



***Request for Closure
Tarr Vancouver Cardlock Site
Vancouver, Washington***

**Prepared for:
Tarr, LLC**

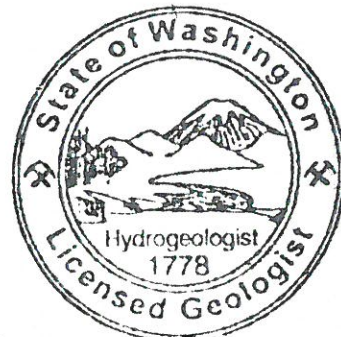
**May 12, 2017
1821-00**



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JOHN P. FOXWELL

*John Foxwell, L.H.G.
Principal*

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CLOSURE REQUEST

Tarr, LLC
Vancouver Cardlock Site
Vancouver, Washington

Site Name:	Tarr, LLC Vancouver Cardlock Site
	Vancouver, Washington
	Facility/Site No: 82645316, VCP Project No: SW1174
Owner (Contact):	Tarr, LLC
	P.O. Box 12570
	Portland, OR 97213
	Skip Tarr (503) 288-5294
Consultant (Contact):	Apex Companies, LLC
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	P.O. Box 47775
	Olympia, Washington 98504
	Aaren Siedler 360-407-6437

1.0 Introduction and Background

Apex Companies, LLC, (Apex) prepared this Closure Request on behalf of Tarr, LLC (Tarr) for the Vancouver Cardlock Site (the Site; Figure 1). The Site is comprised of two parcels of land (Figure 2). The northwest parcel (Tax Lot 169) is approximately 0.1 acre and includes a dwelling (currently used as an office). The main parcel (Tax Lot 172) is approximately 1.54 acres, and includes a shop building, an office/warehouse building, one 10,000-gallon diesel underground storage tank (UST), one 5,000-gallon gasoline UST, one 3,000-gallon gasoline UST, one 6,000-gallon off-road diesel aboveground storage tank (AST), two 250-gallon used/new oil ASTs, and a fueling canopy. The canopy is at the south side of the Site, near St. Johns Road.

Two of the USTs (the 10,000-gallon diesel and 5,000-gallon gasoline) are adjacent to the west and east sides of the canopy. The USTs dispense fuel through dispensers under the canopy and from a satellite dispenser, south of the canopy. The third UST (3,000-gallon gasoline) is west of the office/warehouse

building. A dispenser at the southwest corner of the office/warehouse building dispenses gasoline from the 3,000-gallon UST.

During a Phase II Environmental Site Assessment (ESA) conducted by Ash Creek (Ash Creek, 2011a), two remediation areas were identified. Petroleum hydrocarbons in soil and groundwater consistent with a surface release were identified in the area of the 3,000-gallon UST near the west side of the warehouse (UST area). The second area identified was soil around the dispenser for the 3,000-gallon UST, which is south of the office (dispenser area).

A remedial action consisting of an air sparge/soil vapor extraction system and soil excavation was proposed in the RI/FS and Cleanup Action Plan (Ash Creek, 2011). The remedial action was approved in Ecology's opinion letter dated October 13, 2012. The remedial action activities included soil removal activities around the satellite gasoline dispenser, operation of an Enhanced SVE system, and removal and assessment of an abandoned UST. Construction of the Enhanced SVE system was completed in summer 2012, and the system operation began in September 2012. Excavation of the contaminated soil around the gasoline dispenser was completed in May 2012 and included the removal and disposal of contaminated soil down to a depth of 4 feet below ground surface (bgs).

A previously unknown 1,000-gallon gasoline UST (abandoned UST) was discovered just south of the 3,000-gallon unleaded UST during construction of the Enhanced SVE system. The UST was removed under oversight of a licensed contractor, and a release was reported to Ecology on May 21, 2012. Contaminated soil was excavated and disposed, and soil and groundwater assessment of the abandoned UST area was completed. The Enhanced SVE system for the 3,000-gallon UST was expanded for cleanup in this area.

Initially, the Enhanced SVE system operated from September 2012 through January 2014. Groundwater data from March 2014 indicated that well MW-1 did not meet MTCA Method 1 groundwater cleanup levels for diesel range petroleum hydrocarbons. Because of this, the system was re-started in September 2014. The system then operated until December 2014, prior to the January 2015 groundwater monitoring event. The system has remained off to document the effectiveness of the remediation after system shutdown. Soil compliance sampling was conducted in 2015, after consultation with Ecology regarding sampling locations and methods. Analytical laboratory reports are provided in Appendix A and email documentation of the Ecology consultation is provided in Appendix B.

2.0 Groundwater Monitoring

The groundwater monitoring scope of services consisted of the following activities:

- Measure water levels in monitoring wells;
- Collect samples of groundwater from monitoring wells; and

-
- Analyze groundwater samples for volatile organic compounds (VOCs) and other target analytes.

Groundwater monitoring was completed using low-flow sampling techniques. Prior to sampling, each monitoring well was purged using a peristaltic pump, while water quality parameters (pH, temperature, dissolved oxygen, oxidation-reduction potential [ORP] and specific conductance) were recorded. Groundwater parameter data are presented in Table 1. Following purging, groundwater samples were collected using the peristaltic pump.

Groundwater samples were collected and analyzed from monitoring wells MW-1 through MW-3 in May and June of 2011. Monitoring wells MW-2 and MW-3 were removed from the groundwater monitoring program after these events due to two consecutive groundwater monitoring events with no detections of contaminants of concern above method detection limits.

Monitoring wells MW-1, MW-4, and MW-5 were sampled during four performance groundwater monitoring events in 2013 and 2014, and during all subsequent compliance monitoring events through June 2016. Additionally, based on a request from Ecology, MW-2 was also sampled in July 2015 to confirm migration had not occurred after the wells were removed from the sampling program. The monitoring program was reduced to a single well, MW-1, for the September and December monitoring events.

2.1 Groundwater Elevations and Flow Direction

Depth to groundwater was measured in each well using an oil/water interface probe. During the performance monitoring events, depth to water at the Facility ranged from approximately 8 to 12 feet bgs. Groundwater elevations ranged from approximately 250 to 255 feet above sea level in wells MW-1 through MW-3. Seasonal groundwater fluctuations of approximately 2 feet were observed during the monitoring activities.

Depth to groundwater measurements and groundwater elevations are listed in Table 1. Figures 3 and 4 show the groundwater elevations in the monitoring wells and the corresponding groundwater contours in March 2011 (a typical high water sampling event) and July 2015 (a typical low water sampling event). These figures also show a rose diagram illustrating the variation in groundwater flow direction observed during the different monitoring events.

3.0 Soil Confirmation Sampling

Confirmation sampling locations were reviewed by Ecology and approved in their email dated April 29, 2015 (Appendix B). Confirmation soil samples were collected from the area treated by the enhanced SVE system where soil samples previously exceeded MTCA Method A (Figure 6). These areas include:

- SB-6 and MW-1 area (B-1); and

-
- Center of abandoned UST, near former SB-18 (B-2).

Soil samples were collected approximately 12 to 13 feet bgs, which corresponds to the interval where maximum historical concentrations of contamination were observed. Soil samples were analyzed for TPH-G, TPH-D, VOCs, and lead.

4.0 Sampling Results

The results of the soil and groundwater sampling completed to support this closure request are summarized below.

4.1 Soil Results

Soil samples collected in B-1 and B-2 from the 12 to 13 feet bgs intervals (corresponding to the interval where maximum historical contamination was observed). TPH-G, TPH-D, VOCs, and lead were not detected above MTCA Method A levels in either of the soil samples collected.

4.2 Groundwater Analyses

Appendix A presents a copy of the laboratory reports for groundwater monitoring samples and a data quality review. Results flagged with data qualifiers can be seen in Table 2. The data were found to be acceptable for use, as qualified.

Groundwater samples were analyzed for one or more of the following:

- Total petroleum hydrocarbons (TPH) by Method NWTPH-DX and NWTPH-Gx,
- VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B;
- 1,2-Dibromoethane (EDB) by EPA Method 8011;
- Lead by EPA Method 6020; and
- Dissolved lead by EPA Method 6020.

4.3 Groundwater Analytical Results

The groundwater monitoring results from monitoring completed after the system shutdown is summarized below:

- In January 2015, following the system shutdown, all concentrations of petroleum hydrocarbons and constituents were below MTCA Method A groundwater cleanup levels. Overall, concentrations of TPH-G and TPH-D showed significant concentrations decreases in well MW-1, the only well where

gasoline and diesel range petroleum hydrocarbons in groundwater were detected above MTCA Method A cleanup levels.

- In July and October 2015, TPH-D concentrations were slightly elevated compared to MTCA Method A cleanup levels in MW-1. TPH-G and VOC concentrations were below MTCA Method A cleanup levels in MW-1 for four quarters (with one exception described below). Additionally, MW-2, which is located downgradient of the UST area, was sampled again to confirm petroleum hydrocarbons had not migrated to this well during the remediation period.
- Monitoring continued in MW-1 from December 2015 through December 2016 for TPH-Dx. Additionally, in December, 2015, MW-1 groundwater was analyzed for EPH and VPH to evaluate whether a site-specific cleanup level might be appropriate. Ultimately it was decided that a site-specific cleanup level was not appropriate for the site. Monitoring continued in MW-1 until four quarters of TPH-D concentrations in MW-1 were below MTCA Method A cleanup levels.

A minimum of four quarters of groundwater monitoring results below MTCA Method A cleanup levels were documented in wells MW-1, MW-4, and MW-5, with only two limited exceptions:

- In July, 2015, the 1,2-Dibromoethane concentration in MW-4 exceeded the MTCA Method A cleanup level in MW-4. This represented the only occasion since May 2013 where EDB was detected above the cleanup level. Apex believes this sample result was the result of analytical variability and the lack of EDB in groundwater samples in MW-4 before and after this event are indicative of the groundwater quality at this location; and
- In October 2015, the total lead concentration in MW-5 exceeded the MTCA Method A cleanup level. Apex believes this sample result was the result of sampling variability and the lack of lead concentrations in groundwater samples before and after this event are indicative of the groundwater quality at this location. In fact, the lead concentration did not exceed the MTCA Method A groundwater cleanup level prior to remediation.

In summary, the groundwater monitoring program results indicate that the remediation program at the Tarr Vancouver Cardlock was successful. Concentrations of TPH-D were reduced from approximately 5,000 micrograms per liter ($\mu\text{g/L}$) to below MTCA Method A cleanup levels (500 $\mu\text{g/L}$) and concentrations of TPH-G were reduced from approximately 78,000 $\mu\text{g/L}$ to below MTCA Method A cleanup levels (800 $\mu\text{g/L}$). Concentrations of benzene and other petroleum related VOCs exhibited similar concentrations decreases as a result of the remediation.

5.0 Request for Closure

The data collected during the 2015 soil sampling and groundwater monitoring through 2016 demonstrate that significant concentrations of gasoline or diesel range hydrocarbons and associated constituents

(e.g., BTEX) from the UST or dispenser releases do not remain in groundwater at the Site. Concentrations of TPH and VOCs above MTCA Method A cleanup levels have been remediated through the air sparging and soil vapor extraction remediation project. Two compounds, lead and EDB each had a single occasion where the MTCA Method A cleanup level was exceeded during the compliance monitoring period. These two exceptions are not indicative of the actual groundwater conditions for the reasons explained in Section 4.3. Based on these findings, no further sampling or other work is recommended, and a No Further Action (NFA) determination is an appropriate outcome for this site.

Analytical data from the site investigation and remediation project have been uploaded to Ecology's Environmental Information Management (EIM) system. The study identification (Study ID) for the site is VCSW1174.

A Terrestrial Ecological Evaluation was provided in correspondence to Ecology dated July 7, 2011. A copy of the Terrestrial Ecological Evaluation is included in Appendix B.

Table 1
Groundwater Elevations and Field Parameters
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Point	Sample Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters				
					Temperature (°C)	pH	Conductivity (µS)	ORP (mV)	DO (ppm)
MW-1	5/10/2011	262.43	7.45	254.98	12.73	7.84	815	-85.4	0.7
	6/13/2011		8.13	254.30	NA	NA	NA	NA	NA
	2/23/2012		9.96	252.47	NS	NS	NS	NS	NS
	4/25/2012		8.21	254.22	NS	NS	NS	NS	NS
	1/14/2013		8.76	253.67	12.58	6.64	149	99.7	3.61
	5/2/2013		9.23	253.20	14.20	6.73	220	100.8	0.68
	10/31/2013		11.49	250.94	13.51	6.19	211	118.1	2.51
	3/13/2014		10.32	252.11	11.61	6.69	171	186.3	1.84
	1/2/2015		11.29	251.14	14.17	8.45	880	-118.8	0.72
	7/1/2015		11.71	250.72	15.12	7.80	870	-110.5	0.98
	10/8/2015		13.46	248.97	17.1	6.16	192	29	0.89
	6/30/2016		9.63	252.80	15.07	6.08	356	15	0.6
	9/21/2016		11.35	251.08	14.88	6.34	349	15.1	0.65
	12/7/2016		9.84	252.59	14.39	6.50	306	148	0.36
MW-2	5/10/2011	262.48	8.78	253.70	11.05	5.98	94	105.6	3.7
	6/13/2011		8.43	254.05	NA	NA	NA	NA	NA
	2/23/2012		10.45	252.03	NS	NS	NS	NS	NS
	4/25/2012		8.51	253.97	NS	NS	NS	NS	NS
	1/14/2013		9.00	253.48	NS	NS	NS	NS	NS
	5/2/2013		8.58	253.90	NS	NS	NS	NS	NS
	10/31/2013		11.86	250.62	NS	NS	NS	NS	NS
	3/3/2014		10.64	251.84	NS	NS	NS	NS	NS
	1/2/2015		11.67	250.81	NS	NS	NS	NS	NS
	7/1/2015		11.98	250.50	14.73	6.51	678	20.2	1.16
	10/8/2015		13.77	248.71	NS	NS	NS	NS	NS
	9/21/2016		11.21	251.27	NS	NS	NS	NS	NS
	12/7/2016		10.21	252.27	NS	NS	NS	NS	NS
MW-3	5/10/2011	262.74	7.90	254.84	14.84	6.16	533	87.1	0.88
	6/13/2011		8.57	254.17	NA	NA	NA	NA	NA
	2/23/2012		10.27	252.47	NS	NS	NS	NS	NS
	4/25/2012		8.51	254.23	NS	NS	NS	NS	NS
	1/14/2013		9.14	253.60	NS	NS	NS	NS	NS
	5/2/2013		9.62	253.12	NS	NS	NS	NS	NS
	10/31/2013		11.72	251.02	NS	NS	NS	NS	NS
	3/3/2014		10.82	251.92	NS	NS	NS	NS	NS
	1/2/2015		11.75	250.99	NS	NS	NS	NS	NS
	7/1/2015		12.10	250.64	NS	NS	NS	NS	NS
	10/8/2015		13.85	248.89	NS	NS	NS	NS	NS
	9/21/2016		12.36	250.38	NS	NS	NS	NS	NS
	12/7/2016		10.50	252.24	NS	NS	NS	NS	NS
MW-4	1/14/2013	262.59	8.81	253.78	12.11	6.51	71	103.4	0.72
	5/2/2013		9.26	253.33	13.59	6.63	101	112.1	1.68
	10/31/2013		11.51	251.08	13.15	6.82	100	112.0	1.02
	3/3/2014		10.43	252.16	11.89	6.55	82	195.5	2.67
	1/2/2015		11.31	251.28	13.84	7.86	474	-46.1	3.33
	7/1/2015		11.72	250.87	14.67	6.82	497	27.7	2.32
	10/8/2015		13.48	249.11	17.32	6.33	240	22.9	0.45
	6/30/2016		9.66	252.93	9.66	6.11	423	5.2	0.34
	9/21/2016		11.37	251.22	NS	NS	NS	NS	NS
	12/7/2016		9.93	252.66	NS	NS	NS	NS	NS

Please see notes at end of table.

