory Analysis

Soil and groundwater samples were submitted to Pace Analytical Laboratories of Seattle, WA for quantitative chemical analysis.



One or more soil samples were analyzed for the following parameters:

- TPH-G range using Northwest Method NWTPH-Gx;
- BTEX using EPA Method 8260; and
- Total Lead using EPA Method 6010.

## 7.0 SOIL ANALYTICAL RESULTS

Laboratory analytical results indicate that concentrations of BTEX and TPH-G were not detected above MTCA Method A cleanup levels and/or laboratory MRLs in any soil samples submitted for analyses. Total lead was detected at a maximum concentration of 21.6 mg/kg (MW-13-10).

Soil analytical results are presented in Table 1 and shown on Figure 3. The laboratory analytical report is included in Appendix D.

## 8.0 SUMMARY AND CONCLUSIONS

Antea Group directed the drilling of one boring (MW-13) at the property on October 30, 2012. MW-13 was completed as a 2" groundwater monitoring well. Laboratory analysis of soil samples collected from MW-13 indicate that BTEX and TPH-G were not detected above MTCA Method A cleanup levels and/or laboratory MRLs in all soil samples submitted for analyses. Groundwater samples will be collected from the well during the next sampling event and the analytical results will be included in the next quarterly groundwater monitoring report. Additional investigation down-gradient of MW-12 may be warranted to complete subsurface investigation.

Please call (425) 498-7724 if you have any questions regarding the contents of this report.



## 9.0 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.

Prepared by:

- 61

Joe Rounds Project Manager

Reviewed by:

Matthew Miller, LG Project Manager



Date: April 30, 2013

Date: April 30, 2013



# **Tables**

 Table 1
 Summary of Soil Sample Analytical Results

## TABLE 1 SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

Pacific Convenience and Fuels Facility No. 2705492 21208 68th Avenue S Kent, Washington 98032

				Analysis									
Sample ID	Sample Date	Depth BGS (feet)	Gasoline Range (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Total Xylenes (mg/kg)	Lead (mg/kg)					
MW-13-3	10/30/2012	3	<5.7	<0.0040	<0.0040	<0.0040	<0.012	7.3					
MW-13-6	10/30/2012	6	<6.0	<0.0044	<0.0044	<0.0044	<0.013	6.0					
MW-13-10	10/30/2012	10	<6.8	<0.0043	<0.0043	<0.0043	<0.013	21.6					
MTCA Meth	od A Cleanu	p Levels:	100/30 <sup>a</sup>	0.03	7	6	9	250					
NOTES:													
All concentra	ations are in r	milligrams per	kilogram (mg	g/kg).									

< = Less than the stated laboratory reporting limit.

Gasoline range = Gasoline range hydrocarbons by Ecology Method NWTPH-Gx

BTEX = Aromatic compounds by EPA Method 8260

Total and dissolved lead by EPA Method 6010

<sup>a</sup> 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.



# **Figures**

- Figure 1 Site Location Map
- Figure 2 Site Map
- Figure 3 Soil Analytical Results Map 10/30/2012







### <u>LEGEND</u>

	APPROXIMATE PROPERTY BOUNDARY
xx	FENCE
MW-4 🔶	GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
TW−1 ●	TANK OBSERVATION WELL LOCATION AND DESIGNATION
MW-8 🖸	PAVED OVER MONITORING WELL LOCATION AND DESIGNATION
IW-1 <b>O</b>	INJECTION WELL LOCATION
B−1 ●	SOIL BORING LOCATION AND DESIGNATION
AS−1 ⊕	AIR SPARGE POINT LOCATION
*	MANHOLE UNDERGROUND UTILITIES
	····







LEGEND

	APPROXIMATE PROPERTY BOUNDARY
x x	FENCE
MW-4 �	GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
TW−1 ®	TANK OBSERVATION WELL LOCATION AND DESIGNATION
MW-8 <del>∯</del>	PAVED OVER MONITORING WELL LOCATION AND DESIGNATION
IW-1 0	INJECTION WELL LOCATION
B−1 ●	SOIL BORING LOCATION AND DESIGNATION
AS−1 ⊕	AIR SPARGE POINT LOCATION
⊛	MANHOLE
=======	UNDERGROUND UTILITIES
TPH-G	TOTAL PETROLEUM HYDROCARBONS – GASOLINE
В	BENZENE
Т	TOLUENE
E	ETHYLBENZENE
х	TOTAL XYLENES
Pb	LEAD
<	NOT DETECTED ABOVE LIMIT NOTED
mg/kg	MILLIGRAMS PER KILOGRAM
	BOLD VALUES INDICATE EXCEEDANCE OF MTCA METHOD A CLEANUP LEVELS

NOTE: COORDINATES ARE REFERENCED TO THE WASHINGTON NORTH COORDINATE SYSTEM, NAD 83.





FIGURE 3

SOIL ANALYTICAL RESULTS MAP 10/30/2012

PACIFIC CONVENIENCE AND FUELS SERVICE STATION #2705492 21208 68th AVENUE SOUTH KENT, WASHINGTON



# Appendix A

**Boring Logs** 

INSTALLATION DATE: 1030/2012       DRILLING METHOD: HSA         PROJECT: 42706492       SAMPLING METHOD: SAID Spoon         CLINE: COPELT       BORING DEPTH: 19.5         COPELT       BORING DEPTH: 19.5         DOLATION. 21208 68 <sup>th</sup> Avenue South       BORING DEPTH: 19.5         DOLATION. 21208 68 <sup>th</sup> Avenue South       BORING DEPTH: 19.5         VELLOSING CEPTH: 19.5         VELLOSIN											An	tea (	Group	WELL/BORING: MW-13		
OLIENT: COP-ELT       DORING DIAMETER: 8.25"         LOCATION: 21208 68 <sup>A</sup> Avenue South       BORING DEPTH: 18.3         CITY: Kent       WELL SCREEN: 3'- 18' (0.010')         STATE: WA       WELL SCREEN: 3'- 18' (0.010')         VELLBORING       B         VELLSCREEN 2'- 18' (2X12)         COMPERTION       B         VELLBORING       Convells         VELLBORING       B         VELLBORING       C						$\mathcal{O}$		INST	ALLATIO	N DAT	E: 10	/30/20	DRILLING MET	THOD: HSA		
Anteagroup       LOCATION: 21208 68 <sup>h</sup> Avenue South       BORING DEPTH: 19.5'         UCCT: Kent       WELL CASING: SCH 40 V/C 2'         STATE: WA       WELL CASING: SCH 40 V/C 2'         DRULER: Cascade Driling, Inc.       SAND PACK: 2' - 19.5' (2412)         VELLSORING: SCH 40 V/C 2'       SAND PACK: 2' - 19.5' (2412)         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'         VELLSORING: SCH 40 V/C 2'       Sch 40 V/C 2'      <							$\overline{}$	PRO	PROJECT: I42705492 SAMPLING METHOD: Split Spoon							
STATE: WA     WELL SCREEN: 3 - 18 (0.010')       DRILLER: Cascade Drilling, Inc.     SAND PACK: 2 - 19.5 (2x12)       COMPLETION       VELL SORTING     VELL SORTING     VELL SORTING     SAND PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     OWP     0.7     NA       VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     OWP     0.7																
STATE: WA     WELL SCREEN: 3 - 18 (0.010')       DRILLER: Cascade Drilling, Inc.     SAND PACK: 2 - 19.5 (2x12)       COMPLETION       VELL SORTING     VELL SORTING     VELL SORTING     SAND PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     OWP     0.7     NA       VELL SORTING     Sand PACK: 2 - 19.5 (2x12)       VELL SORTING     OWP     0.7	l a	n	te	a	ا <b>D</b>	roi	In									
DRILLER: Cascado Driling, Inc.         SAND PACK: 2'-19.5' (2x12)           WELLBORING COMPLETION         Image: Second Structure         CASING ELEVATION - Image: Second Structure         CASING ELEVATION - Image: Second Structure         Completion           V         V         V         V         V         V         Completion         Completion           V         V         V         V         V         V         V         Completion         Completion <t< td=""><th>۲ I</th><td colspan="7">anceagioap</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	۲ I	anceagioap														
WELLBORING COMPLETION         Image: Second sec										ahe a	Drillin					
Concrete         Cobbles present.           DMP         0.7         NA         3         SP           DMP         1.0         3         5         ML           DMP         1.0         3         5         ML           Sandy SILT: brown; no staining; no odor.         Sandy SILT: brown; no staining; no odor.         Sandy SILT: brown; no staining; no odor.           Sandy SILT: brown; no staining; no odor.         11         12         Sandy SILT: brown; no staining; no odor.           WET         1.5         2         11         12         Sandy SILT: brown at 10; turning gray at 10.5; 80% silt: 20% fine sand; mild odor in gray stained area.         Sandy SILT: brown at 10; turning gray at 10.5; 80% silt: 20% fine sand; mild odor in gray stained area.           WET         1.7         7         15         SP         SAND: black; medium grained sand; no staining; no odor.           9         10         19         19         SP         SAND: black; medium grained becoming finer; woody debris at 19.5; no odor.					0									2 - 13.3 (2.112)		
Concrete         Cobbles present.           DMP         0.7         NA         3         SP           DMP         1.0         3         5         ML           DMP         1.0         3         5         ML           Sandy SILT: brown; no staining; no odor.         Sandy SILT: brown; no staining; no odor.         Sandy SILT: brown; no staining; no odor.           Sandy SILT: brown; no staining; no odor.         11         12         Sandy SILT: brown; no staining; no odor.           WET         1.5         2         11         12         Sandy SILT: brown at 10; turning gray at 10.5; 80% silt: 20% fine sand; mild odor in gray stained area.         Sandy SILT: brown at 10; turning gray at 10.5; 80% silt: 20% fine sand; mild odor in gray stained area.           WET         1.7         7         15         SP         SAND: black; medium grained sand; no staining; no odor.           9         10         19         19         SP         SAND: black; medium grained becoming finer; woody debris at 19.5; no odor.	WELL							TY 1/6"	ΞĒ	ERY TERV	SS	HC				
Concrete         Cobbles present.           DMP         0.7         NA         3         SP           DMP         1.0         3         5         ML           DMP         1.0         3         5         ML           Sandy SILT: brown; no staining; no odor.         Sandy SILT: brown; no staining; no odor.         Sandy SILT: brown; no staining; no odor.           Sandy SILT: brown; no staining; no odor.         11         12         Sandy SILT: brown; no staining; no odor.           WET         1.5         2         11         12         Sandy SILT: brown at 10; turning gray at 10.5; 80% silt: 20% fine sand; mild odor in gray stained area.         Sandy SILT: brown at 10; turning gray at 10.5; 80% silt: 20% fine sand; mild odor in gray stained area.           WET         1.7         7         15         SP         SAND: black; medium grained sand; no staining; no odor.           9         10         19         19         SP         SAND: black; medium grained becoming finer; woody debris at 19.5; no odor.				ISNE	DEP (FEE		USC VME	RAP								
Image: Second state of the second s				$\nabla$		ЪЙ	д.	BL( DE		SAMF	0	U U	DESCRIPTION/LOGGED BY: N	legan Richard		
Image: Second state of the second s	Concrete								_							
Participation       DMP       0.7       NA       2	Concrete		777						1—		-					
Image: Second status       DMP       0.7       NA       3       SP       Gravelly SAND: brown; 70% fine to medium sand; 30% fine to medium subrounded gravel; loose; no staining; no odor.         Image: Second status       DMP       1.0       3       5       ML       Sandy SILT; brown; no staining; no odor.         Image: Second status       MST       1.5       2       10       ML       Sandy SILT; brown; no staining; no odor.         Image: Second status       MST       1.5       2       10       ML       Sandy SILT; brown; no staining; no odor.         Image: Second status       MST       1.5       2       10       ML       Sandy SILT; brown; no staining; no odor.         Image: Second status       MST       1.5       2       10       ML       Sandy SILT; brown; no staining; no odor.         Image: Second status       1.5       2       11       12       Sandy SILT; brown; no staining; no odor.         Image: Second status       1.6       1.6       Second status       Sandy SILT; brown; no staining; no odor.         Image: Second status       1.7       7       1.5       Second status       SanD; black; medium grained sand; no staining; no odor.         Image: Second status       1.0       1.0       1.0       1.0       1.0       1.0	Bentonite								_		1		Cobbles present.			
Image: Second Secon									2—		1					
Image: Second Secon									3-							
Image: Second state of the second s						DMP	0.7	NA	_		SP		medium subrounded gravel; loos	e to medium sand; 30% fine to se; no staining; no odor.		
Image: Second									4 —		1					
Image: Second								_	5							
Image: Second state of the state of th						DMP	1.0			_	ML		Sandy <u>SILT:</u> brown; no staining;	no odor.		
Image: Second secon								2	6 —							
Image: Second secon									7-							
Image: Second									· -		-					
WET       1.5       2       10       ML       Sandy SILT: brown at 10', turning gray at 10.5'; 80% silt; 20% fine sand; mild odor in gray stained area.         V       WET       1.5       2       11       Sandy SILT: brown at 10', turning gray at 10.5'; 80% silt; 20% fine sand; mild odor in gray stained area.         WET       1.7       7       15       SP       SAND: black; medium grained sand; no staining; no odor.         WET       1.7       7       15       SP       SAND: black; medium grained becoming finer; woody debris at 19.5'; no odor.         U       WET       3.8       8       18       SP         20       21       20       21       20       21         20       21       22       21       20       21	·····								8—		-					
WET       1.5       2       10       ML       Sandy SILT: brown at 10', turning gray at 10.5'; 80% silt; 20% fine sand; mild odor in gray stained area.         V       WET       1.5       2       11       Sandy SILT: brown at 10', turning gray at 10.5'; 80% silt; 20% fine sand; mild odor in gray stained area.         WET       1.7       7       15       SP       SAND: black; medium grained sand; no staining; no odor.         WET       1.7       7       15       SP       SAND: black; medium grained becoming finer; woody debris at 19.5'; no odor.         U       WET       3.8       8       18       SP         20       21       20       21       20       21         20       21       22       21       20       21									_							
WET       2       11-       12-       13-       12-       13-       14-       13-       14-       13-       14-       13-       14-       15-       SP       SAND: black; medium grained sand; no staining; no odor.         WET       1.7       7       15-       SP       SAND: black; medium grained becoming finer; woody debris at         WET       3.8       8       18-       SP       SAND: black; medium grained becoming finer; woody debris at         UNET       3.8       8       18-       SP       SAND: black; medium grained becoming finer; woody debris at         10       19-       20-       21-       20-       13-         20-       21-       22-       22-       13-       19-5; no odor.	·····								9_							
WET       2       11-       12-       13-       12-       13-       14-       13-       14-       13-       14-       13-       14-       15-       SP       SAND: black; medium grained sand; no staining; no odor.         WET       1.7       7       15-       SP       SAND: black; medium grained becoming finer; woody debris at         WET       3.8       8       18-       SP       SAND: black; medium grained becoming finer; woody debris at         UNET       3.8       8       18-       SP       SAND: black; medium grained becoming finer; woody debris at         10       19-       20-       21-       20-       13-         20-       21-       22-       22-       13-       19-5; no odor.	Due of					мѕт	1.5	2	10		ML		Sandy SILT: brown at 10'. turning	g grav at 10.5': 80% silt: 20% fine		
WET 1.7 7 WET 1.7 7 WET 3.8 8 9 10 12 13 14 14 14 14 14 14 14 14 15 SP SAND: black; medium grained sand; no staining; no odor. SAND: black; medium grained sand; no staining; no odor. SAND: black; medium grained becoming finer; woody debris at 19.5; no odor.								2	_							
WET 1.7 7 9 13 14 15 9 16 17 17 17 18 9 16 17 17 18 9 16 17 17 17 17 17 17 17 17 17 17				×				Z								
WET 1.7 7 9 13 14 15 9 16 17 17 17 18 9 16 17 17 18 9 16 17 17 17 17 17 17 17 17 17 17									12		-					
WET 1.7 7 8 9 16 17 17 18 9 16 17 17 17 16 17 17 17 16 17 17 17 17 18 18 18 19 10 19 20 21 22 10 10 19 22 10 10 10 10 10 10 10 10 10 10									_		-					
WET 1.7 7 B B B C C C C C C C C C C C C C									13 —		-					
WET 1.7 7 B B B C C C C C C C C C C C C C									14 —							
WET 3.8 8 18 SP 20 20 20 21 22 21 22 22 22 22 22 22 22									_							
WET 3.8 8 9 17 17 17 17 18 9 10 19 20 21 22 10 22 10 22 10 22 10 22 10 22 10 10 22 10 10 10 10 22 10 10 10 10 10 10 10 10 10 10						WET	1.7		15		SP		SAND: black; medium grained sa	and; no staining; no odor.		
WET 3.8 8 18 SP SAND: black; medium grained becoming finer; woody debris at 19.5'; no odor.								8 9	16-							
WET 3.8 8 18 SP SAND: black; medium grained becoming finer; woody debris at 19 20 20 21 22 22 22 22 22 22 22 22 22 22 22 22								-								
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$									17 —		-					
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$								-	18-		<b>_</b>			. "		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						WET	3.8				SP			ecoming finer; woody debris at		
									19 —							
		<u></u>							20_			[				
	1															
	1								21 -		-					
	1								22							
									22-					12/28/201		