Table 1
Groundwater Elevations and Field Parameters
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Point	Sample Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters				
					Temperature (°C)	pH	Conductivity (µS)	ORP (mV)	DO (ppm)
MW-5	1/14/2013	262.07	8.04	254.03	14.46	5.95	410	105.6	0.39
	5/2/2013		8.58	253.49	15.61	6.62	546	127.8	0.99
	10/31/2013		10.83	251.24	14.93	6.13	431	109.5	1.25
	3/3/2014		9.64	252.43	13.89	6.44	651	195.4	0.63
	1/2/2015		10.59	251.48	15.35	6.82	841	100.5	0.53
	7/1/2015		11.05	251.02	16.87	6.41	781	36.4	1.54
	10/8/2015		12.82	249.25	18.78	6.13	235	50.7	0.36
	6/30/2016		9.65	252.42	17.31	6.27	894	-2	0.46
	9/21/2016		12.46	249.61	NS	NS	NS	NS	NS
	12/7/2016		9.37	252.70	NS	NS	NS	NS	NS

Notes:

1. Monitoring well survey conducted on May 25, 2011 by Statewide Land Survey, Inc.
2. Vertical control established using Global Positioning System, vertical Datum is NAVD 88.
4. °C = Degrees Celsius.
5. µS = Microsiemens.
6. mV = Millivolts.
7. ppm = Parts per million.
8. NS = Not sampled
9. NA = Not available

Table 2
Groundwater Analytical Results
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number: Sample Date:	MW-1														MW-2			MW-3		MW-4								MW-5								Washington MTCA Groundwater Method A, Table Value	
	5/10/2011	5/10/2011 DUP	6/13/2011	1/14/2013	5/2/2013	10/31/2013	2/24/2014	1/2/2015	7/1/2015	10/8/2015	12/11/2015	6/30/2016	9/21/2016	12/7/2016	5/10/2011	6/13/2011	7/1/2015	5/10/2011	6/13/2011	1/14/2013	5/2/2013	10/31/2013	2/24/2014	1/2/2015	7/1/2015	10/8/2015	6/30/2016	1/14/2013	5/2/2013	10/31/2013	2/24/2014	1/2/2015	7/1/2015	10/8/2015	6/30/2016		
n-Propylbenzene	340	--	352	6.9	3.5	20.3	0.97 J	2.8	2.9	1.01	1.98	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
o-Xylene	2,640	--	2,630	4.1	0.82 J	0.50 J	--	--	--	<1.0	3.21 ¹²	--	--	--	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	--	--	--	--	--	--	--
p-Isopropyltoluene	10.4	--	10.8	0.39 J	0.12 J	0.56 J	<1.0	<1.0	<1.0	--	<1.0	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
sec-Butylbenzene	17.3	--	18.0	0.54 J	0.36 J	3.1	<1.0	1.7	4.0	5.9	1.52	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
tert-Butylbenzene	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
trans-1,2-Dichloroethene	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
trans-1,3-Dichloropropene	<1.0	--	<1.0	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0	<1.0	<1.0	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0	<1.0	--	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0	<1.0	<1.0	--	--
Metals (µg/L)																																					
Lead	--	--	<10	--	--	--	--	0.74	<5.0	4.67J	--	--	--	--	--	<10	<5.0	--	<10	--	--	--	36.8 ³	8.7	1.9	2.8 J	6.67	--	--	--	--	--	0.54 B	<5.0	18	0.78	15
Dissolved Lead	--	--	--	--	--	--	--	--	--	--	--	<0.20	--	--	--	--	--	--	--	--	--	--	--	6.3	2.4	--	--	1.47	--	--	--	--	--	--	--	<0.20	--
TCLP Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	--	--	--	--	--	--	--	<50	--

- Notes:
1. VOCs = Volatile organic compounds by EPA Method 8260B.
 2. < = Not detected above the indicated method reporting limit (MRL).
 3. µg/L = Micrograms per liter (parts per billion [ppb]).
 4. **Bold** indicates detected concentration of listed analyte.
 5. Shading indicates detected concentration exceeding at least one screening value.
 6. M1 = Matrix spike recovery exceeded QC limits.
 7. Analyzed by EPA Method 8011. Result from Method 8260B not reported.
 8. J = Estimated concentration above the method detection limit and below the reporting limit.
 9. Sample for total lead analysis collected on November 11, 2013.
 10. Sample for TPH-Diesel Range and TPH-Oil Range analysis collected on March 13, 2014.
 11. S = Surrogate and LCS/LCSD spike recoveries low. Sample results are biased low and estimates.
 12. Analyzed by 8260. Result from method NWVPH not included.
 13. Diesel and oil extracted with acid/silica gel cleanup.
 14. J1 = Estimated value due to matrix interference.
 15. MTCA Method A cleanup values for TPH-G when benzene is present (800 mg/kg) or when no detectable benzene is present (1000 mg/kg).
 16. J2 = RPD value exceeded for associated analytical batch LCS/LCSD. Result is an estimate.
 17. B = Analyte was detected at <10x method blank concentration. Data biased high.
 18. M1 = Sample used as source for matrix spike. Analyte recovery was below 20%, therefore data is unusable.
 19. CL = Continuing calibration standard failed low for this analyte. Data is unusable.
 20. J3 = Sample chromatogram did not resemble the fuel standard used to calibrate. Result is an estimate.

Table 3
Soil Vapor Analytical Results
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

COMPOUND NAME	VP-1	Washington MTCA	
	9/11/2012	Method B Soil Gas Screening Levels	
		C	NC
	(ug/m ³)		
trans-1,2-Dichloroethene	<0.60	--	320
Methyl tert-butyl ether	<0.55	96	14,000
Freon 12	2.6	--	--
Freon 114	<1.1	--	--
Chloromethane	<0.31	14	--
1,3-Butadiene	<0.34	0.8	9.1
Bromomethane	<0.59	--	23
Chloroethane	<2.0	--	--
Freon 11	1.1	--	--
Ethanol	3.2	--	--
Freon 113	<1.2	--	--
Acetone	7.6	--	--
2-Propanol	<1.9	--	--
Carbon Disulfide	<2.4	--	3,200
3-Chloropropene	<2.4	--	--
Methylene Chloride	<1.0	53	14,000
Hexane	1.1	--	3,200
2-Butanone (Methyl Ethyl Ketone)	<2.2	--	4,600
Tetrahydrofuran	<2.2	--	--
Chloroform	2.0	1.1	--
Cyclohexane	<0.52	--	--
Carbon Tetrachloride	<0.96	1.7	--
2,2,4-Trimethylpentane	10	--	--
Heptane	0.76	--	--
1,2-Dichloropropane	<0.70	--	18
1,4-Dioxane	0.69	--	--
Bromodichloromethane	<1.0	0.033	--
cis-1,3-Dichloropropene	<0.69	--	--
4-Methyl-2-pentanone	<0.62	--	--
trans-1,3-Dichloropropene	<0.69	--	--
2-Hexanone	<3.1	--	--
Dibromochloromethane	<1.3	0.045	--
1,2-Dibromoethane (EDB)	<1.2	--	--
Chlorobenzene	<0.70	--	80
Styrene	<0.65	44	4,600
Bromoform	<1.6	23	--
Cumene	<0.75	--	1,800
Propylbenzene	<0.75	--	--
4-Ethyltoluene	<0.75	--	--
1,3,5-Trimethylbenzene	<0.75	--	27
1,2,4-Trimethylbenzene	<0.75	--	27
1,3-Dichlorobenzene	<0.91	--	--
1,4-Dichlorobenzene	<0.91	--	3,700
alpha-Chlorotoluene	<0.79	--	--
1,2-Dichlorobenzene	<0.91	--	640
1,2,4-Trichlorobenzene	<5.6	--	910
Hexachlorobutadiene	<8.1	1.1	--
TPH ref. to Gasoline (MW=100)	170	--	--
Vinyl Chloride	0.21	2.8	460
1,1-Dichloroethene	<0.060	--	910
1,1-Dichloroethane	<0.12	--	3,200
cis-1,2-Dichloroethene	<0.12	--	160
1,1,1-Trichloroethane	<0.16	--	48,000
Benzene	0.61	3.2	140
1,2-Dichloroethane	0.60	0.96	22
Trichloroethene	<0.16	1	160
Toluene	0.95	--	22,000
1,1,2-Trichloroethane	<0.16	1.6	--
Tetrachloroethene	<0.21	4.2	160
Ethyl Benzene	0.32	--	4,600
m,p-Xylene	1.4	--	460
o-Xylene	0.54	--	460
1,1,2,2-Tetrachloroethane	<0.21	3.4	--

Notes:

1. ug/m³ = micograms per cubic meter
2. Highlighting denotes a concentration above one of the Ecology MTCA soil gas screening levels for soil located just below buildings (Table B-1, Ecology, 2009).
3. Samples analyzed with EPA Method TO-15.
4. < = Not detected above the indicated method reporting limit (MRL).
5. "C" refers to the substance's toxicity as a carcinogen, "NC" refers to its toxicity as a non-carcinogen

Table 4
Soil Analytical Results: VOCs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number: Depth: Sample Date:	SB-5 (3.0) 3.0 3/1/2010	SB-12 (7.5) 7.5 4/29/2011	SB-13 (8.0) 8.0 4/28/2011	SB-16 (7) 7.0 5/29/2012	SB-17 (7.5) 7.5 5/29/2012	SB-19 (7.5) 7.5 5/29/2012	MW-1 (2.5) 2.5 4/29/2011	MW-1 (12.5) 12.5 4/29/2011	Soil, Method A, Unrestricted Land Use, Table Value
VOCs (µg/kg)									
Acetone	<10.5	<11.0	17.1	20.3	<11.5	43.5	155	259	--
tert-Amyl methyl ether	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Benzene	<3.1	<3.3	62.1	<4.0	167	<3.5	162	940	30
Bromobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Bromochloromethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Bromodichloromethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Bromoform	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Bromomethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
2-Butanone	28.7	<11.0	<11.3	<13.2	<11.5	<11.5	<14.1	<11.6	--
n-Butylbenzene	296	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
sec-Butylbenzene	150	<3.3	4.5	<4.0	<3.4	<3.5	8.4	1,400	--
tert-Butylbenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Carbon disulfide	3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Carbon tetrachloride	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Chlorobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Chloroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Chloroform	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Chloromethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
2-Chlorotoluene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
4-Chlorotoluene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2-Dibromo-3-chloropropane	<6.2	<5.5	<5.6	<6.6	<5.7	<5.8	<7.0	<5.8	--
Dibromochloromethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2-Dibromomethane (EDB)	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Dibromomethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2-Dichlorobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,3-Dichlorobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,4-Dichlorobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Dichlorodifluoromethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,1-Dichloroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2-Dichloroethane	<3.1	<6.6	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2-Dichloroethene (Total)	6.3	<3.3	<6.8	<7.9	<6.9	<6.9	<8.5	<7.0	--
1,1-Dichloroethene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
cis-1,2-Dichloroethene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
trans-1,2-Dichloroethene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2-Dichloropropane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,3-Dichloropropane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
2,2-Dichloropropane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,1-Dichloropropene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
cis-1,3-Dichloropropene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
trans-1,3-Dichloropropene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Ethylbenzene	21.6	<3.9	79.5	<4.0	47.2	<3.5	34.3	21,300	6000
Hexachloro-1,3-butadiene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
2-Hexanone	10.6	<11.0	<11.3	<13.2	<11.5	<11.5	<14.1	<11.6	--
Isopropylbenzene (Cumene)	57.4	<3.9	11.3	<4.0	4.9	<3.5	9.2	3,010	--
p-Isopropyltoluene	266	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	805	--
Methylene chloride	<10.5	<11.0	<11.3	<13.2	<11.5	<11.5	<14.1	<11.6	20
4-Methyl-2-pentanone (MIBK)	<10.5	<11.0	<11.3	<13.2	<11.5	<11.5	<14.1	<11.6	--
Methyl-tert-butyl ether	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
n-Propylbenzene 141	141	<3.9	28.2	<4.0	11.2	<3.5	12.7	11,100	--
Styrene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,1,1,2-Tetrachloroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,1,2,2-Tetrachloroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Tetrachloroethene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	50
Toluene	8.5	<3.9	14.8	<4.0	<3.4	<3.5	27.3	712	7000
1,2,3-Trichlorobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2,4-Trichlorobenzene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,1,1-Trichloroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	2000
1,1,2-Trichloroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Trichloroethene	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	30
Trichlorofluoromethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,2,3-Trichloropropane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
1,1,2-Trichlorotrifluoroethane	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Vinyl chloride	<3.1	<3.3	<3.4	<4.0	<3.4	<3.5	<4.2	<3.5	--
Xylene (Total)	291	<11.6	425	<11.9	69.7	<10.4	141	143,000	9000
m&p-Xylene	180	<7.7	307	<7.9	66.2	<6.9	118	113,000	--
o-Xylene	301	<3.9	118	<4.0	3.5	<3.5	22.9	28,800	--
Naphthalene	15,200	<3.9	7.2	<4.0	<3.4	<3.5	20.5	10,700	5000
1,2,4-Trimethylbenzene	54,000	<3.9	<3.4	<4.0	72.1	<3.5	3270	120,000	--
1,3,5-Trimethylbenzene	12,800	<3.9	24.7	<4.0	<3.4	<3.5	89.3	34,300	--

Please see notes at end of table.