# Appendix B

**Field Data Sheets** 



## FIELD ACTIVITY LOG

BEGINNING			DATE: 10-30-12	
ENDING ODO			PROJECT NUMBER: 2705	SUGD. NOO1
FIELD ACTIVI	Well Installation	•	RECORDED BY:	REVIEWED BY:
TIME	DESCRIPTION OF ACTIVITIES	AND EVENTS	SKETCH:	
7:15	Mob to site.			
7:45	Arrive on suite.			
8:00	APS (Jeff Brann) or	n site.		
	Hrs failgales condu	eted.		
6:15	Cascade (Dave Stere	-Brent)		
	on site.			
B:30	APS of site. HIS tailg	ele-with Casi	cade.	
9:00				·
9:45	Begin air Confing MW1	bas. No utilities	encountered.	
10:00	Begin drilling MW-13,			
	Groundwater encounter	red D 11' bas.		
	Groundwater encounter Set well 2 18' w/ 15	of 0.010 s	creen,	
	Well Dereloped - approxi	mately 20 gal	lons miged.	
		0.0	1 0	
13:00	off-site-headed to l	ab.		
			· · · · · · · · · · · · · · · · · · ·	
AMBIENT AIR	<u>dia - Upper 50's</u> Monitoring: Dam	CHANGES IN PLANS, S B:00 - Called 0/08C to MW-) TELEPHONE CALLS:	pecs., New ISSUES, FOLLOV JAC - fiqure is a 12 + MW. 4. Cant. a lines orcr-head,	v UP NEEDED \$1. MW=13 More toplanter
●mile-74z	9070-0734	due to power -	lines over-head,	-
ANTEA GROU	P PERSONNEL ONSITE:			

\Deltaseattle\belred drive\Antea Group\Field Notes\Original Form Spreadsheet\Field Activity Log





Waste Manifest Documentation

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



## SHIPPING PAPER

Lading Manifest: 761931-12

	DELIVERY	DATE		JOB #1583620	
SHIPPER/CUSTOMER	POINT OF C	ONTACT		menny a	idans
PC&F STATION 2705492 / 76-Station	PHONE I	BERVICE:	Muan	K Mag	01000
21208 68PH AVE, SOUTH		253 ) 872	-019:	<u>₩</u> ₩/ MegM P 3/ 206-854-8	799
KENT WA 98032				l	
CARRIER / TRANSPORTER	PHONE #	(253)383		1	
CONSIGNEE / FACILITY	POINT OF C	CONTACT			
BURLINGTON ENVIRONMENTAL, LLC.	PHONE #	· · · · · · · · · · · · · · · · · · ·		-	/
20245 77TH AVENUE SOUTH		(253)872	2-803	ð	······
CITY, STATE, ZIP KENT , WA 98032					
HM US DOT Description (Including Proper Shipping Name, Hezerd Class, and ID Number	<b>,</b>	Contain No.	1919 . Type	Total Quantity	UOM
A NOR HASARDOUS, ROR-DOT REGULATED (SOIL)					
		2	DH	1297	P
B G NON-MARARDOUB LIQUID (PUNCE WATER)					
Co way were and a start were		.2	DH	686	P
c				· · · · · · · · · · · · · · · · · · ·	
D		·	<u> </u>		
				u.	
Special Handling Instruction and Additional Information:			1		
2} 425995-02 - NON HAY SOIL - LV01 LV01 BYAB01 STABB01 {1} b} 443613-02 -	- NON HAY PURCE WAT	IBR - VATUS	i vated!	i NATB96 (2)	
Plagarda Provided YESNO					
SHIPPER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and ac marked, and labeled, and are in all respects in proper condition for transport by highway, vessel, and	curately described abov rall according to applica	e by proper si ibio internalio	hipping na nai and n	ame and are classified, p ational government tegui	ecked, alione.
(SHIPPER) PRINT OR TYPE NAME BIGNATURE	AS 0	WHON Z	ęd-	VAD HINOM	YEAR
x megan Richard x M	p	pent fo	F	01 11	13
(CARRIER//HANSPORTER) PRINT OR TYPE NAME SIGNATURE	- 1	D		ENORTH DAY	YEAR
X ANIET TATELOW X LOU (CONSIGNEE/FACILITY) PRINT OR TYPE NAME SIGNATURE		<u></u>		HORTH DAY	YEAR
x EVENA Gui X	lif	-		1 22	13
CONSIGNEE	0			***	





Analytical Laboratory Reports



Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

November 14, 2012

Joe Rounds Antea USA 4006 148th Ave NE Redmond, WA 98052

RE: Project: 2705492 Pace Project No.: 10211139

Dear Joe Rounds:

Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen Jang

Karen Jang for Jennifer Gross jennifer.gross@pacelabs.com Project Manager

Enclosures

cc: Brandon Bickler, Antea USA Thuan Bui, Antea USA Eric Larsen, Antea USA Justin Miller, ELT\_Antea Group, Washington Matthew Miller, ELT\_Antea Group, Washington Megan Richard, Antea USA Dan Rowlands, Antea USA Hitomi Somics, Antea USA Bryan Taylor, BP\_Antea USA



## **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 1 of 14



Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

#### CERTIFICATIONS

 Project:
 2705492

 Pace Project No.:
 10211139

#### **Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414 A2LA Certification #: 2926.01 Alaska Certification #: UST-078 Alaska Certification #MN00064 Arizona Certification #: AZ-0014 Arkansas Certification #: 88-0680 California Certification #: 01155CA Colorado Certification #Pace Connecticut Certification #: PH-0256 EPA Region 8 Certification #: Pace Florida/NELAP Certification #: E87605 Georgia Certification #: 959 Hawaii Certification #Pace Idaho Certification #: MN00064 Illinois Certification #: 200011 Kansas Certification #: E-10167 Louisiana Certification #: 03086 Louisiana Certification #: LA080009 Maine Certification #: 2007029 Maryland Certification #: 322 Michigan DEQ Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092 Nevada Certification #: MN\_00064 Nebraska Certification #: Pace New Jersey Certification #: MN-002 New York Certification #: 11647 North Carolina Certification #: 530 North Dakota Certification #: R-036 North Dakota Certification #: R-036A Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Certification #: MN200001 Oregon Certification #: MN300001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification Tennessee Certification #: 02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia/DCLS Certification #: 002521 Virginia/VELAP Certification #: 460163 Washington Certification #: C754 West Virginia Certification #: 382 Wisconsin Certification #: 999407970