Table 4
Soil Analytical Results: VOCs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number: Depth: Sample Date:	UST - East Sidewall - 7.5' 7.5 5/19/2012	Stockpile -- 5/19/2012	North Sidewall 3.0 5/24/2012	South Sidewall 2.5 5/24/2012	East Sidewall 3.0 5/24/2012	West Sidewall 4.0 5/24/2012	Dispenser C-20 2.0 5/24/2012	Ex Bottom 4.0 5/24/2012	Stockpile-2 -- 6/7/2012	Soil, Method A, Unrestricted Land Use, Table Value
VOCs (µg/kg)										
Acetone	<10.2	11.1	40.1	71.2	54.1	130	193	98.2	<11.3	--
tert-Amyl methyl ether	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Benzene	<3.1	<2.6	13.7	10.2	<2.6	<3.8	<3.9	<4.5	<3.4	30
Bromobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Bromochloromethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Bromodichloromethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Bromoform	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Bromomethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
2-Butanone	<10.2	<8.6	<9.3	<10.5	<8.6	<12.6	36.8	<14.9	<11.3	--
n-Butylbenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
sec-Butylbenzene	4.3	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
tert-Butylbenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Carbon disulfide	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Carbon tetrachloride	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Chlorobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Chloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Chloroform	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Chloromethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
2-Chlorotoluene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
4-Chlorotoluene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2-Dibromo-3-chloropropane	<3.1	<4.3	<4.7	<5.3	<4.3	<6.3	<6.5	<7.5	<5.7	--
Dibromochloromethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2-Dibromoethane (EDB)	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Dibromomethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2-Dichlorobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,3-Dichlorobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,4-Dichlorobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Dichlorodifluoromethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,1-Dichloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2-Dichloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2-Dichloroethene (Total)	<6.1	<5.1	<5.6	<6.3	<5.1	<7.6	<7.8	<8.9	<6.8	--
1,1-Dichloroethene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
cis-1,2-Dichloroethene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
trans-1,2-Dichloroethene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2-Dichloropropane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,3-Dichloropropane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
2,2-Dichloropropane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,1-Dichloropropene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
cis-1,3-Dichloropropene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
trans-1,3-Dichloropropene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Ethylbenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	6000
Hexachloro-1,3-butadiene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
2-Hexanone	<10.2	<8.6	<9.3	<10.5	<8.6	<12.6	<13.1	<14.9	<11.3	--
Isopropylbenzene (Cumene)	18.3	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
p-Isopropyltoluene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Methylene chloride	<10.2	<8.6	<9.3	<10.5	<8.6	<12.6	<13.1	<14.9	<11.3	20
4-Methyl-2-pentanone (MIBK)	<10.2	<8.6	<9.3	<10.5	<8.6	<12.6	<13.1	<14.9	<11.3	--
Methyl-tert-butyl ether	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
n-Propylbenzene 141	38.5	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Styrene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,1,1,2-Tetrachloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,1,2,2-Tetrachloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Tetrachloroethene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	50
Toluene	112	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	7000
1,2,3-Trichlorobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2,4-Trichlorobenzene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,1,1-Trichloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	2000
1,1,2-Trichloroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Trichloroethene	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	30
Trichlorofluoromethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,2,3-Trichloropropane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,1,2-Trichlorotrifluoroethane	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Vinyl chloride	<3.1	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Xylene (Total)	102	<7.7	<8.4	<9.5	<7.7	<11.4	<11.8	<13.4	<10.3	9000
m&p-Xylene	<6.1	<5.1	<5.6	<6.3	<5.1	<7.6	<7.8	9.1	<6.8	--
o-Xylene	102	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
Naphthalene	11.7	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	5000
1,2,4-Trimethylbenzene	149	2.7	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--
1,3,5-Trimethylbenzene	57.8	<2.6	<2.8	<3.2	<2.6	<3.8	<3.9	<4.5	<3.4	--

Please see notes at end of table.

Table 4
Soil Analytical Results: VOCs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number:	B-1	B-2	Soil, Method A, Unrestricted Land Use, Table Value
Depth:	12.5	12.5	
Sample Date:	5/6/2015	5/6/2015	
VOCs (µg/kg)			
Acetone	--	--	--
tert-Amyl methyl ether	--	--	--
Benzene	<19.3	<18.8	30
Bromobenzene	--	--	--
Bromochloromethane	--	--	--
Bromodichloromethane	--	--	--
Bromoform	--	--	--
Bromomethane	--	--	--
2-Butanone	--	--	--
n-Butylbenzene	--	--	--
sec-Butylbenzene	--	--	--
tert-Butylbenzene	--	--	--
Carbon disulfide	--	--	--
Carbon tetrachloride	--	--	--
Chlorobenzene	--	--	--
Chloroethane	--	--	--
Chloroform	--	--	--
Chloromethane	--	--	--
2-Chlorotoluene	--	--	--
4-Chlorotoluene	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--
Dibromochloromethane	--	--	--
1,2-Dibromoethane (EDB)	<38.6	<37.5	5
Dibromomethane	--	--	--
1,2-Dichlorobenzene	--	--	--
1,3-Dichlorobenzene	--	--	--
1,4-Dichlorobenzene	--	--	--
Dichlorodifluoromethane	--	--	--
1,1-Dichloroethane	--	--	--
1,2-Dichloroethane	<38.6	<37.5	--
1,2-Dichloroethene (Total)	--	--	--
1,1-Dichloroethene	--	--	--
cis-1,2-Dichloroethene	--	--	--
trans-1,2-Dichloroethene	--	--	--
1,2-Dichloropropane	--	--	--
1,3-Dichloropropane	--	--	--
2,2-Dichloropropane	--	--	--
1,1-Dichloropropene	--	--	--
cis-1,3-Dichloropropene	--	--	--
trans-1,3-Dichloropropene	--	--	--
Ethylbenzene	<38.6	<37.5	6000
Hexachloro-1,3-butadiene	--	--	--
2-Hexanone	--	--	--
Isopropylbenzene (Cumene)	<77.3	<75.1	--
p-Isopropyltoluene	--	--	--
Methylene chloride	--	--	20
4-Methyl-2-pentanone (MIBK)	--	--	--
Methyl-tert-butyl ether	<77.3	<75.1	100
n-Propylbenzene 141	<38.6	<37.5	--
Styrene	--	--	--
1,1,1,2-Tetrachloroethane	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--
Tetrachloroethene	--	--	50
Toluene	<77.3	<75.1	7000
1,2,3-Trichlorobenzene	--	--	--
1,2,4-Trichlorobenzene	--	--	--
1,1,1-Trichloroethane	--	--	2000
1,1,2-Trichloroethane	--	--	--
Trichloroethene	--	--	30
Trichlorofluoromethane	--	--	--
1,2,3-Trichloropropane	--	--	--
1,1,2-Trichlorotrifluoroethane	--	--	--
Vinyl chloride	--	--	--
Xylene (Total)	<116	<113	9000
m&p-Xylene	--	--	--
o-Xylene	--	--	--
Naphthalene	<155	<150	5000
1,2,4-Trimethylbenzene	<77.3	<75.1	--
1,3,5-Trimethylbenzene	<77.3	<75.1	--

Notes:

1. VOCs = Volatile organic compounds by EPA Method 8260B
2. µg/kg = Micrograms per kilogram (parts per billion (ppb)).
3. < = Not detected above the indicated method reporting limit (MRL)
4. **Bold** indicates detected concentration of listed analyte
5. Shading indicates detected concentration exceeding at least one screening value
6. -- = Not analyzed or cleanup level not established
7. ~~Strikethrough~~ indicates soil sample removed by excavation.

Table 5
Soil Analytical Results: TPH, Lead, and PAHs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number: Sample Date: Depth:	SB-1 (13.5)	SB-2 (13.0)	SB-3 (13.0)	SB-4 (13.5)	SB-5 (3.0)	SB-5 (8.5)	SB-6 (13.5)	SB-7 (13.0)	SB-8 (14.0)	SB-9 (8.5)	SB-10 (7.5)	SB-11 (7.5)	SB-12 (2.5)	Washington MTCA Soil Method A Table Value	
	3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	4/28/2011	4/28/2011	4/28/2011	4/29/2011		
	13.5 feet	13.0 feet	13.0 feet	13.5 feet	3.0 feet	8.5 feet	13.5 feet	13 feet	14 feet	8.5 feet	7.5 feet	7.5 feet	2.5 feet		
Hydrocarbon Identification															
Gasoline Range	ND	ND	ND	ND	Detected	--	Detected	--	ND	--	--	--	--	--	
Diesel Range	ND	ND	ND	ND	Detected	--	Detected	--	ND	--	--	--	--	--	
Motor Oil Range	ND	ND	ND	ND	Detected	--	ND	--	ND	--	--	--	--	--	
Petroleum Hydrocarbons (mg/kg)															
Gasoline	--	--	--	--	2,280	<7.5	907	<7.1	--	<8.0	<7.9	<8.0	<9.7	30/100*	
Diesel	--	--	--	--	1,960	<26.2	194	<25	--	<26.5	<26.5	<26.5	<28.8	2,000	
Motor Oil	--	--	--	--	1,260	<105	ND	<100	--	<106	<106	<106	137	2,000	
Metals (mg/kg)															
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	250	
PAHs (µ g/kg)															
1-Methylnaphthalene	--	--	--	--	6,360	--	--	--	--	--	--	--	--	5,000**	
2-Methylnaphthalene	--	--	--	--	13,300	--	--	--	--	--	--	--	--	5,000**	
Acenaphthene	--	--	--	--	39.7	--	--	--	--	--	--	--	--	--	
Acenaphthylene	--	--	--	--	16.5	--	--	--	--	--	--	--	--	--	
Anthracene	--	--	--	--	12.8	--	--	--	--	--	--	--	--	--	
Benzo(a)anthracene	--	--	--	--	8.1	--	--	--	--	--	--	--	--	--	
Benzo(a)pyrene	--	--	--	--	29.5	--	--	--	--	--	--	--	--	100	
Benzo(b)fluoranthene	--	--	--	--	26.9	--	--	--	--	--	--	--	--	--	
Benzo(g,h,i)perylene	--	--	--	--	52	--	--	--	--	--	--	--	--	--	
Benzo(k)fluoranthene	--	--	--	--	10.4	--	--	--	--	--	--	--	--	--	
Chrysene	--	--	--	--	68.2	--	--	--	--	--	--	--	--	--	
Dibenz(a,h)anthracene	--	--	--	--	15.1	--	--	--	--	--	--	--	--	--	
Fluoranthene	--	--	--	--	15.2	--	--	--	--	--	--	--	--	--	
Fluorene	--	--	--	--	46.3	--	--	--	--	--	--	--	--	--	
Indeno(1,2,3-cd)pyrene	--	--	--	--	15.6	--	--	--	--	--	--	--	--	--	
Naphthalene	--	--	--	--	8,860	--	--	--	--	--	--	--	--	5,000**	
Phenanthrene	--	--	--	--	96.7	--	--	--	--	--	--	--	--	--	
Pyrene	--	--	--	--	32.5	--	--	--	--	--	--	--	--	--	

Please see notes at at end of table.

Table 5
Soil Analytical Results: TPH, Lead, and PAHs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number: Sample Date: Depth:	SB-12 (7.5)	SB-13 (2.5)	SB-13 (8.0)	SB-14 (2.5)	SB-14 (7.5)	MW-1 (12.5)	MW-2 (7.5)	MW-3 (7.5)	UST Excavation - 9'	UST - East Sidewall - 7.5'	UST - South End - 8'	UST - North End - 5.5'	Washington MTCA Soil Method A Table Value
	4/29/2011	4/28/2011	4/28/2011	4/29/2011	4/29/2011	4/29/2011	4/28/2011	4/29/2011	5/19/2012	5/19/2012	5/19/2012	5/19/2012	
	7.5 feet	2.5 feet	8.0 feet	2.5 feet	7.5 feet	12.5 feet	7.5 feet	7.5 feet	9 feet	7.5 feet	8 feet	5.5 feet	
Hydrocarbon Identification													
Gasoline Range	--	--	--	--	--	--	--	--	Detected	--	--	--	--
Diesel Range	--	--	--	--	--	--	--	--	Detected	--	--	--	--
Motor Oil Range	--	--	--	--	--	--	--	--	ND	--	--	--	--
Petroleum Hydrocarbons (mg/kg)													
Gasoline	<7.8	8.7	<7.1	<7.5	<7.6	2,140	<7.2	<7.8	12000	13.7	13.0	4880	30/100*
Diesel	<26.8	<24.5	<26.1	<24.2	<24.6	59.9	<25.9	<25.0	--	--	--	--	2,000
Motor Oil	<107	<98.1	<105	<96.9	<98.4	<104	<104	<100	--	--	--	--	2,000
Metals (mg/kg)													
Lead	--	46.8	--	11.1	--	8.5	--	--	--	8.6			250
PAHs (μg/kg)													
1-Methylnaphthalene	<9.1	--	--	--	--	1,380	--	--	--	--	--	--	5,000**
2-Methylnaphthalene	<9.1	--	--	--	--	3,190	--	--	--	--	--	--	5,000**
Acenaphthene	<9.1	--	--	--	--	23.5	--	--	--	--	--	--	--
Acenaphthylene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Anthracene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Benzo(a)anthracene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Benzo(a)pyrene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	100
Benzo(b)fluoranthene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Benzo(k)fluoranthene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Chrysene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Fluoranthene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Fluorene	<9.1	--	--	--	--	52.0	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	<9.1	--	--	--	--	<8.9	--	--	--	--	--	--	--
Naphthalene	<9.1	--	--	--	--	3,350	--	--	--	--	--	--	5,000**
Phenanthrene	<9.1	--	--	--	--	84.2	--	--	--	--	--	--	--
Pyrene	<9.1	--	--	--	--	10.1	--	--	--	--	--	--	--

Please see notes at at end of table.

Table 5
Soil Analytical Results: TPH, Lead, and PAHs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

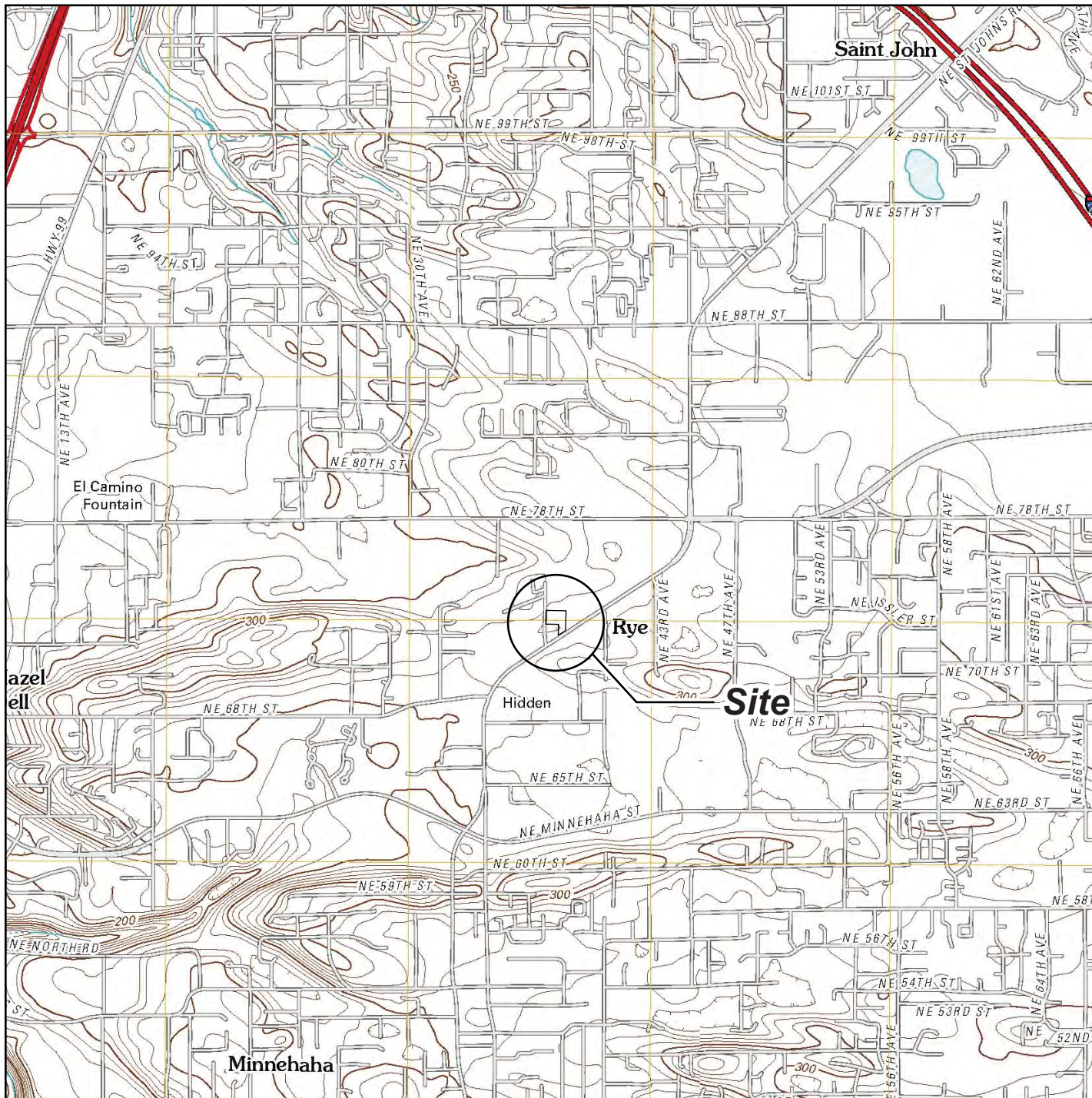
	Sample Number:	UST - West Side Wall - 8'	Stockpile	North Sidewall	South Sidewall	East Sidewall	West Sidewall	Dispenser C-20	Ex Bottom	Stockpile-2	Washington MTCA Soil Method A Table Value
	Sample Date:	5/19/2012	5/19/2012	5/24/2012	5/24/2012	5/24/2012	5/24/2012	5/24/2012	5/24/2012	6/7/2012	
	Depth:	8 feet	--	3.0	2.5	3.0	4.0	2.0	4.0	--	
Hydrocarbon Identification											
Gasoline Range	--	--	--	--	--	--	--	--	--	--	--
Diesel Range	--	--	--	--	--	--	--	--	--	--	--
Motor Oil Range	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/kg)											
Gasoline	7280	<5.2	<5.8	<6.4	<5.2	<7.9	<6.2	<8.0	--	--	30/100*
Diesel	--	--	--	--	--	--	--	--	--	--	2,000
Motor Oil	--	--	--	--	--	--	--	--	--	--	2,000
Metals (mg/kg)											
Lead		24.60								11.5	250
PAHs (μ g/kg)											
1-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	5,000**
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	5,000**
Acenaphthene	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--	--	--	100
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	5,000**
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	--	--

Please see notes at at end of table.

Table 5
Soil Analytical Results: TPH, Lead, and PAHs
Tarr Vancouver Cardlock Remediation
Vancouver, Washington

Sample Number: Sample Date: Depth:	B-1	B-2	Washington MTCA Soil Method A Table Value
	5/6/2015	5/6/2015	
	12.5 feet	12.5 feet	
Hydrocarbon Identification			
Gasoline Range	--	--	--
Diesel Range	--	--	--
Motor Oil Range	--	--	--
Petroleum Hydrocarbons (mg/kg)			
Gasoline	<7.73	<7.51	30/100*
Diesel	<32.2	<31.6	2,000
Motor Oil	<64.3	<63.2	2,000
Metals (mg/kg)			
Lead	5.32	7.47	250
PAHs (µg/kg)			
1-Methylnaphthalene	--	--	5,000**
2-Methylnaphthalene	--	--	5,000**
Acenaphthene	--	--	--
Acenaphthylene	--	--	--
Anthracene	--	--	--
Benzo(a)anthracene	--	--	--
Benzo(a)pyrene	--	--	100
Benzo(b)fluoranthene	--	--	--
Benzo(g,h,i)perylene	--	--	--
Benzo(k)fluoranthene	--	--	--
Chrysene	--	--	--
Dibenz(a,h)anthracene	--	--	--
Fluoranthene	--	--	--
Fluorene	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	--
Naphthalene	--	--	5,000**
Phenanthrene	--	--	--
Pyrene	--	--	--

- Notes:
1. mg/kg = Milligrams per kilogram (parts per million [ppm]).
 2. μg/kg = Micrograms per kilogram (parts per billion [ppb])
 3. < = Not detected above the indicated method reporting limit (MRL)
 4. **Bold** indicates detected concentration of listed analyte
 5. Shading indicates detected concentration exceeding at least one screening value
 6. -- = Not analyzed or cleanup level not established
 7. 30/100* = MTCA Method A cleanup values for TPH-G when benzene is present (30 mg/kg) or when no detectable benzene is present (100 mg/kg)
 8. **5,000 = MTCA Method A cleanup level for sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene



Note: Base map prepared from USGS 7.5-minute quadrangle of Vancouver and Orchards, WA-OR, dated 2011 as provided by USGS.gov.



Vancouver



Site Location Map

Tarr, LLC Vancouver Cardlock
7208 NE St. Johns Road
Vancouver, Washington



Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

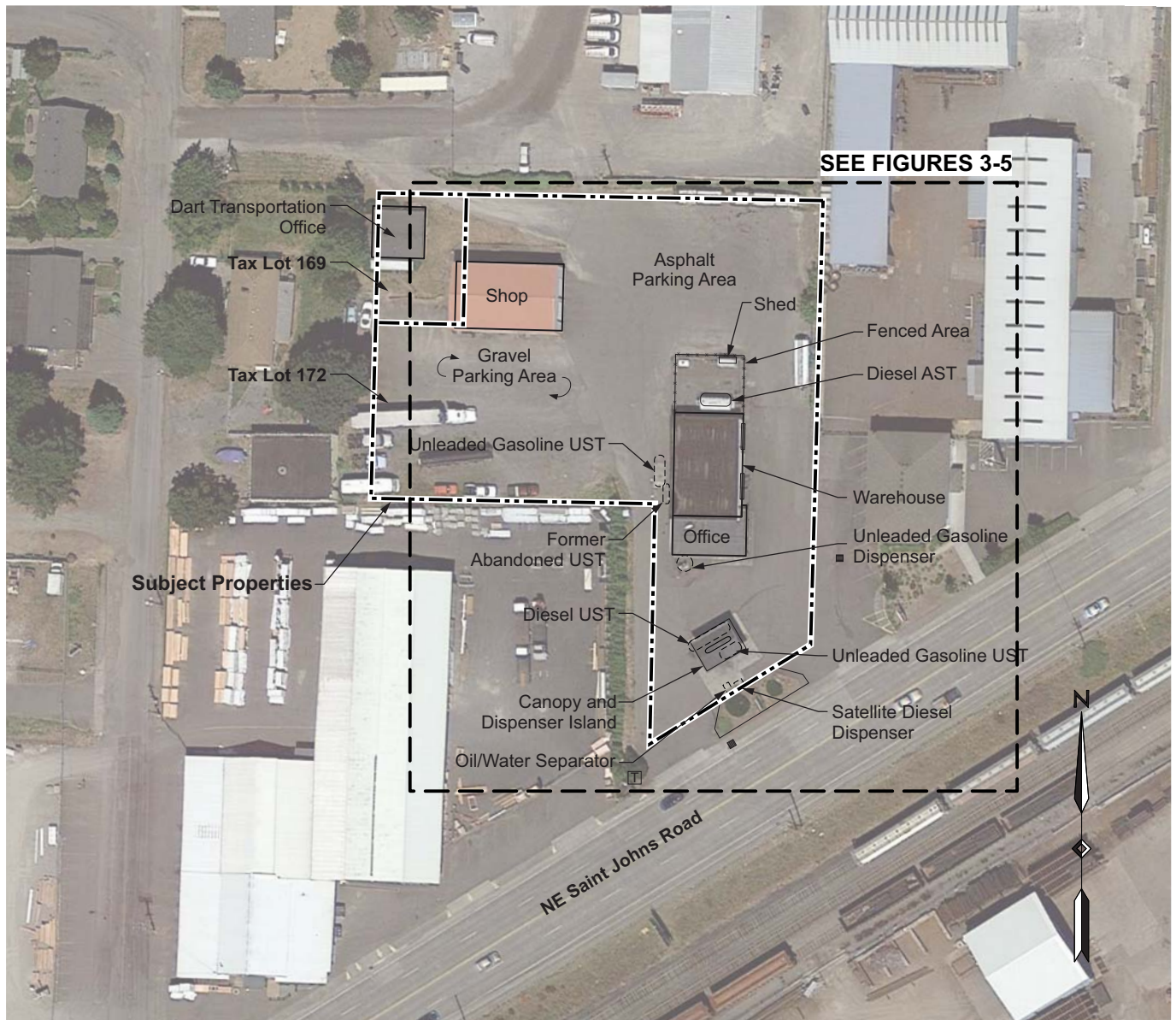
Project Number

1821-00

May 2017

Figure

1



Legend:

- Approximate Area
- Transformer Location
- Catch Basin Location

0 100 200
Approximate Scale in Feet

Site Plan

Tarr, LLC Vancouver Cardlock
7208 NE St. Johns Road
Vancouver, Washington

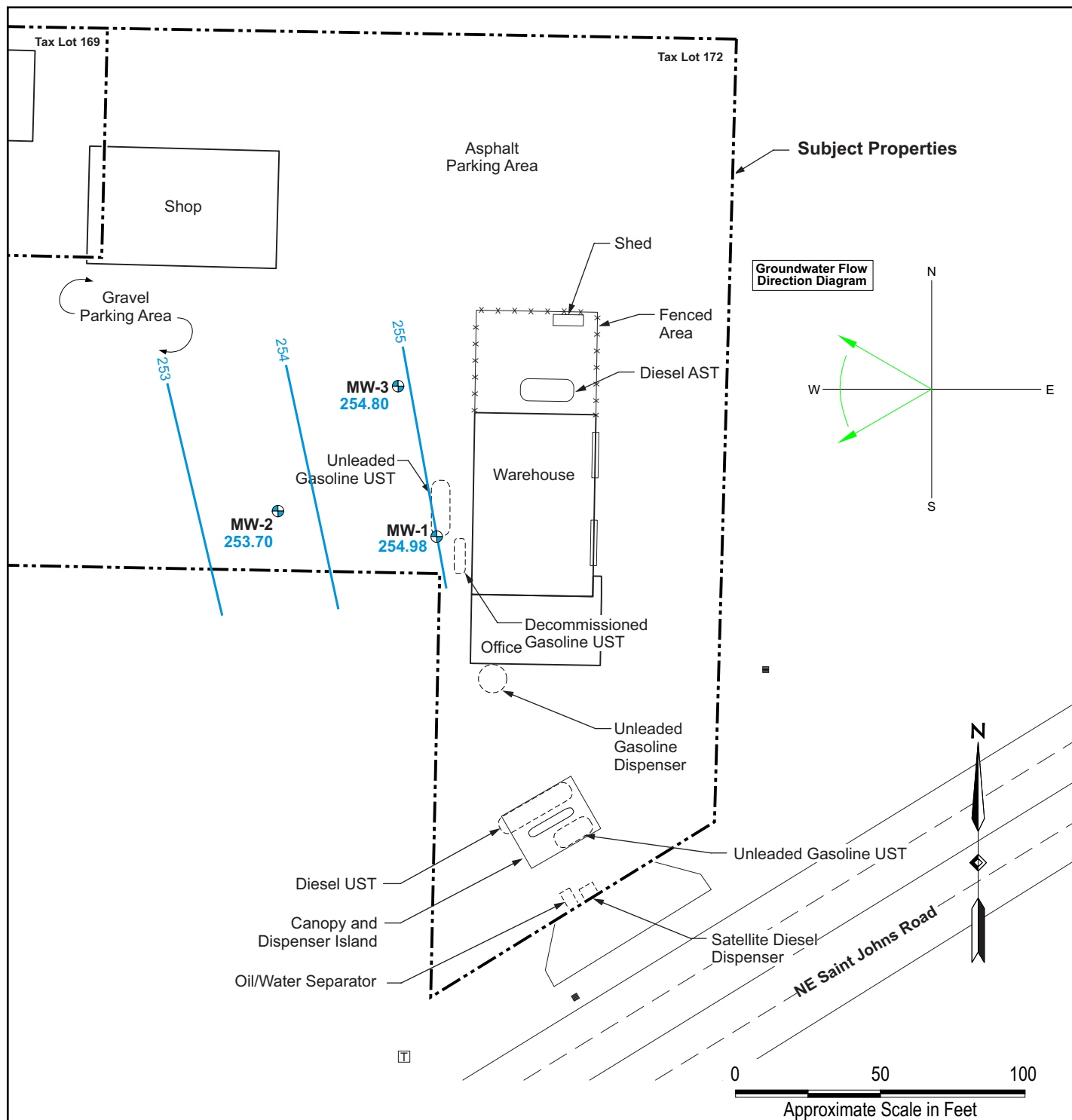
Notes: 1) Base map prepared from 2016 - Google Earth Pro imagery and site reconnaissance by Apex personnel.
2) Site feature locations and dimensions are approximate.



Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	1821-00
May 2017	

Figure
2



Legend:

- MW-1 254.98 Monitoring Well Location
Groundwater Elevation in Feet
- NS Not Surveyed
- 253 Groundwater Elevation Contour in Feet
(Dashed Where Inferred)
- Approximate Area
- Transformer Location
- Catch Basin Location

- Notes:** 1) Base map prepared from site reconnaissance by Apex personnel.
2) Site feature locations and dimensions are approximate.