**REPORT OF LABORATORY ANALYSIS** 

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 2 of 14



## SAMPLE SUMMARY

Project: 2705492 Pace Proj 39

oiect	No.:	1021113	3

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10211139001	MW-13-3	Solid	10/30/12 09:30	10/30/12 12:50
10211139002	MW-13-6	Solid	10/30/12 10:15	10/30/12 12:50
10211139003	MW-13-10	Solid	10/30/12 10:30	10/30/12 12:50
10211139004	Trip Blanks	Solid	10/30/12 06:00	10/30/12 12:50

## **REPORT OF LABORATORY ANALYSIS**



## SAMPLE ANALYTE COUNT

Project: Pace Project No	2705492 b.: 10211139				
Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10211139001		NWTPH-Gx/8021	KT1	2	PASI-M
		EPA 6010	IP	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260	CNC	8	PASI-M
10211139002	MW-13-6	NWTPH-Gx/8021	KT1	2	PASI-M
		EPA 6010	IP	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260	CNC	8	PASI-M
10211139003	MW-13-10	NWTPH-Gx/8021	KT1	2	PASI-M
		EPA 6010	IP	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260	CNC	8	PASI-M
10211139004	Trip Blanks	NWTPH-Gx/8021	KT1	2	PASI-M
		EPA 8260	CNC	8	PASI-M

## **REPORT OF LABORATORY ANALYSIS**



## ANALYTICAL RESULTS

Project: 2705492

Pace Project No.: 10211139

Sample: MW-13-3	Lab ID: 102	11139001	Collected: 10/30/1	2 09:30	Received: 10	/30/12 12:50 N	latrix: Solid	
Results reported on a "dry-weig	ht" basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
NWTPH-Gx/8021 GCV	Analytical Met	hod: NWTPH	-Gx/8021 Preparati	on Met	nod: NWTPH-Gx/	8021		
TPH as Gas <b>Surrogates</b>	ND m	g/kg	5.7	1	11/12/12 12:55	11/12/12 21:43		
a,a,a-Trifluorotoluene (S)	97 %		75-125	1	11/12/12 12:55	11/12/12 21:43	98-08-8	
6010 MET ICP	Analytical Met	Analytical Method: EPA 6010 Preparation Method: EPA 3050						
Lead	<b>7.3</b> m	g/kg	0.27	1	11/06/12 09:28	11/07/12 12:27	7439-92-1	
Dry Weight	Analytical Met	hod: ASTM D	2974					
Percent Moisture	<b>12.9</b> %		0.10	1		11/07/12 00:00		
8260 MSV 5035 Low Level	Analytical Met	hod: EPA 826	0 Preparation Meth	nod: EP	A 5035A			
Benzene	ND m	g/kg	0.0040	1	11/02/12 15:13	11/05/12 20:28	71-43-2	
Ethylbenzene	ND m		0.0040	1		11/05/12 20:28		
Toluene	ND m	0 0	0.0040	1		11/05/12 20:28		
Xylene (Total)	ND m		0.012	1		11/05/12 20:28		
Surrogates		9/119	0.012	•	11/02/12 10:10	11/00/12 20:20	1000 20 1	
Dibromofluoromethane (S)	112 %		75-125	1	11/02/12 15:13	11/05/12 20:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		75-138	1	11/02/12 15:13	11/05/12 20:28	17060-07-0	
				•				
Toluene-d8 (S)	98 %		75-125	1	11/02/12 15:13	11/05/12 20:28	2037-26-5	
. ,	98 % 100 %		75-125 75-125	1 1		11/05/12 20:28 11/05/12 20:28		
Toluene-d8 (S) 4-Bromofluorobenzene (S) Sample: MW-13-6	100 % Lab ID: 102			1	11/02/12 15:13	11/05/12 20:28		
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig	100 % Lab ID: 102 ht" basis	11139002	75-125 Collected: 10/30/1	1 2 10:15	11/02/12 15:13	11/05/12 20:28 //30/12 12:50 M	460-00-4 Natrix: Solid	
4-Bromofluorobenzene (S) Sample: MW-13-6	100 % Lab ID: 102		75-125	1	11/02/12 15:13	11/05/12 20:28	460-00-4	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig	100 % Lab ID: 102 ht" basis Results	11139002 Units	75-125 Collected: 10/30/1	1 2 10:15 DF	11/02/12 15:13 Received: 10 Prepared	11/05/12 20:28 //30/12 12:50 M Analyzed	460-00-4 Natrix: Solid	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas	100 % Lab ID: 102 ht" basis Results	11139002 Units hod: NWTPH	75-125 Collected: 10/30/1 Report Limit	1 2 10:15 DF	11/02/12 15:13 Received: 10 Prepared	11/05/12 20:28 //30/12 12:50 M Analyzed	460-00-4 fatrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV	Lab ID: 102 ht" basis Results Analytical Met	Units Units hod: NWTPH g/kg	75-125 Collected: 10/30/1 Report Limit -Gx/8021 Preparati	1 2 10:15 DF	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55	11/05/12 20:28 //30/12 12:50 M Analyzed /8021	460-00-4 Matrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates	Lab ID: 102 ht" basis Results Analytical Met ND m 80 %	Units Units hod: NWTPH g/kg	75-125 Collected: 10/30/1 Report Limit -Gx/8021 Preparati 6.0	1 2 10:15 DF ion Meth 1 1	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55	11/05/12 20:28 //30/12 12:50 M Analyzed /8021 11/12/12 22:04	460-00-4 Matrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S)	Lab ID: 102 ht" basis Results Analytical Met ND m 80 %	Units Units hod: NWTPH g/kg hod: EPA 601	75-125 Collected: 10/30/1 <u>Report Limit</u> -Gx/8021 Preparati 6.0 75-125	1 2 10:15 DF ion Meth 1 1	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050	11/05/12 20:28 //30/12 12:50 M Analyzed /8021 11/12/12 22:04	460-00-4 Matrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg	75-125 Collected: 10/30/1 <u>Report Limit</u> -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32	1 2 10:15 DF on Meth 1 1 1 nod: EP	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050	11/05/12 20:28 //30/12 12:50 M Analyzed 8021 11/12/12 22:04 11/12/12 22:04	460-00-4 Matrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP Lead	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met 6.0 m	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg hod: ASTM D	75-125 Collected: 10/30/1 <u>Report Limit</u> -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32	1 2 10:15 DF on Meth 1 1 1 nod: EP	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050	11/05/12 20:28 //30/12 12:50 M Analyzed 8021 11/12/12 22:04 11/12/12 22:04	460-00-4 Matrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP Lead Dry Weight	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met 6.0 m Analytical Met 21.7 %	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg hod: ASTM D	75-125 Collected: 10/30/1 <u>Report Limit</u> -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32 2974	1 2 10:15 DF 1 1 1 nod: EP 1	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050 11/06/12 09:28	11/05/12 20:28 //30/12 12:50 M Analyzed 8021 11/12/12 22:04 11/12/12 22:04 11/07/12 12:33	460-00-4 Matrix: Solid CAS No.	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP Lead Dry Weight Percent Moisture	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met 6.0 m Analytical Met 21.7 %	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg hod: ASTM D hod: EPA 826	75-125 Collected: 10/30/1 Report Limit -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32 2974 0.10	1 2 10:15 DF 1 1 1 nod: EP 1	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050 11/06/12 09:28 A 5035A	11/05/12 20:28 //30/12 12:50 M Analyzed 8021 11/12/12 22:04 11/12/12 22:04 11/07/12 12:33	460-00-4 1atrix: Solid CAS No. 	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP Lead Dry Weight Percent Moisture 8260 MSV 5035 Low Level	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met 6.0 m Analytical Met 21.7 % Analytical Met	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg hod: ASTM D hod: EPA 826 g/kg	75-125 Collected: 10/30/1 Report Limit -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32 2974 0.10 50 Preparation Meth	1 2 10:15 DF 1 1 nod: EP 1 1 1 0 1	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050 11/06/12 09:28 A 5035A 11/02/12 15:13	11/05/12 20:28 //30/12 12:50 M Analyzed 8021 11/12/12 22:04 11/12/12 22:04 11/07/12 12:33 11/07/12 00:00	460-00-4 Matrix: Solid CAS No. 	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP Lead Dry Weight Percent Moisture 8260 MSV 5035 Low Level Benzene	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met 6.0 m Analytical Met 21.7 % Analytical Met ND m ND m	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg hod: ASTM D hod: EPA 826 g/kg g/kg	75-125 Collected: 10/30/1 Report Limit -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32 2974 0.10 50 Preparation Meth 0.0044	1 2 10:15 DF 1 1 1 0 0d: EP 1 1 0 0d: EP	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050 11/06/12 09:28 A 5035A 11/02/12 15:13 11/02/12 15:13	11/05/12 20:28 //30/12 12:50 M Analyzed /8021 11/12/12 22:04 11/12/12 22:04 11/07/12 12:33 11/07/12 00:00 11/05/12 20:45	460-00-4 1atrix: Solid CAS No. 	Qua
4-Bromofluorobenzene (S) Sample: MW-13-6 Results reported on a "dry-weig Parameters NWTPH-Gx/8021 GCV TPH as Gas Surrogates a,a,a-Trifluorotoluene (S) 6010 MET ICP Lead Dry Weight Percent Moisture 8260 MSV 5035 Low Level Benzene Ethylbenzene	Lab ID: 102 ht" basis Results Analytical Met ND m 80 % Analytical Met 6.0 m Analytical Met 21.7 % Analytical Met ND m	Units Units hod: NWTPH g/kg hod: EPA 601 g/kg hod: ASTM D hod: EPA 826 g/kg g/kg g/kg	75-125 Collected: 10/30/1 Report Limit -Gx/8021 Preparati 6.0 75-125 0 Preparation Meth 0.32 2974 0.10 50 Preparation Meth 0.0044 0.0044	1 2 10:15 DF 0 Meth 1 1 nod: EP 1 nod: EP 1 1	11/02/12 15:13 Received: 10 Prepared nod: NWTPH-Gx/ 11/12/12 12:55 11/12/12 12:55 A 3050 11/06/12 09:28 A 5035A 11/02/12 15:13 11/02/12 15:13 11/02/12 15:13	11/05/12 20:28 //30/12 12:50 M Analyzed 8021 11/12/12 22:04 11/07/12 12:33 11/07/12 00:00 11/05/12 20:45 11/05/12 20:45	460-00-4 fatrix: Solid CAS No. 98-08-8 7439-92-1 71-43-2 100-41-4 108-88-3	Qua

Date: 11/14/2012 10:32 AM

## **REPORT OF LABORATORY ANALYSIS**

Page 5 of 14



## ANALYTICAL RESULTS

Sample: MW-13-6	Lab ID: 102	11139002	Collected: 10/30/1	2 10:15	Received: 10	/30/12 12:50	Matrix: Solid	
Results reported on a "dry-weig	ht" basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
3260 MSV 5035 Low Level	Analytical Met	hod: EPA 8	260 Preparation Met	hod: EP/	A 5035A			
Surrogates			75 400					
1,2-Dichloroethane-d4 (S) Toluene-d8 (S)	113 % 99 %		75-138 75-125	1 1	11/02/12 15:13 11/02/12 15:13			)
4-Bromofluorobenzene (S)	100 %		75-125	1	11/02/12 15:13			
Sample: MW-13-10	Lab ID: 102	11139003	Collected: 10/30/1	12 10:30	Received: 10	/30/12 12:50	Matrix: Solid	
Results reported on a "dry-weig Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
				ion Moth				
NWTPH-Gx/8021 GCV			H-Gx/8021 Preparat					
TPH as Gas <b>Surrogates</b>	ND m	g/kg	6.8	1	11/12/12 12:55	11/12/12 22:45	·	
a,a,a-Trifluorotoluene (S)	98 %		75-125	1	11/12/12 12:55	11/12/12 22:45	5 98-08-8	
6010 MET ICP	Analytical Met	hod: EPA 6	010 Preparation Met	hod: EP/	A 3050			
ead	<b>21.6</b> m	g/kg	0.36	1	11/06/12 09:28	11/07/12 12:39	7439-92-1	
Dry Weight	Analytical Met	hod: ASTM	D2974					
Percent Moisture	<b>24.1</b> %		0.10	1		11/07/12 00:00	)	
3260 MSV 5035 Low Level	Analytical Met	hod: EPA 8	260 Preparation Met	hod: EP/	A 5035A			
Benzene	ND m		0.0043	1	11/02/12 15:13	11/05/12 21:03	3 71-43-2	
Ethylbenzene	ND m		0.0043	1	11/02/12 15:13			
Foluene	ND m	0 0	0.0043	1	11/02/12 15:13			
Xylene (Total) <b>Surrogates</b>	ND m	g/kg	0.013	1	11/02/12 15:13	11/05/12 21:03	3 1330-20-7	
Dibromofluoromethane (S)	112 %		75-125	1	11/02/12 15:13	11/05/12 21.03	1868-53-7	
I,2-Dichloroethane-d4 (S)	112 %		75-125	1	11/02/12 15:13			h
Toluene-d8 (S)	99 %		75-125	1	11/02/12 15:13			•
4-Bromofluorobenzene (S)	100 %		75-125	1	11/02/12 15:13			
Sample: Trip Blanks	Lab ID: 102	11130004	Collected: 10/30/1	12 06:00	Received: 10	/30/12 12:50	Matrix: Solid	
Results reported on a "wet-weig				2 00.00		,00,12 12.00		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
WTPH-Gx/8021 GCV	Analytical Met	hod: NWTF	PH-Gx/8021 Preparat	ion Meth		/8021		
TPH as Gas	ND m	g/kg	5.0	1	11/12/12 12:55	11/12/12 21:23	3	
<b>Surrogates</b> a,a,a-Trifluorotoluene (S)	81 %		75-125	1	11/12/12 12:55	11/12/12 21:23	8 98-08-8	
3260 MSV 5035 Low Level			260 Preparation Met					
Benzene	ND m		0.0040	1	11/02/12 15:13	11/05/12 18:43	3 71-43-2	
Date: 11/14/2012 10:32 AM	REPORT OF LABORATORY ANALYSIS							Page 6 of
			shall not be reproduced		r 11			



### ANALYTICAL RESULTS

Project: 2705492

Pace Project No.: 10211139

Sample: Trip Blanks	Lab ID: 10211139004 Collected: 10/30/12 06:00		Received: 10	)/30/12 12:50 N	Matrix: Solid			
Results reported on a "wet-weigh	nt" basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035 Low Level	Analytical Metho	d: EPA 826	0 Preparation Met	hod: EF	A 5035A			
Ethylbenzene	ND mg/ł	kg	0.0040	1	11/02/12 15:13	11/05/12 18:43	100-41-4	
Toluene	ND mg/ł	kg	0.0040	1	11/02/12 15:13	11/05/12 18:43	108-88-3	
Xylene (Total)	ND mg/ł	kg	0.012	1	11/02/12 15:13	11/05/12 18:43	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	110 %		75-125	1	11/02/12 15:13	11/05/12 18:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		75-138	1	11/02/12 15:13	11/05/12 18:43	17060-07-0	
Toluene-d8 (S)	98 %		75-125	1	11/02/12 15:13	11/05/12 18:43	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125	1	11/02/12 15:13	11/05/12 18:43	460-00-4	