March 2011 Groundwater Elevations

Tarr, LLC Vancouver Cardlock
7208 NE St. Johns Road
Vancouver, Washington



Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

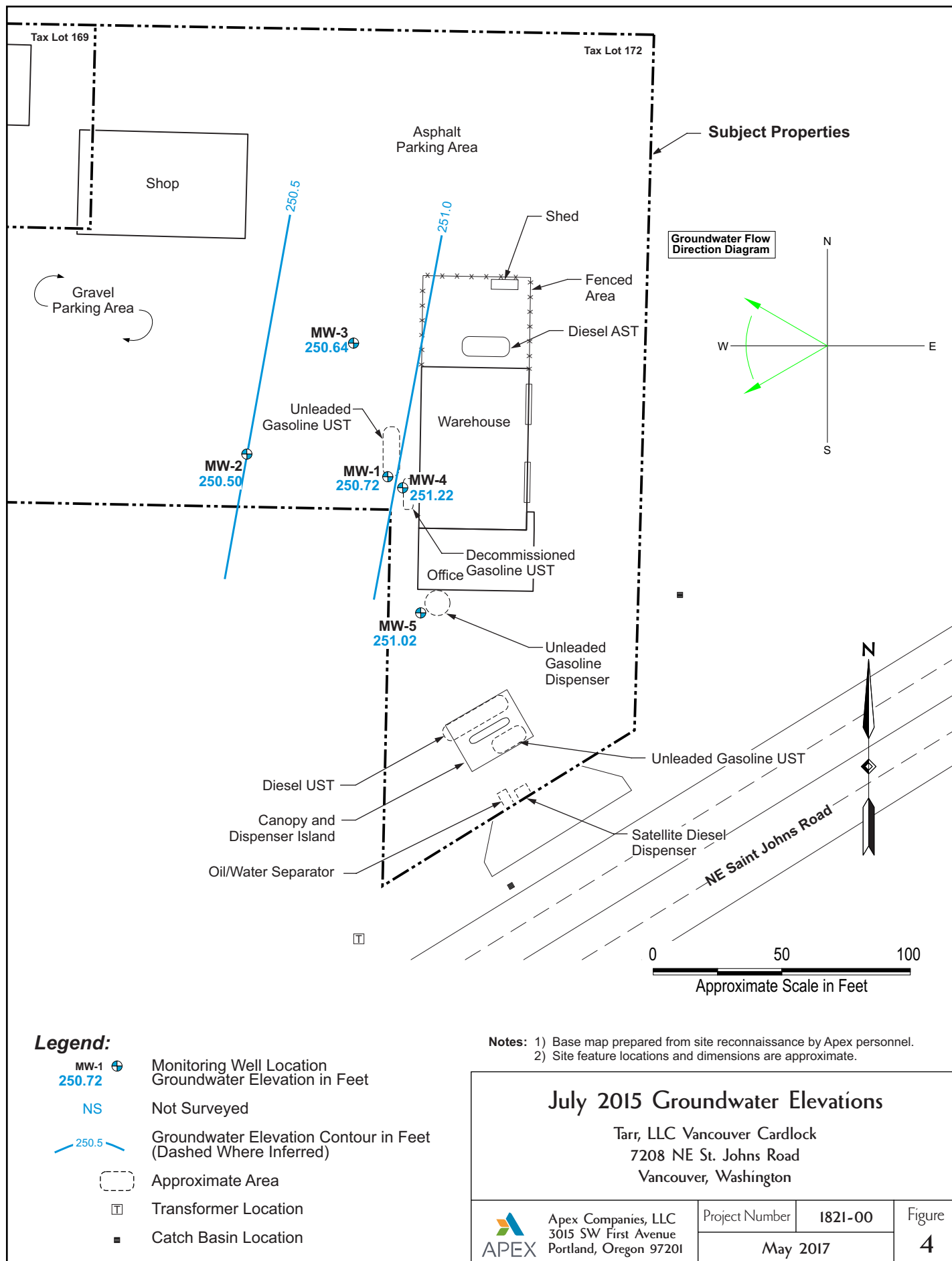
Project Number

1821-00

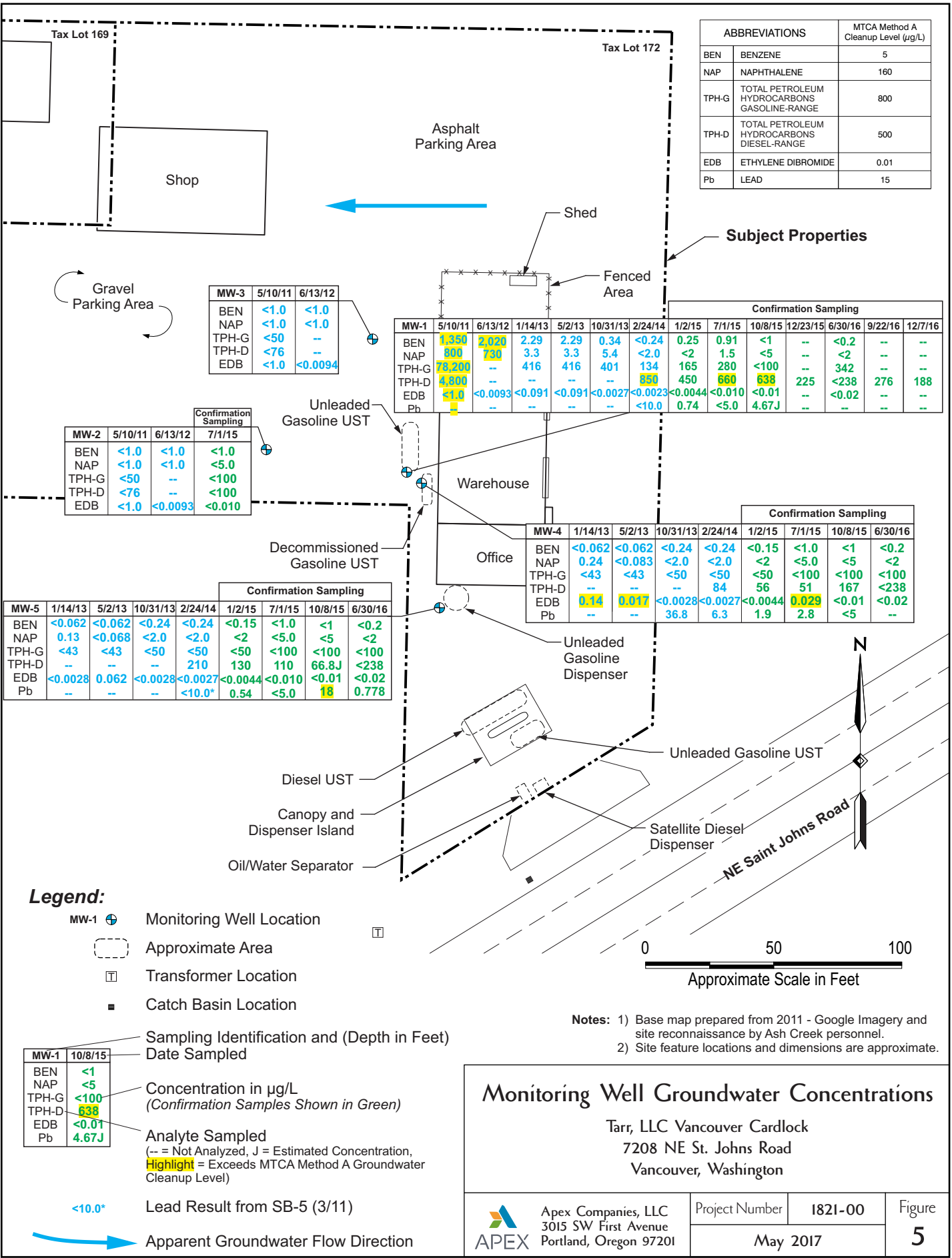
May 2017

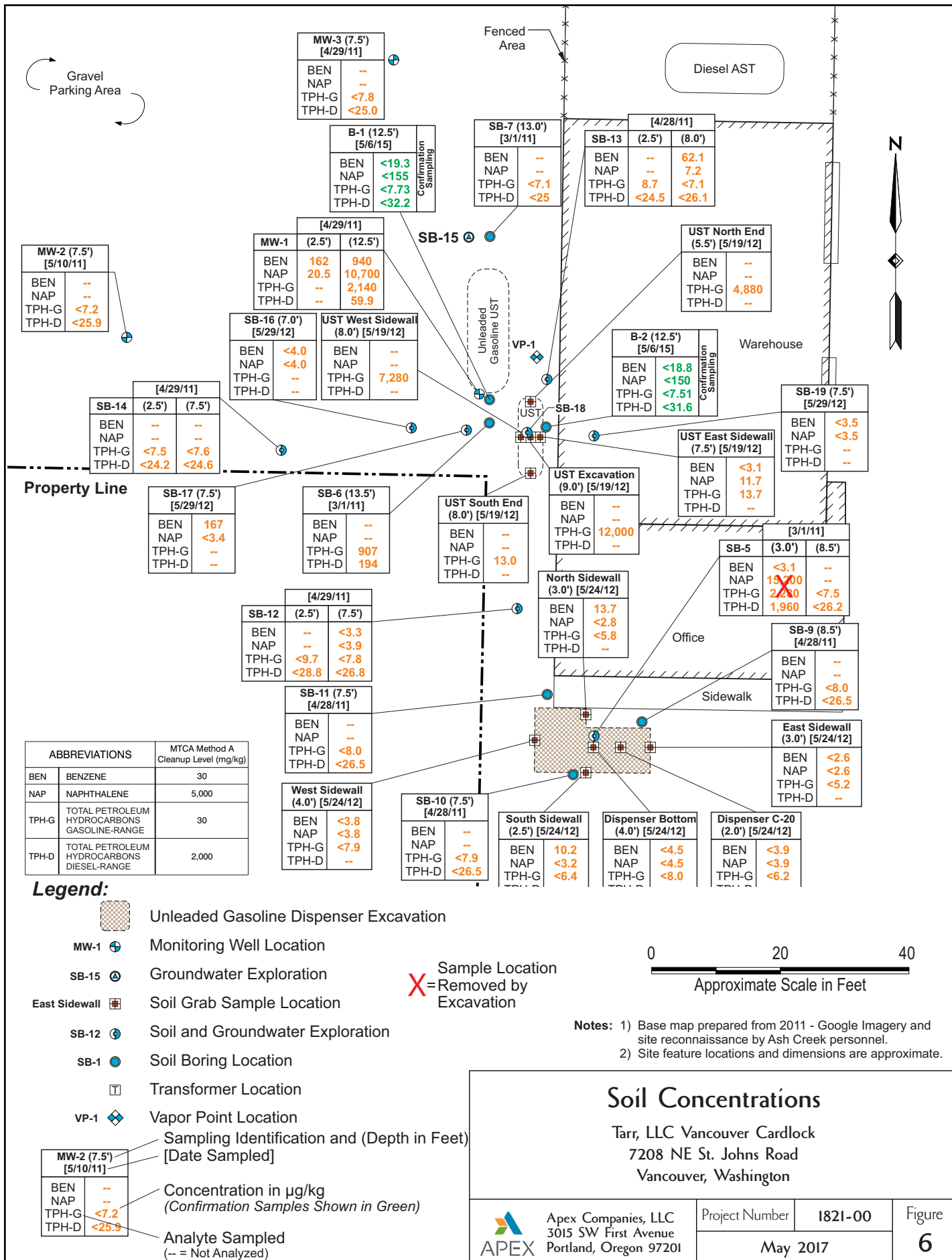
Figure

3



ABBREVIATIONS		MTCA Method A Cleanup Level (µg/L)
BEN	BENZENE	5
NAP	NAPHTHALENE	160
TPH-G	TOTAL PETROLEUM HYDROCARBONS GASOLINE-RANGE	800
TPH-D	TOTAL PETROLEUM HYDROCARBONS DIESEL-RANGE	500
EDB	ETHYLENE DIBROMIDE	0.01
Pb	LEAD	15





Appendix A

Analytical Laboratory Reports and Data Quality Review

Appendix A – Data Quality Review

This appendix documents the results of a quality assurance/quality control (QA/QC) review of the analytical data for groundwater and soil samples collected between May 2013 and December 2016 for Tarr, LLC (Tarr) at the Vancouver Cardlock Site. A copy of each analytical laboratory report is included in this appendix.

The data quality review included multiple points of investigation:

Precision: The ability for the analytical laboratory to reproduce results that are in agreement. Duplicate analysis is prepared by taking multiple aliquots from a single sample and analyzing each aliquot separately. Analytical precision is determined through duplicate analysis of laboratory control samples, matrix spikes and laboratory duplicates. Precision is estimated by the relative percent difference (RPD) between the analyses of the same sample.

Accuracy: How close an analytical result is to the known reference value. A percent recovery is used to measure this and is calculated from the analytical result compared to the known reference value of the analyte. Quality control samples that quantitate accuracy are laboratory control samples, matrix spikes and surrogates.

Bias: The deviation from known values and can be considered high or low depending on quality control sample results. Bias can be measured through laboratory control samples, matrix spikes and laboratory blanks.

Method Blank: Used to determine contamination or background interference in the laboratory and possible bias. The laboratory prepares and analyzes the method blank the same as samples in the analytical batch but it is prepared with an analyte-free matrix. Any concentration above the method detection limit is reported and compared against sample results in the same analytical batch.

Laboratory Control Sample and Laboratory Control Sample Duplicate: The laboratory prepares a laboratory control sample from an analyte-free matrix that with a standard that has a known concentration of analyte. The result is then compared to the reference value and reported as a percent recovery. Laboratory control sample duplicates are prepared in the same analytical batch as the laboratory control sample and are spiked with the same standard as the LCS. The LCSD is then compared to the known reference values and calculated as a percent recovery. The LCSD is also compared to the LCS result and the relative percent difference (RPD) between them is calculated. Control limits are imposed on the percent recovery and RPD values and is defined by the analytical method or by the laboratory based on sample preparation/instrumentation capabilities. If the LCS and LCSD are out of control limits it could mean possible bias or low reproducibility for samples in the same analytical batch.

Matrix Spike and Matrix Spike Duplicate: The laboratory takes an aliquot of a client sample and adds a standard with a known concentration. The result of the matrix spike and matrix spike duplicate is then compared to the concentration of the source sample added to the concentration of the reference standard and expressed as a percent recovery. The MSD is prepared at the same time as the MS, with the same source sample and spike with the same standard. The MSD results are then compared to the MS results and a RPD is calculated from them. The percent

Appendix A – Data Quality Review

recovery and RPD values have to be within the laboratory control limits. If they are outside of the limits, conclusions about the source sample can be made and data may be qualified.

Laboratory Duplicate: Two aliquots from a client sample are prepared and analyzed separately. The two results are compared to each other to assess laboratory precision and sample homogeneity; it is reported as a RPD. This RPD value must be within laboratory control limits. If the RPD value is not within limits, the laboratory displays low analytical precision and sample data may be compromised.

Surrogate: Surrogates are added to field samples and quality control samples to monitor method performance. They are similar to organic analytes of interest but are not normally found in environmental samples. Surrogates are added as a standard with a known concentration to all field and quality control samples within an analytical batch. The performance of the surrogate is assessed by a percent recovery that must be within certain control limits. If the surrogate is outside of these control limits, then analytical performance and sample matrix interferences can be evaluated.

Additional Terms

Analytical Batch: Samples of the same matrix that are processed together. These samples are prepared by the same method, using the same reagents and within a specified time frame of each other. Depending on the method, there could be up to 20 samples in a single analytical batch. These batches will have multiple client samples and will use different client samples as the source to matrix spikes and laboratory duplicates. Depending on the analytical method the batch will include a method blank, laboratory control sample, laboratory control sample duplicate, matrix spike, matrix spike duplicate and sample duplicate.

Method Detection Limit: The lowest an instrument can detect an analyte with 99% confidence that the concentration is greater than 0.

Method Reporting Limit: The lowest point of accurate quantitation for an analyte.

Source Sample: The client sample used as the matrix for matrix spikes and laboratory duplicates.

The following is the evaluation of analytical reports based on the previous points of investigation.

Data Quality Review

Sampling Date: May 2, 2013

Laboratory: Pace Analytical Services, Inc of Minneapolis, MN

Appendix A – Data Quality Review

Laboratory Project Number: 10227466

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analytes and Methods: 1,2-dibromoethane (EDB) by EPA 8011, TPH as Gas by NWTPH-Gx and VOCs by EPA 8260.

Holding Time, Preservation and Sampling Containers: The holding time for samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for the above methods. All samples were analyzed within this holding time.

Sample Integrity: Samples were received by the laboratory on ice at 9.7°C, which is above the recommended receipt temperature of 4°C. Since the samples were received by the laboratory within 24 hours of sampling and chilling process had begun, integrity of the samples is acceptable. No headspace was present in VOAs. The chain of custody was unbroken and had all appropriate fields. There was a discrepancy with the sampling date but the amendment was noted on the laboratory "Sample Condition Upon Receipt" form.

Method blank: Bromomethane, 1,2,3-trichlorobenzene, 1,4-dichlorobenzene and naphthalene were detected between method detection limit (MDL) and reporting limit (RL) for analytical batch MSV/2357. Associated samples (MW-1, MW-4 and MW-5) were B-flagged in the data table for these analytes if concentrations were detected at less than 10 times the method blank concentration. Any B-flagged concentrations are considered to be biased high. No flag was given to these analytes if the sample was not detected (ND) or if the sample analyte concentration was found to be more than 10 times the method blank concentration.

Laboratory Control Sample: All laboratory control samples were within the laboratory defined control limits.

Laboratory Control Sample Duplicate: When a LCSD was analyzed, all percent recoveries and RPD values were within laboratory specified control limits. When a LCSD was not analyzed, a sample duplicate was analyzed instead to confirm laboratory precision.

Matrix Spike: Matrix spike percent recoveries were within laboratory specified control limits.

Matrix Spike Duplicate: When a MSD was analyzed, all percent recoveries and RPD values were within laboratory specified control limits. When a MSD was not analyzed, a sample duplicate or LCSD was analyzed instead to confirm laboratory precision.

Laboratory Duplicate: A laboratory duplicate was performed for the VOC analysis. All RPD values were within laboratory defined control limits.

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Surrogates: Surrogate percent recoveries were within control limits for all organic analyses.

Sampling Date: October 31, 2013

Laboratory: Pace Analytical Services, Inc. of Minneapolis, MN

Laboratory Project Number: 10247959

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analytes and Methods: 1,2-dibromoethane (EDB) by EPA 8011, TPH as Gas by NWTPH-Gx and VOCs by EPA 8260.

Holding Time, Preservation and Sampling Containers: The holding time for samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for the above methods. All samples were analyzed within this holding time.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. There was no headspace present in VOA containers. The chain of custody was unbroken and had all appropriate fields inputted.

Method blank: The method blank did not have any detectable concentrations for analytes of interest.

Laboratory Control Sample: All laboratory control sample percent recoveries were within the laboratory defined control limits.

Laboratory Control Spike Duplicate: When a LCSD was analyzed, all percent recoveries and RPD values were within laboratory specified control limits. When a LCSD was not analyzed, a sample duplicate was analyzed instead to confirm laboratory precision.

Matrix Spike: The matrix spike for batch MSV/25514 had recoveries below control limits for 2,2-dichloropropane, hexachloro-1,2-butadiene and n-butylbenzene. Since the source sample was not from the October 31, 2013 groundwater sampling event and the associated batch LCS recovery was within control limits, sample data was accepted and not flagged within the data table.

Matrix Spike Duplicate: When a MSD was analyzed, all percent recoveries and RPD values were within laboratory specified control limits. When a MSD was not analyzed, a sample duplicate or LCSD was analyzed instead to confirm laboratory precision.

Appendix A – Data Quality Review

Laboratory Duplicate: For batch MSV/25514, the laboratory duplicate exceeded the RPD control limit for 1, 1, 1-trichloroethane. Since the original source sample was not part of the October 31, 2013 groundwater sampling event and samples associated with this analytical batch were not detected above the method detection limit for this analyte, data was not flagged.

Surrogates: Surrogate recovery for the MS/MSD in batch OEXT/23567 was below the laboratory control limits. This low recovery was confirmed by a second analysis of the same sample. Since the original source sample was not part of the October 31, 2013 groundwater sampling event and surrogate recoveries were acceptable for samples from this sampling event, data was not flagged.

Sampling Date: November 11, 2013

Laboratory: Pace Analytical Services, Inc. of Minneapolis, MN

Laboratory Project Number: 10249068

Matrix: The sample associated with this report is from the groundwater monitoring well MW-4.

Analysis and Methods: Total lead by EPA 6020

Holding Time, Preservation and Sampling Containers: The holding time for aqueous samples preserved with nitric acid (HNO₃) to a pH<2 have a holding time of 180 days from the time of collection to analysis for EPA 6020. The sample collected during this sampling event was analyzed within this holding time.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. The chain of custody was unbroken and all appropriate information was filled in.

Method blank: The method blank did not have a detectable concentration for lead.

Laboratory Control Samples: The percent recovery for lead in the LCS was within the laboratory specified control limit.

Laboratory Control Spike Duplicate: A LCSD was not analyzed. This is acceptable based on the passing RPD value for the MSD.

Matrix Spike: The MS was within the percent recovery control limits.

Matrix Spike Duplicate: The MSD was within the percent recovery and RPD value control limits.

Appendix A – Data Quality Review

Laboratory Duplicate: No laboratory duplicate was analyzed but acceptable RPD values from the MS/MSD show laboratory precision.

Surrogates: EPA 6020 does not require surrogate analysis.

Sampling Date: February 24, 2014

Laboratory: Pace Analytical Services, Inc. of Minneapolis MN

Laboratory Project Number: 10259072

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analysis and Methods: 1,2-dibromoethane (EDB) by EPA 8011, TPH-gas by NWTPH-Gx, VOCs by EPA 8260 and lead by EPA 6020.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for EPA 8011, NWTPH-Gx and EPA 8260. The holding time for aqueous samples preserved with nitric acid (HNO₃) to a pH<2 have a holding time of 180 days from the time of collection to analysis for EPA 6020. The samples collected during this sampling event were analyzed within holding times.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. There was no headspace present in VOA containers. The chain of custody was unbroken and had all appropriate fields inputted.

Method blank: There were no detectable concentrations for any method blank quality control samples.

Laboratory Control Sample: All laboratory control samples were within the laboratory defined control limits.

Laboratory Control Sample Duplicate: When a LCSD was analyzed, all percent recoveries and RPD values were within laboratory specified control limits. When a LCSD was not analyzed, a laboratory duplicate or matrix spike was analyzed instead to confirm laboratory precision.

Matrix Spike: The benzene recovery for batch MSV/26462 was above the percent recovery limit. Since all of the samples were ND for benzene and the source sample was a sample not associated with this report, sample data for benzene was accepted and not flagged.

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Matrix Spike Duplicate: The benzene recovery for batch MSV/26462 was below the percent recovery limit. Since the source sample was a sample not associated with this report, sample data for benzene was accepted and not flagged. The RPD value for bromomethane was above the control limit of 30%. Since all of the samples were ND for benzene and the source was a sample not associated with this report, sample data for bromomethane was accepted and not flagged.

Laboratory Duplicate: Laboratory duplicate RPD values were within the control limits.

Surrogates: The surrogate value for the 1,2-dibromoethane (EDB) analysis was above the control limit for the method blank, laboratory control sample, laboratory control sample duplicate, MW-1, MW-4 and MW-4. Since 1,2-dibromoethane was not detected in MW-1, MW-4 and MW-5, a high surrogate recovery is acceptable.

Sampling Date: March 13, 2014

Laboratory: Pace Analytical Services, Inc. of Minneapolis, MN

Laboratory Project Number: 10260283

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analysis and Methods: Diesel fuel and motor oil range organics by NWTPH-Dx.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved amber glass containers is 14 days from time of collection to analysis for NWTPH-Dx. The samples collected during this sampling event were analyzed within holding times.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. The chain of custody was received by the laboratory with appropriate information.

Method blank: Diesel and oil were detected in the method blank between the method detection limit and the reporting limit. Since these analytes were present in the method blank, samples associated with this analytical batch were flagged with a "B" if concentrations were less than 10 times the method blank concentration.

Laboratory Control Sample: All laboratory control samples were within the laboratory control limits.

Laboratory Control Sample Duplicate: Percent recoveries and RPD values were within laboratory control limits.

Matrix Spike: No matrix spikes were analyzed due to insufficient sample volume.

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Matrix Spike Duplicate: No matrix spike duplicates were analyzed due to insufficient sample volume.

Laboratory Duplicate: Laboratory duplicate RPD values were within the control limit.

Surrogates: Recoveries were within laboratory control limits.

Sampling Date: January 2, 2015

Laboratory: Pace Analytical Services, Inc., Minneapolis MN

Laboratory Project Number: 10293234

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analysis and Methods: 1,2-dibromoethane (EDB) by EPA 8011, TPH as gas by NWTPH-Gx, diesel fuel and motor oil range organics by NWTPH-Dx, VOCs by EPA 8260 and lead by EPA 6020.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for EPA 8011, NWTPH-Gx and EPA 8260. Diesel and motor oil analysis by NWTPH-Dx is to be collected in amber glass containers preserved with HCl to a pH<2 and have a holding time of 14 days from the time of collection to extraction. The holding time for aqueous samples preserved with nitric acid (HNO₃) to a pH<2 is 180 days from the time of collection to analysis for EPA 6020. The samples were collected in the appropriate sampling containers, with the correct preservative and were analyzed within respective holding times. The laboratory duplicate for gasoline of batch GCV/13188 was analyzed outside of the 14 day holding time. Since the original sample was analyzed within the recommended holding time and the duplicate sample confirmed the original sample result, data was accepted and not flagged.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. There was no headspace present in VOA containers. The chain of custody was unbroken and had all appropriate fields inputted.

Method Blank: Lead was detected in batch MPRP/51638 and MPRP/51731. The only affected data was from MW-5, since the concentration of lead found in the sample was less than 10 times the method blank concentration. Chlorobenzene was detected in batch MSV/30074 and also detected in the associated batch sample MW-4. Motor oil was detected for batch OEXT/27839 and was also detected in the associated batch samples MW-1, MW-4 and MW-5. The affected sample data was flagged with a "B" as an estimate and is biased high.

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Laboratory Control Sample: The recovery for dichlorodifluoromethane was below the control limit. The continuing calibration check was also low for the same compound. Data for dichlorodifluoromethane is unacceptable and cannot be used to make an accurate determination of concentration. Qualified data is flagged with “CL” and struck through in the data tables.

Laboratory Control Sample Duplicate: When a LCSD was analyzed, all percent recoveries and RPD values were within laboratory specified control limits. When a LCSD was not analyzed, a laboratory duplicate or matrix spike was analyzed instead to confirm laboratory precision.

Matrix Spike: Carbon disulfide in batch MSV/30074 was 12% recovered and below the lower recovery control limit. Since MW-5 was used as the original source sample, the ND result is unusable since the recovery for the analyte was below 20%. Data for MW-1 and MW-4 was not flagged since they were not used as the original source sample and the LCS had acceptable recovery. The recovery for chloroethane was 2% above the control limit. Data is acceptable and was not flagged since results for MW-1, MW-4 and MW-5 were ND and the LCS recovery for chloroethane was within control limits.

Matrix Spike Duplicate: Recoveries and RPD values were within control limits.

Laboratory Duplicate: RPD values were within the control limits.

Surrogates: Recoveries were within control limits.

Sampling Date: July 1, 2015

Laboratory: ESC Lab Sciences of Mt. Juliet, TN

Laboratory Project Number: L775051

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-2, MW-4 and MW-5.

Analysis and Methods: 1,2-dibromoethane (EDB) and 1,2-dibromo-2-chloropropane by EPA 8011, gasoline range organics by NWTPH-Gx, diesel range organics and residual range organics by NWTPH-Dx, VOCs by EPA 8260C and lead by EPA 6010C.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for EPA 8011, NWTPH-Gx, and EPA 8260. Diesel and motor oil analysis by NWTPH-Dx is to be collected in amber glass containers preserved with HCl to a pH<2 and have a holding time of 14 days from the time of collection

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to extraction. The holding time for aqueous samples preserved with nitric acid (HNO₃) to a pH<2 have a holding time of 180 days from the time of collection to analysis for EPA 6010C. The samples were collected in the appropriate sampling containers, with the correct preservative and were analyzed within respective holding times.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. The VOA vials were received without headspace. The chain of custody was unbroken and had all appropriate fields inputted.

Method blank: There were no detections in the method blank.

Laboratory Control Sample: Recoveries were within laboratory specified control limit.

Laboratory Control Sample Duplicate: Percent recoveries and RPD values were within laboratory control limits.

Matrix Spike: Recoveries were within laboratory control limits.

Matrix Spike Duplicate: Recoveries and RPD values were within control limits.

Laboratory Duplicate: RPD values were within the control limits.

Surrogates: Recoveries were within control limits.

Sampling Date: October 8, 2015

Laboratory: ESC Lab Sciences of Mt. Juliet, TN

Laboratory Project Number: L793918

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analysis and Methods: 1,2-dibromoethane (EDB) and 1,2-dibromo-2-chloropropane by EPA 8011, TPH-gas by NWTPH-Gx, TPH-diesel and TPH-oil by NWTPH-Dx, VOCs by EPA 8260C and lead by EPA 6010C.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for EPA 8011, NWTPH-Gx and EPA 8260. Diesel and motor oil analysis by NWTPH-Dx is to be collected in amber glass containers preserved with HCl to a pH<2 and have a holding time of 14 days from the time of collection to extraction. The holding time for aqueous samples preserved with nitric acid (HNO₃) to pH<2 have a holding time of

Appendix A – Data Quality Review

180 days from the time of collection to analysis for EPA 6010C. The samples were collected in the appropriate sampling containers, with the correct preservative and were analyzed within respective holding times.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. The VOA vials were received without headspace. The chain of custody was unbroken and had all appropriate fields inputted.

Method blank: There were no detections in the method blank.

Laboratory Control Sample: Recoveries were within laboratory specified control limit.

Laboratory Control Sample Duplicate: Percent recoveries and RPD values were within laboratory control limits.

Matrix Spike: The recovery for 2-chloroethyl vinyl ether was below the laboratory control limit for batch WG822246. Since the LCS and LCSD were within control limits and the source sample used was not part of the October 8, 2015 groundwater sampling event, the sample data was accepted and not flagged.

Matrix Spike Duplicate: The recovery and RPD for 2-chloroethyl vinyl ether was outside of the laboratory control limits. Since the LCS and LCSD were within control limits and the original source samples used was not part of the October 8, 2015 groundwater sampling event, the sample data was accepted and not flagged.

Laboratory Duplicate: RPD values were within the control limits.

Surrogates: Recoveries were within control limits.

Sampling Date: December 11, 2015

Laboratory: Apex Labs of Tigard, OR

Laboratory Project Number: A5L0481

Matrix: Samples associated with this report are from the groundwater monitoring well MW-1.

Analysis and Methods: Gasoline range organics by NWTPH-Gx, diesel and oil by NWTPH-Dx and VOCs by EPA 8260B.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for NWTPH-Gx and EPA 8260B. Diesel and oil analysis by NWTPH-Dx is to be collected in amber glass

Appendix A – Data Quality Review

containers preserved with HCl to a pH<2 and has a holding time of 14 days from the time of collection to extraction. The samples were collected in the appropriate sampling containers, with the correct preservative and were analyzed within respective holding times.

Sample Integrity: The sample was received by the laboratory on ice. The chain of custody was completed and unbroken.

Method Blank: There were no detections in the method blank above the reporting limit.

Laboratory Control Sample: Recoveries were within laboratory specified control limit.

Laboratory Control Sample Duplicate: Percent recoveries and RPD values were within laboratory control limits.

Matrix Spike: For batch 5120632, bromomethane and 2,2-dichloropropane were above the laboratory control limit. Both of these analytes were not detected in the sample and so a high bias is acceptable.

Matrix Spike Duplicate: No matrix spike duplicates were analyzed due to limited sample volume. The LCSD was analyzed in the MSDs place to show laboratory precision.

Laboratory Duplicate: RPD values were within the control limits.

Surrogates: Recoveries were within control limits.

Sample Comments: The diesel result for this sample is an estimate due to the sample chromatogram not resembling the fuel standard used to calibrate the instrument. Multiple fuel types might have also been present as indicated from the laboratory.

Sampling Date: December 11, 2015

Laboratory: Fremont Analytical of Seattle, WA

Laboratory Project Number: 1512150

Matrix: Samples associated with this report are from the groundwater monitoring well MW-1.

Analysis and Methods: Extractable Petroleum Hydrocarbons by NWEPH and Volatile Petroleum Hydrocarbons by NWVPH.

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Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for NWVPH. Samples analyzed with method NWVPH were analyzed within holding time.

Method NWEPH requires samples to be collected in 1 L amber glass bottles preserved with HCl and have a holding time of 14 days from the time of collection to sample extraction. The samples were collected in the appropriate sampling containers and with the correct preservative. A second analysis of the sample was extracted outside of this holding time. This second analysis was not included in the data table.

Sample Integrity: Samples were received by the laboratory on ice below 4°C. There was no headspace present in VOA containers. The chain of custody was unbroken and had all appropriate fields inputted.

Method blank: There were no detections in the method blank above the reporting limit.

Laboratory Control Sample: For batch 12659, recoveries were below the laboratory control limit for all analytes of interest.

Laboratory Control Sample Duplicate: For batch 12659, recoveries were below the laboratory control limit for all analytes of interest. Data in table flagged with a “S” as estimated values that are biased low. For batch R26668, the RPD value was out of control for aliphatic hydrocarbon (C6-C8) and aliphatic hydrocarbon (C10-C12). Data in table is flagged with “J2” as estimated values due to low precision between spiked quality control samples.