## **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 7 of 14



Project: 27054	-						
Pace Project No.: 10211							
	/10017	Analysis Meth		WTPH-Gx/8021			
QC Batch Method: NWT	PH-Gx/8021	Analysis Desc	ription: N	WTPH-Gx Solid (	GCV		
Associated Lab Samples:	10211139001, 10211139002,	10211139003, 102	11139004				
METHOD BLANK: 13313	99	Matrix: S	Solid				
Associated Lab Samples:	10211139001, 10211139002,	10211139003, 102	11139004				
		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifiers	6	
TPH as Gas	mg/kg	ND	5.0	11/12/12 21:02			
a,a,a-Trifluorotoluene (S)	%	80	75-125	11/12/12 21:02			
LABORATORY CONTROL	SAMPLE & LCSD: 1331400		1331401				
		Spike LCS		LCS LCSD	% Rec	Max	
Parameter	Units	Conc. Resu		% Rec % Rec		RPD RPD	Qualifiers
TPH as Gas	mg/kg	50 5	0.0 47.4	100 95	75-135	5 20	)
a,a,a-Trifluorotoluene (S)	%			76 83	75-125		
MATRIX SPIKE SAMPLE:	1331402						
		10211139001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
TPH as Gas	mg/kg	ND	57.8	57.8	100	70-130	
a,a,a-Trifluorotoluene (S)	%				100	75-125	
SAMPLE DUPLICATE: 13	331403						
		10211139002	Dup		Max		
Parameter	Units	Result	Result	RPD	RPD	Qualifiers	
TPH as Gas	mg/kg	ND	ND		30	)	
a,a,a-Trifluorotoluene (S)	%	80	96	12			

## **REPORT OF LABORATORY ANALYSIS**

Page 8 of 14



Project: 2705492												
Pace Project No.: 10211139												
QC Batch: MPRP/362	44		Analysi	s Method:	E	PA 6010						
QC Batch Method: EPA 3050			Analysi	s Descript	ion: 6	010 MET						
Associated Lab Samples: 1021	11139001, 102	211139002,	1021113900	03								
METHOD BLANK: 1327134			М	latrix: Soli	d							
Associated Lab Samples: 1021	11139001, 102	211139002,	1021113900	03								
			Blank	R	eporting							
Parameter	I	Units	Result		Limit	Analyz	ed	Qualifiers	6			
						44/07/40	44.40					
Lead	mg/kg			ND	0.30	11/07/12	11:43					
Lead	mg/kg			ND	0.30	11/07/12	11:43					
Lead LABORATORY CONTROL SAMP		35		ND	0.30	11/07/12	11:43					
		35	Spike	ND		LCS	% Re	C				
	PLE: 13271	35 Units	Spike Conc.				_		Qualifiers			
LABORATORY CONTROL SAMP	PLE: 13271			LCS		LCS	% Re Limits		Qualifiers	_		
LABORATORY CONTROL SAMP Parameter	PLE: 13271		Conc.	LCS	lt	LCS % Rec	% Re Limits	s C	Qualifiers	_		
LABORATORY CONTROL SAMP Parameter	PLE: 13271	Units	Conc. 47.2	LCS	lt	LCS % Rec	% Re Limits	s C	Qualifiers	_		
LABORATORY CONTROL SAMP Parameter Lead	PLE: 13271	Units	Conc. 47.2	LCS	lt	LCS % Rec	% Re Limits	s C	Qualifiers	-		
LABORATORY CONTROL SAMP Parameter Lead	PLE: 13271	Units	Conc. 47.2	LCS Resu	lt	LCS % Rec	% Re Limits	s C 0-120 MSD	Qualifiers % Rec	_	Max	
LABORATORY CONTROL SAMP Parameter Lead	PLE: 13271	Units E: 13271	Conc. 47.2 36 MS	LCS Resu MSD	lt 42.5 1327137	LCS % Rec 90	% Re Limits 80	s <u>C</u> 0-120		RPD	Max RPD	Qual

## **REPORT OF LABORATORY ANALYSIS**

Page 9 of 14



Project:	2705492							
Pace Project No .:	10211139							
QC Batch:	MPRP/36271		Analysis Meth	od:	ASTM D2974			
QC Batch Method:	ASTM D2974		Analysis Desc	ription:	Dry Weight/Per	cent Moisture	Э	
Associated Lab Sar	mples: 10211139	9001, 1021113900	2, 10211139003					
SAMPLE DUPLICA	TE: 1327937							
			10210458035	Dup		Max	(	
Parar	neter	Units	Result	Result	RPD	RPE	)	Qualifiers
Percent Moisture		%	7.6	7.	4	3	30	
SAMPLE DUPLICA	TE: 1327938							
			10210333009	Dup		Max	(	
Parar	neter	Units	Result	Result	RPD	RPE	)	Qualifiers
Percent Moisture		%	22.1	22.	2	.4	30	

## **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 10 of 14



Project: 2705492

Pace Project No.: 10211139

QC Batch:	MSV/21998	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035 Low Level
Associated Lab Sam	ociated Lab Samples: 10211139001, 10211139002, 102		
METHOD BLANK:	1326876	Matrix: Solid	

Associated Lab Samples: 10211139001, 10211139002, 10211139003, 10211139004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0040	11/05/12 18:25	
Ethylbenzene	mg/kg	ND	0.0040	11/05/12 18:25	
Toluene	mg/kg	ND	0.0040	11/05/12 18:25	
Xylene (Total)	mg/kg	ND	0.012	11/05/12 18:25	
1,2-Dichloroethane-d4 (S)	%	102	75-138	11/05/12 18:25	
4-Bromofluorobenzene (S)	%	100	75-125	11/05/12 18:25	
Dibromofluoromethane (S)	%	106	75-125	11/05/12 18:25	
Toluene-d8 (S)	%	100	75-125	11/05/12 18:25	

#### LABORATORY CONTROL SAMPLE: 1326877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.05	0.053	106	73-126	
Ethylbenzene	mg/kg	.05	0.056	112	75-130	
Toluene	mg/kg	.05	0.054	109	75-126	
Xylene (Total)	mg/kg	.15	0.17	112	75-129	
1,2-Dichloroethane-d4 (S)	%			95	75-138	
4-Bromofluorobenzene (S)	%			102	75-125	
Dibromofluoromethane (S)	%			99	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE & MATRIX SP	IKE DUPLICAT	E: 13268	78		1326879							
	-	210219003	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Benzene	mg/kg		.051	.057	0.054	0.059	106	103	66-137	8	30	
Ethylbenzene	mg/kg	<4.4 ug/kg	.051	.057	0.053	0.058	105	102	69-147	8	30	
Toluene	mg/kg	<4.4 ug/kg	.051	.057	0.054	0.058	105	101	63-144	7	30	
Xylene (Total)	mg/kg	<13.1 ug/kg	.15	.17	0.16	0.17	105	99	66-149	5	30	
1,2-Dichloroethane-d4 (S)	%						102	97	75-138			
4-Bromofluorobenzene (S)	%						99	101	75-125			
Dibromofluoromethane (S)	%						103	101	75-125			
Toluene-d8 (S)	%						99	101	75-125			

Date: 11/14/2012 10:32 AM

## **REPORT OF LABORATORY ANALYSIS**

Page 11 of 14



 Project:
 2705492

 Pace Project No.:
 10211139

MATRIX SPIKE & MATRIX SP	IKE DUPLICAT	E: 13268	80		1326881							
	10	210453035	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Benzene	mg/kg		.066	.054	0.073	0.060	111	109	66-137	20	30	
Ethylbenzene	mg/kg	<5.0 ug/kg	.066	.054	0.059	0.047	90	87	69-147	22	30	
Toluene	mg/kg	<5.0 ug/kg	.066	.054	0.067	0.054	102	99	63-144	22	30	
Xylene (Total)	mg/kg	<14.9 ug/kg	.2	.16	0.17	0.14	89	86	66-149	22	30	
1,2-Dichloroethane-d4 (S)	%						97	100	75-138			
4-Bromofluorobenzene (S)	%						103	103	75-125			
Dibromofluoromethane (S)	%						101	103	75-125			
Toluene-d8 (S)	%						101	100	75-125			