Matrix Spike: No matrix spikes were analyzed

Matrix Spike Duplicate: No matrix spike duplicate samples were analyzed.

Laboratory Duplicate: No laboratory duplicates were analyzed.

Surrogates: Recoveries were outside of control limits for sample MW-1, batch 2659 method blank, laboratory control sample and laboratory control sample duplicate.

Sample Comments: Sample data is unusable for extractable petroleum hydrocarbons by NWEPH for sample MW-1 since all spiked quality control samples and surrogate recoveries were below laboratory control limits and the sample data was not detected for all analytes. This data has been struck through in the data table.

Sampling Date: June 30, 2016

Laboratory: Apex Laboratories of Tigard, OR

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Laboratory Project Number: A6G0067

Matrix: Samples associated with this report are from groundwater monitoring wells MW-1, MW-4 and MW-5.

Analysis and Methods: Diesel and Oil by NWTPH-Dx with Acid/Silica Gel Cleanup, Gasoline Range Organics by NWTPH-Gx, BTEX and Naphthalene by EPA 8260B, 1,2-dibromoethane (EDB) by EPA 8260C SIM, Total Lead by 6020A, Dissolved Lead by EPA 6020A and TCLP Lead by 1311/6020A.

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved volatile organic analysis (VOA) containers is 14 days from time of collection to analysis for NWTPH-Gx, EPA 8260B and EPA 8260C SIM. Diesel and oil analysis by NWTPH-Dx is to be collected in amber glass containers preserved with HCl to a pH<2 and has a holding time of 14 days from the time of collection to extraction. The holding time for aqueous samples preserved with nitric acid (HNO₃) to a pH<2 have a holding time of 180 days from the time of collection to analysis for EPA 6020A and EPA 1311. The samples collected during this sampling event were analyzed within holding times.

Sample Integrity: Samples were received by the laboratory on ice. The chain of custody was filled out and unbroken.

Method Blank: There were no detections in the method blank above the reporting limit.

Laboratory Control Sample: For batch 6070399, the LCS percent recovery was above the laboratory control limit for 1,2-dibromomethane. Sample data was accepted and not flagged since all sample results were not detected for this analyte.

Laboratory Control Sample Duplicate: All percent recoveries and RPD values were within laboratory control limits.

Matrix Spike: All percent recoveries were within laboratory control limits.

Matrix Spike Duplicate: All percent recoveries and RPD values were within laboratory control limits.

Laboratory Duplicate: All RPD values were within control limits.

Surrogates: All surrogates were within control limits.

Sampling Date: September 21, 2016

Laboratory: Apex Laboratories of Tigard, OR

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Laboratory Project Number: A6I0738

Matrix: Samples associated with this report are from the groundwater monitoring well MW-1.

Analysis and Methods: Diesel and Oil by NWTPH-Dx

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved amber glass bottles is 14 days from collection to sample extraction for NWTPH-Dx. The sample was extracted and analyzed within this holding time.

Sample Integrity: Samples were received by the laboratory on ice. The chain of custody was completed and unbroken.

Method Blank: There were no detections in the method blank above the reporting limit.

Laboratory Control Sample: The recovery for diesel was within laboratory control limits. No oil standard was analyzed with this batch quality control. Sample data accepted based on diesel recovery and passing continuing calibration verification.

Laboratory Control Sample Duplicate: The recovery and RPD value for diesel was within laboratory control limits. No oil standard was analyzed with this batch quality control. Sample data accepted based on diesel recovery and passing continuing calibration verification.

Matrix Spike: Due to limited sample volume, no matrix spike was analyzed. Data accepted based on laboratory control sample recovery.

Matrix Spike Duplicate: Due to limited sample volume, no matrix spike duplicate was analyzed. Data accepted based on laboratory control sample duplicate recovery and RPD value.

Laboratory Duplicate: No laboratory duplicate was analyzed with this batch quality control samples.

Surrogates: All surrogates were within control limits.

Sample comments: Hydrocarbons were detected in the diesel range but the sample chromatogram did not resemble the diesel standard used for quantitation and might contain other related components. Sample data was flagged with "J3" as an estimated value.

Sampling Date: December 7, 2016

Laboratory: Apex Laboratories or Tigard, OR

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Laboratory Project Number: A6L0253

Matrix: Samples associated with this report are from groundwater monitoring well MW-1.

Analysis and Methods: Diesel and Oil by NWTPH-Dx

Holding time, preservation and sampling containers: The holding time for aqueous samples collected in hydrochloric acid (HCl) preserved amber glass bottles is 14 days from collection to sample extraction. The sample was extracted and analyzed within this holding time.

Sample Integrity: Samples were received by the laboratory within holding time and on ice under 4°C. The chain of custody was filled out with appropriate information and was unbroken.

Method Blank: There were no detections in the method blank above the reporting limit.

Laboratory Control Sample: The recovery for diesel was within laboratory control limits. No oil standard was analyzed with this batch quality control. Sample data accepted based on diesel recovery and passing continuing calibration verification.

Laboratory Control Sample Duplicate: The recovery and RPD value for diesel was within laboratory control limits. No oil standard was analyzed with this batch quality control. Sample data accepted based on diesel recovery and passing continuing calibration verification.

Matrix Spike: Due to limited sample volume, no matrix spike was analyzed. Data accepted based on laboratory control sample recovery.

Matrix Spike Duplicate: Due to limited sample volume, no matrix spike duplicate was analyzed. Data accepted based on laboratory control sample duplicate recovery and RPD value.

Laboratory Duplicate: No laboratory duplicate was analyzed with this batch quality control samples.

Surrogates: All surrogates were within control limits.

Sample comments: Hydrocarbons were detected in the diesel range but the sample chromatogram did not resemble the diesel standard used for quantitation and might contain other related components. Sample data was flagged with "J3" as an estimated value.

Sampling Date: May 6, 2016

Appendix A – Data Quality Review

Laboratory: Apex Laboratories of Tigard, OR

Laboratory Project Number: A5E0208

Matrix: Samples associated with this report are from soil borings B-2 and B-1.

Analysis and Methods: Diesel and Oil by NWTPH-Dx with Silica Gel Cleanup, Gasoline Range Organics by NWTPH-Gx, Petroleum VOCs by EPA 5035/8260B and Total Lead by EPA 6020A.

Holding time, preservation and sampling containers: The holding time for diesel and oil by NWTPH-Dx, gasoline range organics by NWTPH-Gx and VOCs by 8260B soil samples is 14 days. Soil samples must be collected in glass jars when any VOCs, diesel, oil or gasoline constituents are analyzed. Total lead sample for soil have a 180 day holding time from collection to analysis. Samples were extracted and analyzed within holding time.

Sample Integrity: Samples were received by the laboratory on ice. The chain of custody was filled out with appropriate information and was unbroken.

Method blank: There were no detections in the method blank above the reporting limit.

Laboratory Control Sample: Percent recoveries for analytes of interest were within laboratory control limits.

Laboratory Control Sample Duplicate: No laboratory control sample duplicates were analyzed but laboratory precision was determined through laboratory duplicates.

Matrix Spike: Recoveries were within laboratory control limits.

Matrix Spike Duplicate: No matrix spike duplicates were included in the batch quality control samples within this report.

Laboratory Duplicate: RPD values were within control limits.

Surrogates: All surrogates were within control limits.

May 16, 2013

John Foxwell
Ash Creek Associates
3015 SW First Ave
Portland, OR 97201

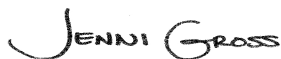
RE: Project: Tarr Vancouver-GWM
Pace Project No.: 10227466

Dear John Foxwell:

Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2013. 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,



Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

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

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SAMPLE SUMMARY

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10227466001	MW-1	Water	05/02/13 10:45	05/03/13 09:37
10227466002	MW-4	Water	05/02/13 10:25	05/03/13 09:37
10227466003	MW-5	Water	05/02/13 09:55	05/03/13 09:37

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10227466001	MW-1	EPA 8011	KL1	2	PASI-M
		NWTPH-Gx/8021	DJT	2	PASI-M
		EPA 8260	SE	74	PASI-M
10227466002	MW-4	EPA 8011	KL1	2	PASI-M
		NWTPH-Gx/8021	DJT	2	PASI-M
		EPA 8260	SE	74	PASI-M
10227466003	MW-5	EPA 8011	KL1	2	PASI-M
		NWTPH-Gx/8021	DJT	2	PASI-M
		EPA 8260	SE	74	PASI-M

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PROJECT NARRATIVE

Project: Tarr Vancouver-GWM
Pace Project No.: 10227466

Method: EPA 8011
Description: 8011 GCS EDB and DBCP
Client: Ash Creek Associates OR
Date: May 16, 2013

General Information:

3 samples were analyzed for EPA 8011. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 8011 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver-GWM
Pace Project No.: 10227466

Method: NWTPH-Gx/8021
Description: NWTPH-Gx GCV
Client: Ash Creek Associates OR
Date: May 16, 2013

General Information:

3 samples were analyzed for NWTPH-Gx/8021. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Tarr Vancouver-GWM
Pace Project No.: 10227466

Method: EPA 8260
Description: 8260 VOC
Client: Ash Creek Associates OR
Date: May 16, 2013

General Information:

3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

QC Batch: MSV/23570

B: Analyte was detected in the associated method blank.

- BLANK for HBN 248994 [MSV/2357 (Lab ID: 1424503)]
 - Bromomethane
 - Naphthalene

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Sample: MW-1 Lab ID: 10227466001 Collected: 05/02/13 10:45 Received: 05/03/13 09:37 Matrix: Water									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP Analytical Method: EPA 8011 Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	<0.0027	ug/L	0.0097	0.0027	1	05/15/13 11:10	05/15/13 17:16	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1	05/15/13 11:10	05/15/13 17:16	460-00-4	
NWTPH-Gx GCV Analytical Method: NWTPH-Gx/8021									
TPH as Gas	230	ug/L	100	43.0	1		05/09/13 15:01		
Surrogates									
a,a,a-Trifluorotoluene (S)	83	%	75-125		1		05/09/13 15:01	98-08-8	
8260 VOC Analytical Method: EPA 8260									
Acetone	<10.0	ug/L	20.0	10.0	1		05/09/13 03:23	67-64-1	
Allyl chloride	<1.8	ug/L	4.0	1.8	1		05/09/13 03:23	107-05-1	
Benzene	0.078J	ug/L	1.0	0.062	1		05/09/13 03:23	71-43-2	
Bromobenzene	<0.086	ug/L	1.0	0.086	1		05/09/13 03:23	108-86-1	
Bromochloromethane	<0.32	ug/L	1.0	0.32	1		05/09/13 03:23	74-97-5	
Bromodichloromethane	<0.11	ug/L	1.0	0.11	1		05/09/13 03:23	75-27-4	
Bromoform	<0.068	ug/L	4.0	0.068	1		05/09/13 03:23	75-25-2	
Bromomethane	1.4J	ug/L	4.0	0.36	1		05/09/13 03:23	74-83-9	B
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		05/09/13 03:23	78-93-3	
n-Butylbenzene	0.22J	ug/L	1.0	0.15	1		05/09/13 03:23	104-51-8	
sec-Butylbenzene	0.36J	ug/L	1.0	0.10	1		05/09/13 03:23	135-98-8	
tert-Butylbenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 03:23	98-06-6	
Carbon disulfide	<0.50	ug/L	1.0	0.50	1		05/09/13 03:23	75-15-0	
Carbon tetrachloride	<0.16	ug/L	1.0	0.16	1		05/09/13 03:23	56-23-5	
Chlorobenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 03:23	108-90-7	
Chloroethane	<0.22	ug/L	1.0	0.22	1		05/09/13 03:23	75-00-3	
Chloroform	<0.14	ug/L	1.0	0.14	1		05/09/13 03:23	67-66-3	
Chloromethane	<0.41	ug/L	4.0	0.41	1		05/09/13 03:23	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		05/09/13 03:23	95-49-8	
4-Chlorotoluene	<0.068	ug/L	1.0	0.068	1		05/09/13 03:23	106-43-4	
1,2-Dibromo-3-chloropropane	<0.62	ug/L	4.0	0.62	1		05/09/13 03:23	96-12-8	
Dibromochloromethane	<0.10	ug/L	1.0	0.10	1		05/09/13 03:23	124-48-1	
1,2-Dibromoethane (EDB)	<0.091	ug/L	1.0	0.091	1		05/09/13 03:23	106-93-4	
Dibromomethane	<0.21	ug/L	4.0	0.21	1		05/09/13 03:23	74-95-3	
1,2-Dichlorobenzene	<0.36	ug/L	1.0	0.36	1		05/09/13 03:23	95-50-1	
1,3-Dichlorobenzene	0.35J	ug/L	1.0	0.11	1		05/09/13 03:23	541-73-1	
1,4-Dichlorobenzene	<0.064	ug/L	1.0	0.064	1		05/09/13 03:23	106-46-7	
Dichlorodifluoromethane	<0.20	ug/L	1.0	0.20	1		05/09/13 03:23	75-71-8	
1,1-Dichloroethane	<0.11	ug/L	1.0	0.11	1		05/09/13 03:23	75-34-3	
1,2-Dichloroethane	<0.37	ug/L	1.0	0.37	1		05/09/13 03:23	107-06-2	
1,1-Dichloroethene	<0.19	ug/L	1.0	0.19	1		05/09/13 03:23	75-35-4	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		05/09/13 03:23	156-59-2	
trans-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		05/09/13 03:23	156-60-5	
Dichlorofluoromethane	<0.11	ug/L	1.0	0.11	1		05/09/13 03:23	75-43-4	
1,2-Dichloropropane	<0.27	ug/L	4.0	0.27	1		05/09/13 03:23	78-87-5	
1,3-Dichloropropane	<0.081	ug/L	1.0	0.081	1		05/09/13 03:23	142-28-9	