## **REPORT OF LABORATORY ANALYSIS**

Page 12 of 14



### QUALIFIERS

Project:	2705492
Pace Project No.:	10211139

#### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

#### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

### **REPORT OF LABORATORY ANALYSIS**

Page 13 of 14



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 2705492

 Pace Project No.:
 10211139

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10211139001	MW-13-3	NWTPH-Gx/8021	GCV/10017	NWTPH-Gx/8021	GCV/10018
10211139002	MW-13-6	NWTPH-Gx/8021	GCV/10017	NWTPH-Gx/8021	GCV/10018
10211139003	MW-13-10	NWTPH-Gx/8021	GCV/10017	NWTPH-Gx/8021	GCV/10018
10211139004	Trip Blanks	NWTPH-Gx/8021	GCV/10017	NWTPH-Gx/8021	GCV/10018
10211139001	MW-13-3	EPA 3050	MPRP/36244	EPA 6010	ICP/14851
10211139002	MW-13-6	EPA 3050	MPRP/36244	EPA 6010	ICP/14851
10211139003	MW-13-10	EPA 3050	MPRP/36244	EPA 6010	ICP/14851
10211139001	MW-13-3	ASTM D2974	MPRP/36271		
10211139002	MW-13-6	ASTM D2974	MPRP/36271		
10211139003	MW-13-10	ASTM D2974	MPRP/36271		
10211139001	MW-13-3	EPA 5035A	MSV/21978	EPA 8260	MSV/21998
10211139002	MW-13-6	EPA 5035A	MSV/21978	EPA 8260	MSV/21998
10211139003	MW-13-10	EPA 5035A	MSV/21978	EPA 8260	MSV/21998
10211139004	Trip Blanks	EPA 5035A	MSV/21978	EPA 8260	MSV/21998

## **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 14 of 14

Face Analytical<sup>®</sup> www.pacelabs.com

## CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2514111

Section A Section			Section C	P	age: of O	
Company: make Report	ed Project Information:		Section C Invoice Information: Same as Left Attention:	Γ	1625832 t	
Address: March March Address: Copy To	Jee Kouries	····	Compony Nama			
4006 140 AVE NE	<u>" Megan Richard</u>		Address:	REGULATORY AGEN		
Redmond, WA 98052	v Orden No.					
de, nounals want caynoup.	se Order No.:		Pace Quote Reference:		A COTHER	
206-464-2746 25-9691692 Project I			Pace Project Raven Jang	Site Location	A	
Requested Due Date/TAT: Standard Project	Number: 2705492,0	1001	Pace Profile #:	STATE: <u>W</u>		
				Analysis Filtered (Y/N)		
Section D Matrix Codes Required Client Information MATRIX / CODE		LLECTED	Preservatives			
Drinking Water DW						
Water WT Waste Water WW		COMPOSITE END/GRAB UICO	# OF CONTAINERS Unpreserved H2SO4 HNO3 HCI Na2S203 Methanol Other Salium あらいほう UD ルビダ 名260 Cher Salium からいほう		<del>,</del>	
Product P Soil/Solid SL	8 0	OLLE				
SAMPLE ID Oil OL Wipe WP		AT C	containers seerved 1 1 1 203 203 203 203 203 1 1 1 1 1 1 1 1 1 1 1 1 1		Residual Chlorine (Y/N) Bace Project No/Lab I.D.	
(A-Z, 0-9 / ,-) Air AR Sample IDs MUST BE UNIQUE Tissue TS Other OT	CODE	TEMP	Vied III		Chlo	
		1 I I I I I I I I I I I I I I I I I I I				
E E E E E E E E E E E E E E E E E E E	MATRIX COD SAMPLE TYPE BWIL BITYPE		# OF CONTAIN Unpreserved H <sub>2</sub> SO <sub>4</sub> HOI HCI NaOH NaOH NaOH Other Solivi Other Solivi Untral P		esid	
	$\geq$ 0 date time	ليست البسب المستعم المستعم المستعم المستعم		┝╍┼╍┼╍┼╍┼╸	Pace Project No./ Lab I.D.	
1 <u>MW-13-3</u>		10-30-12. 9:30				
2 MW-13-6	SLG	16-30-12 10:15			· <b>   </b> · · · · · · · · · · · · · · · · · ·	
3 Mui-13-10 4 Trip Blanks		10-30-12 6:00	4 22 XX			
5		10 1010 0200				
6						
7						
8						
9						
10						
11						
12						
ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIA	ATION DATE	TIME ACCEPTED BY / AFFILIATION	DATE	SAMPLE CONDITIONS	
	negan Richard	1-mica 10-3012	12:50 Igothi Sum	10/30/12 12:	DOSUNNY	
· · · · · · · · · · · · · · · · · · ·		- Incore -				
		· · · · · · · · · · · · · · · · · · ·				
		······				
	The second s					
~~~~	a second a s	LER NAME AND SIGNATUR			Temp in °C Received on Ice (Y/N) Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)	
ORIGIN	AL.	PRINT Name of SAMPLER:			Temp in °C Temp in °C Received on Ice (Y/N) ice (Y/N) sealed Coole (Y/N) amples Intac	
		SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):	10-30-12	Sarr Sea C Fe F	
*Important Note: By signing this form you are accepting Pace's	s NET 30 day payment terms and agreei	ing to late charges of 1.5% per mont	n for any invoices not paid within 30 days.		F-ALL-Q-020rev.07, 15-May-2007	

ł.

Sample Container Con	unt
----------------------	-----

2514111

Trip Blank(s) Provided?

Pace Analytical	
	$\underline{\sim}$

CLIENT:

COC PAGE COC ID# \_

ea

of 2583

Sample Line Item	ЛСан	AG1H	∆G1U	RP1U	BP2H	BD3H	RD3N	BDJC	WGKU	WGEU	WG2U	ncom		VG9W	VSG				Comments
<u> </u>		<u>,</u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7 01 10		0.00		0.00		<u>,</u>	11020			10011		r	<u></u>	r	Continuorito
1										)	2	2	2						
2										a constant	l	2.	2						
3										Í	(	2.	2:						
4												2	2						
5																			
6																			
7																			
8																E .			
9								-											
10																			
11							'				-								
12											,								

AG1H	1 liter HCL amber glass	BP2S	500mL H2SO4 plastic	JGFU	4 oz amber glass soil jar
AG1U	1liter unpreserved amber glass	BP2U	500mL unpreserved plastic	WGKU	8 oz clear glass soil jar
AG2S	500mL H2SO4 amber glass	BP2Z	500mL NaOH, Zn Ac	WGFU	4 oz clear glass soil jar
AG2U	500mL unpreserved amber glass	BP3C	250mL NaOH plastic	WG2U	2 oz clear glass soil jar
AG3S	250mL H2SO4 amber glass	BP3N	250mL HNO3 plastic	JGFM	4 oz amber glass soil jar with MeOH
BG1H	1 liter HCL clear glass	BP3S	250mL H2SO4 plastic	VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass	BP3U	250mL unpreserved plastic	VG9W	40mL clear vial pre-weighted with DI water
BP1N	1 liter HNO3 plastic	DG9B	40mL Na Bisulfate clear vial	VSG	Headspace septa vial
BP1S	1 liter H2SO4 plastic	DG9H	40mL HCL amber voa vial	VG9H	40mL HCL clear vial
BP1U	1 liter unpreserved plastic	DG9M	40mL MeOH clear vial	WGFX	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac	DG9T	40mL Na Thio amber vial	VG9T	40mL Na Thio. clear vial
BP2N	500mL HNO3 plastic	DG9U	40mL unpreserved amber vial	ZPLC	Ziploc Bag
BP2O	500mL NaOH plastic	1	Wipe/Swab	υ	Summa Can

Ì, L

- vertication of		Sample (	Cond	ition Upon Rec	Construction of the providence	
Pace Analytical	Client Name	:	frote	2a	Project # <b>25</b>	14111
Courier: C Fed Ex UPS		nt □Comm	ercial	Pace Other		
Custody Seal on Cooler/Box	Present: Yes	No	Seals	s intact: 🗌 Yes	No No	
Packing Material: 🗌 Bubble	Wrap DBubble	Bags	None	Other feam	KTemp. Blank Yes	No
	RI	Type of Ice		) · · · · · · · · · · · · · · · · · · ·	Samples on ice, cooling p	
Cooler Temperature Temp should be above freezing ≤ 0	0.800		R.	is Frozen: Yes No Comments:		
Chain of Custody Present:		ØYes □No	□n/a	1.		t,
Chain of Custody Filled Out:		I Yes □No	□n/a	2.		
Chain of Custody Relinquished	:	Yes No	□n/A	3.	·	
Sampler Name & Signature on	COC:	Yes □No	□n/a	4.		
Samples Arrived within Hold Ti	me:	Yes No	□n/A	5.		
Short Hold Time Analysis (<7	2hr):	□Yes ØÑo	□n/a	6.		
Rush Turn Around Time Requ	uested:	□Yes - 1No	□n/Ã	7.		×
Follow Up / Hold Analysis Re	quested:	□Yes -□No	N/A	8.		
Sufficient Volume:		ØYes □No	⊡n/a	9.		
Correct Containers Used:	Amilia (1945)	Æl¥es □No	 			
-Pace Containers Used:				10.		
Containers Intact:		Yes No		11		
Filtered volume received for Dis	ssolved tests				<u>,, </u>	
Sample Labels match COC:						
-Includes date/time/ID/Analy	sis Matrix:	Soil				
All containers needing preservation	have been checked.	□Yes □No	 A	14.		
All containers needing preservation compliance with EPA recommendation		□Yes □No				
Exceptions: VOA, coliform, TOC, O&G	• <u>Ve<sup>1</sup> - Lanes - a constant a constan</u>	□Yes □No	<b>□</b> n/A	Initial when completed	Lot # of added preservative	
Samples checked for dechloring	ation:	□Yes □No	⊡n/A	15.		
Headspace in VOA Vials ( >6m	<u>m):</u>		-11N/A	16.		
Trip Blanks Present:		QYes 🗆 No	□n/a	17.		
Trip Blank Custody Seals Prese	ent	□Yes ∕⊡No	□n/A		•	
Pace Trip Blank Creation Date:						]
Client Notification/ Resolution	n:	ىتەرەپىيەتەر (ئىرىەيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىيەتەرىي	nanya sa casa ya dadaa	، (۱۹۹۵) و دور باروی و در واروی و در واروی و در واروی و در واروی و در واروی و در و	Field Data Required?	Y / N
Person Contacted:			_Date/	Time:		
Comments/ Resolution:	<del> </del>					
Project Manager Review:	Karei	n Jang			Date: ۱۵۱۵	51112
Note: Whenever there is a discrep Certification Office ( i.e out of hold					m will be sent to the North Carol	ina DEHNR

31345 10211139 Line 2 1132 ~**\***. **Chain of Custody** ace Analytical www.pacelebs.com Owner Received Date: 10/30/2012 Results Requested By: 11/13/2012 Workorder: 2514111 Workorder Name:2705492 Remester Analysis Seportio Karen Jang Pace Analytical Minnesota 1700 Elm Street Pace Analytical Services, Inc. 940 South Harney Suite 200 Seattle WA 98108 Minneapolis, MN 55414 gd Phone (206)767-5060 Phone (612)607-1700 Fax (206)767-5063 いしの weights HUUTPH - G-X TOtal Freserved Contamors 6260 0107 Uhpreserve NAOH 70 Sample Soliecte Date/ime Matrix LAB USE ONLY tem Sample D ype ----× PS 2 X × × ROA MW-13-3 10/30/2012 09:30 2514111001 Solid 1 1 2 MW-13-6 PS 10/30/2012 10:15 2514111002 Solid 1 2 ٢ MW-13-10 2 3 PS 10/30/2012 10:30 2514111003 Solid 1 L 1 4 **Trip Blanks** PS 10/30/2012 06:00 2514111004 Solid 1 5 hi minita Januar Comments ..... please attached profile use for Transfers Released By Date/T/me Received By Date/Time 11/12 200 1 11-2-1)Abs list of FU'S. 2 1 3 Custody Seal (V) or N Received on Ice OF or N Samples Intac OY or N S°C. **Cooler Temperature on Receipt** 

Wednesday, October 31, 2012 3:39:51 PM

FMT-ALL-C-002rev.00 24March2009

Page 1 of 1

1.			*									
[			Samal		ent Name		Document Revised: 22Aug2012					
		/ Face Analytical*	Jampa		nent No.:	ceipt Form	lee	Page 1 of 1	4			
		<u> </u>			-213-rev.0	4	Issuing Authority: Pace Minnesota Quality Office					
		Courter:	USF		<b>Proj</b> ect  Client	: #: []]][]	<b>10</b>	255131 161115	39			
		Tracking Number: 17939 5894 50										
		Custody Seal on Cooler/Box Present?			Intact?		Optional:	Proj. Due D	Pate: Proj.	Name:		
		Packing Material: 🛛 Bubble Wrap 🔲 Bubble	Bags 🗔	None	Other:							
	1	Thermometer Used: 3888A912167504 3805124	36.4					Temp Blank		No		
		1 - 1			_ ·	Blue No			ooling process	s/has begun		
		Cooler Temperature: <u>2.6</u> Biological Tissue Temp should be above freezing to 6°C	Frozen?	Yes [	No D	ate and initials of	Person Exami	ning Content	s:	11.2.12		
1:							~	omments:	7			
		Chain of Custody Present?	- Ves	- No	∐N/A	1.		onmentsi				
		Chain of Custody Filled Out?	Myss	No		2,						
		Chain of Custody Relinquished?			□N/A	3,	1					
		Sampler Name and/or Signature on COC?	Yes	Mo		4.			ananginan ang ang ang ang ang ang ang ang ang	·		
		Samples Arrived within Hold Time?	- Diffes			5.			and a subscription of the			
		Short Hold Time Analysis (<72 hr)?	Yes	INO	N/A	6.						
		Rush Turn Around Time Requested? Sufficient Volume?				7.						
ġ			Vres	No		8,						
		Correct Containers Used? -Pace Containers Used?	. Idres	ΠNo	🖸 N/A	9.						
		Containers Intert?	√Yes					Sherrow				
	1	Filtered Volume Received for Dissolved Tests?		ETHO			11.2.12		41	Construction of Construction of Construction		
	1	Sample Labels Match COC?	<u> </u>			11.						
		【注 . . . . . . . . . . . . . . . . . . .	☐ ZYes	<b>□</b> No	□n/a	12.						
		All containers needing acid/base preservation have been checked? Noncompliances are noted in 13				13.	∐HNO <sub>3</sub>	□H₂SO4		Пнсі		
		All containers needing preservation are found to be in compliance with EPA recommendation?	Yes	-		Sample#		·				
t	•	(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>2</sub> -HCl<2; NaOH>12)		MNO	∐N/A							
		Exceptions: (OA, Coliform, TOC, Oil and Grease, WI-DRO (water)	Ves	[]No			•	Lot # of a	added			
	'n	Headspace in VOA Vials ( >6mm)?	□ Yes	TYNO		Initial when comp	pleted:	preserva				
		"Trip Blank Present?				<u>14.</u> 15.		·				
		Trip Blank Custody Seals Present? Pace Trip Blank Lot # (If purchased): Nの しゅうは	Yes	<b>E</b> No		2V69M	,200	F9 B				
		CLIENT NOTIFICATION/RESOLUTION Person Contacted:			 , D	ate/Time:	Field Data	Required? [	Yes No			
		Comments/Resolution:			Contraction of the local diversion of the loc		, 		· · ·			
	1							to moti en entre opperation de la	talanan talan sa	and the second		
							and and a second se	anna an	anning and a second			
				the second s			·····	and the second secon				
					and the second state of th			And other states of the state o		(.)		
	P No	roject Manager Review: Karena te: Whenever there is a discrepancy affecting North Carolic	JUNG			Date:	NIDS	112_		n n n n n n n n n n n n n n n n n n n		
	ho	te: Whenever there is a discrepancy affecting North Carolin d, Incorrect preservative, out of temp, Incorrect containers	)	, amirihig2' g	copy of this	s form will be sent t	o the North Caro	lina DEHNR Ce	rtification Office	(i.e out of		
			1						,			
			•									
			¥							•		

i