Date: 05/16/2013 03:58 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Sample: MW-1 Lab ID: 10227466001 Collected: 05/02/13 10:45 Received: 05/03/13 09:37 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
2,2-Dichloropropane	<0.15	ug/L	4.0	0.15	1		05/09/13 03:23	594-20-7	
1,1-Dichloropropene	<0.35	ug/L	1.0	0.35	1		05/09/13 03:23	563-58-6	
cis-1,3-Dichloropropene	<0.090	ug/L	4.0	0.090	1		05/09/13 03:23	10061-01-5	
trans-1,3-Dichloropropene	<0.37	ug/L	4.0	0.37	1		05/09/13 03:23	10061-02-6	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		05/09/13 03:23	60-29-7	
Ethylbenzene	3.9	ug/L	1.0	0.081	1		05/09/13 03:23	100-41-4	
Hexachloro-1,3-butadiene	<0.19	ug/L	5.0	0.19	1		05/09/13 03:23	87-68-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		05/09/13 03:23	591-78-6	
Isopropylbenzene (Cumene)	1.2	ug/L	1.0	0.076	1		05/09/13 03:23	98-82-8	
p-Isopropyltoluene	0.12J	ug/L	1.0	0.086	1		05/09/13 03:23	99-87-6	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		05/09/13 03:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		05/09/13 03:23	108-10-1	
Methyl-tert-butyl ether	<0.088	ug/L	1.0	0.088	1		05/09/13 03:23	1634-04-4	
Naphthalene	1.6J	ug/L	4.0	0.068	1		05/09/13 03:23	91-20-3	B
n-Propylbenzene	3.5	ug/L	1.0	0.078	1		05/09/13 03:23	103-65-1	
Styrene	<0.060	ug/L	1.0	0.060	1		05/09/13 03:23	100-42-5	
1,1,1,2-Tetrachloroethane	<0.36	ug/L	1.0	0.36	1		05/09/13 03:23	630-20-6	
1,1,2,2-Tetrachloroethane	<0.097	ug/L	1.0	0.097	1		05/09/13 03:23	79-34-5	
Tetrachloroethene	<0.13	ug/L	1.0	0.13	1		05/09/13 03:23	127-18-4	
Tetrahydrofuran	<0.97	ug/L	10.0	0.97	1		05/09/13 03:23	109-99-9	
Toluene	0.10J	ug/L	1.0	0.077	1		05/09/13 03:23	108-88-3	
1,2,3-Trichlorobenzene	<0.13	ug/L	1.0	0.13	1		05/09/13 03:23	87-61-6	
1,2,4-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		05/09/13 03:23	120-82-1	
1,1,1-Trichloroethane	<0.19	ug/L	1.0	0.19	1		05/09/13 03:23	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		05/09/13 03:23	79-00-5	
Trichloroethene	<0.083	ug/L	1.0	0.083	1		05/09/13 03:23	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		05/09/13 03:23	75-69-4	
1,2,3-Trichloropropane	<0.33	ug/L	4.0	0.33	1		05/09/13 03:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.18	ug/L	1.0	0.18	1		05/09/13 03:23	76-13-1	
1,2,4-Trimethylbenzene	7.4	ug/L	1.0	0.071	1		05/09/13 03:23	95-63-6	
1,3,5-Trimethylbenzene	2.1	ug/L	1.0	0.087	1		05/09/13 03:23	108-67-8	
Vinyl chloride	<0.16	ug/L	0.40	0.16	1		05/09/13 03:23	75-01-4	
Xylene (Total)	5.5	ug/L	3.0	0.22	1		05/09/13 03:23	1330-20-7	
m&p-Xylene	4.7	ug/L	2.0	0.11	1		05/09/13 03:23	179601-23-1	
o-Xylene	0.82J	ug/L	1.0	0.10	1		05/09/13 03:23	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		05/09/13 03:23	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		05/09/13 03:23	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		05/09/13 03:23	460-00-4	

ANALYTICAL RESULTS

Project: Tarr Vancouver-GWM
Pace Project No.: 10227466

Sample: MW-4 Lab ID: 10227466002 Collected: 05/02/13 10:25 Received: 05/03/13 09:37 Matrix: Water									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP Analytical Method: EPA 8011 Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.017	ug/L	0.0097	0.0027	1	05/15/13 11:10	05/15/13 17:41	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1	05/15/13 11:10	05/15/13 17:41	460-00-4	
NWTPH-Gx GCV Analytical Method: NWTPH-Gx/8021									
TPH as Gas	<43.0	ug/L	100	43.0	1		05/09/13 14:21		
Surrogates									
a,a,a-Trifluorotoluene (S)	88	%	75-125		1		05/09/13 14:21	98-08-8	
8260 VOC Analytical Method: EPA 8260									
Acetone	<10.0	ug/L	20.0	10.0	1		05/09/13 03:43	67-64-1	
Allyl chloride	<1.8	ug/L	4.0	1.8	1		05/09/13 03:43	107-05-1	
Benzene	<0.062	ug/L	1.0	0.062	1		05/09/13 03:43	71-43-2	
Bromobenzene	<0.086	ug/L	1.0	0.086	1		05/09/13 03:43	108-86-1	
Bromochloromethane	<0.32	ug/L	1.0	0.32	1		05/09/13 03:43	74-97-5	
Bromodichloromethane	<0.11	ug/L	1.0	0.11	1		05/09/13 03:43	75-27-4	
Bromoform	<0.068	ug/L	4.0	0.068	1		05/09/13 03:43	75-25-2	
Bromomethane	0.75J	ug/L	4.0	0.36	1		05/09/13 03:43	74-83-9	B
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		05/09/13 03:43	78-93-3	
n-Butylbenzene	<0.15	ug/L	1.0	0.15	1		05/09/13 03:43	104-51-8	
sec-Butylbenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 03:43	135-98-8	
tert-Butylbenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 03:43	98-06-6	
Carbon disulfide	<0.50	ug/L	1.0	0.50	1		05/09/13 03:43	75-15-0	
Carbon tetrachloride	<0.16	ug/L	1.0	0.16	1		05/09/13 03:43	56-23-5	
Chlorobenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 03:43	108-90-7	
Chloroethane	<0.22	ug/L	1.0	0.22	1		05/09/13 03:43	75-00-3	
Chloroform	<0.14	ug/L	1.0	0.14	1		05/09/13 03:43	67-66-3	
Chloromethane	<0.41	ug/L	4.0	0.41	1		05/09/13 03:43	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		05/09/13 03:43	95-49-8	
4-Chlorotoluene	<0.068	ug/L	1.0	0.068	1		05/09/13 03:43	106-43-4	
1,2-Dibromo-3-chloropropane	<0.62	ug/L	4.0	0.62	1		05/09/13 03:43	96-12-8	
Dibromochloromethane	<0.10	ug/L	1.0	0.10	1		05/09/13 03:43	124-48-1	
1,2-Dibromoethane (EDB)	<0.091	ug/L	1.0	0.091	1		05/09/13 03:43	106-93-4	
Dibromomethane	<0.21	ug/L	4.0	0.21	1		05/09/13 03:43	74-95-3	
1,2-Dichlorobenzene	<0.36	ug/L	1.0	0.36	1		05/09/13 03:43	95-50-1	
1,3-Dichlorobenzene	0.27J	ug/L	1.0	0.11	1		05/09/13 03:43	541-73-1	
1,4-Dichlorobenzene	<0.064	ug/L	1.0	0.064	1		05/09/13 03:43	106-46-7	
Dichlorodifluoromethane	<0.20	ug/L	1.0	0.20	1		05/09/13 03:43	75-71-8	
1,1-Dichloroethane	<0.11	ug/L	1.0	0.11	1		05/09/13 03:43	75-34-3	
1,2-Dichloroethane	<0.37	ug/L	1.0	0.37	1		05/09/13 03:43	107-06-2	
1,1-Dichloroethene	<0.19	ug/L	1.0	0.19	1		05/09/13 03:43	75-35-4	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		05/09/13 03:43	156-59-2	
trans-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		05/09/13 03:43	156-60-5	
Dichlorofluoromethane	<0.11	ug/L	1.0	0.11	1		05/09/13 03:43	75-43-4	
1,2-Dichloropropane	<0.27	ug/L	4.0	0.27	1		05/09/13 03:43	78-87-5	
1,3-Dichloropropane	<0.081	ug/L	1.0	0.081	1		05/09/13 03:43	142-28-9	

Date: 05/16/2013 03:58 PM

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ANALYTICAL RESULTS

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Sample: MW-4 Lab ID: 10227466002 Collected: 05/02/13 10:25 Received: 05/03/13 09:37 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
2,2-Dichloropropane	<0.15	ug/L	4.0	0.15	1		05/09/13 03:43	594-20-7	
1,1-Dichloropropene	<0.35	ug/L	1.0	0.35	1		05/09/13 03:43	563-58-6	
cis-1,3-Dichloropropene	<0.090	ug/L	4.0	0.090	1		05/09/13 03:43	10061-01-5	
trans-1,3-Dichloropropene	<0.37	ug/L	4.0	0.37	1		05/09/13 03:43	10061-02-6	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		05/09/13 03:43	60-29-7	
Ethylbenzene	<0.081	ug/L	1.0	0.081	1		05/09/13 03:43	100-41-4	
Hexachloro-1,3-butadiene	<0.19	ug/L	5.0	0.19	1		05/09/13 03:43	87-68-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		05/09/13 03:43	591-78-6	
Isopropylbenzene (Cumene)	<0.076	ug/L	1.0	0.076	1		05/09/13 03:43	98-82-8	
p-Isopropyltoluene	<0.086	ug/L	1.0	0.086	1		05/09/13 03:43	99-87-6	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		05/09/13 03:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		05/09/13 03:43	108-10-1	
Methyl-tert-butyl ether	<0.088	ug/L	1.0	0.088	1		05/09/13 03:43	1634-04-4	
Naphthalene	0.083J	ug/L	4.0	0.068	1		05/09/13 03:43	91-20-3	B
n-Propylbenzene	<0.078	ug/L	1.0	0.078	1		05/09/13 03:43	103-65-1	
Styrene	<0.060	ug/L	1.0	0.060	1		05/09/13 03:43	100-42-5	
1,1,1,2-Tetrachloroethane	<0.36	ug/L	1.0	0.36	1		05/09/13 03:43	630-20-6	
1,1,2,2-Tetrachloroethane	<0.097	ug/L	1.0	0.097	1		05/09/13 03:43	79-34-5	
Tetrachloroethene	<0.13	ug/L	1.0	0.13	1		05/09/13 03:43	127-18-4	
Tetrahydrofuran	<0.97	ug/L	10.0	0.97	1		05/09/13 03:43	109-99-9	
Toluene	<0.077	ug/L	1.0	0.077	1		05/09/13 03:43	108-88-3	
1,2,3-Trichlorobenzene	<0.13	ug/L	1.0	0.13	1		05/09/13 03:43	87-61-6	
1,2,4-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		05/09/13 03:43	120-82-1	
1,1,1-Trichloroethane	<0.19	ug/L	1.0	0.19	1		05/09/13 03:43	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		05/09/13 03:43	79-00-5	
Trichloroethene	<0.083	ug/L	1.0	0.083	1		05/09/13 03:43	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		05/09/13 03:43	75-69-4	
1,2,3-Trichloropropane	<0.33	ug/L	4.0	0.33	1		05/09/13 03:43	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.18	ug/L	1.0	0.18	1		05/09/13 03:43	76-13-1	
1,2,4-Trimethylbenzene	<0.071	ug/L	1.0	0.071	1		05/09/13 03:43	95-63-6	
1,3,5-Trimethylbenzene	<0.087	ug/L	1.0	0.087	1		05/09/13 03:43	108-67-8	
Vinyl chloride	<0.16	ug/L	0.40	0.16	1		05/09/13 03:43	75-01-4	
Xylene (Total)	<0.22	ug/L	3.0	0.22	1		05/09/13 03:43	1330-20-7	
m&p-Xylene	<0.11	ug/L	2.0	0.11	1		05/09/13 03:43	179601-23-1	
o-Xylene	<0.10	ug/L	1.0	0.10	1		05/09/13 03:43	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		05/09/13 03:43	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		05/09/13 03:43	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		05/09/13 03:43	460-00-4	

ANALYTICAL RESULTS

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Sample: MW-5 Lab ID: 10227466003 Collected: 05/02/13 09:55 Received: 05/03/13 09:37 Matrix: Water									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP Analytical Method: EPA 8011 Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	0.062	ug/L	0.0099	0.0028	1	05/15/13 11:10	05/15/13 18:06	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	109	%	70-130		1	05/15/13 11:10	05/15/13 18:06	460-00-4	
NWTPH-Gx GCV Analytical Method: NWTPH-Gx/8021									
TPH as Gas	<43.0	ug/L	100	43.0	1		05/09/13 14:41		
Surrogates									
a,a,a-Trifluorotoluene (S)	83	%	75-125		1		05/09/13 14:41	98-08-8	
8260 VOC Analytical Method: EPA 8260									
Acetone	<10.0	ug/L	20.0	10.0	1		05/09/13 04:04	67-64-1	
Allyl chloride	<1.8	ug/L	4.0	1.8	1		05/09/13 04:04	107-05-1	
Benzene	<0.062	ug/L	1.0	0.062	1		05/09/13 04:04	71-43-2	
Bromobenzene	<0.086	ug/L	1.0	0.086	1		05/09/13 04:04	108-86-1	
Bromochloromethane	<0.32	ug/L	1.0	0.32	1		05/09/13 04:04	74-97-5	
Bromodichloromethane	<0.11	ug/L	1.0	0.11	1		05/09/13 04:04	75-27-4	
Bromoform	<0.068	ug/L	4.0	0.068	1		05/09/13 04:04	75-25-2	
Bromomethane	1.1J	ug/L	4.0	0.36	1		05/09/13 04:04	74-83-9	B
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		05/09/13 04:04	78-93-3	
n-Butylbenzene	<0.15	ug/L	1.0	0.15	1		05/09/13 04:04	104-51-8	
sec-Butylbenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 04:04	135-98-8	
tert-Butylbenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 04:04	98-06-6	
Carbon disulfide	<0.50	ug/L	1.0	0.50	1		05/09/13 04:04	75-15-0	
Carbon tetrachloride	<0.16	ug/L	1.0	0.16	1		05/09/13 04:04	56-23-5	
Chlorobenzene	<0.10	ug/L	1.0	0.10	1		05/09/13 04:04	108-90-7	
Chloroethane	<0.22	ug/L	1.0	0.22	1		05/09/13 04:04	75-00-3	
Chloroform	<0.14	ug/L	1.0	0.14	1		05/09/13 04:04	67-66-3	
Chloromethane	<0.41	ug/L	4.0	0.41	1		05/09/13 04:04	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		05/09/13 04:04	95-49-8	
4-Chlorotoluene	<0.068	ug/L	1.0	0.068	1		05/09/13 04:04	106-43-4	
1,2-Dibromo-3-chloropropane	<0.62	ug/L	4.0	0.62	1		05/09/13 04:04	96-12-8	
Dibromochloromethane	<0.10	ug/L	1.0	0.10	1		05/09/13 04:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.091	ug/L	1.0	0.091	1		05/09/13 04:04	106-93-4	
Dibromomethane	<0.21	ug/L	4.0	0.21	1		05/09/13 04:04	74-95-3	
1,2-Dichlorobenzene	<0.36	ug/L	1.0	0.36	1		05/09/13 04:04	95-50-1	
1,3-Dichlorobenzene	0.27J	ug/L	1.0	0.11	1		05/09/13 04:04	541-73-1	
1,4-Dichlorobenzene	<0.064	ug/L	1.0	0.064	1		05/09/13 04:04	106-46-7	
Dichlorodifluoromethane	<0.20	ug/L	1.0	0.20	1		05/09/13 04:04	75-71-8	
1,1-Dichloroethane	<0.11	ug/L	1.0	0.11	1		05/09/13 04:04	75-34-3	
1,2-Dichloroethane	<0.37	ug/L	1.0	0.37	1		05/09/13 04:04	107-06-2	
1,1-Dichloroethene	<0.19	ug/L	1.0	0.19	1		05/09/13 04:04	75-35-4	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		05/09/13 04:04	156-59-2	
trans-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		05/09/13 04:04	156-60-5	
Dichlorofluoromethane	<0.11	ug/L	1.0	0.11	1		05/09/13 04:04	75-43-4	
1,2-Dichloropropane	<0.27	ug/L	4.0	0.27	1		05/09/13 04:04	78-87-5	
1,3-Dichloropropane	<0.081	ug/L	1.0	0.081	1		05/09/13 04:04	142-28-9	

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ANALYTICAL RESULTS

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Sample: MW-5 Lab ID: 10227466003 Collected: 05/02/13 09:55 Received: 05/03/13 09:37 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
2,2-Dichloropropane	<0.15	ug/L	4.0	0.15	1		05/09/13 04:04	594-20-7	
1,1-Dichloropropene	<0.35	ug/L	1.0	0.35	1		05/09/13 04:04	563-58-6	
cis-1,3-Dichloropropene	<0.090	ug/L	4.0	0.090	1		05/09/13 04:04	10061-01-5	
trans-1,3-Dichloropropene	<0.37	ug/L	4.0	0.37	1		05/09/13 04:04	10061-02-6	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		05/09/13 04:04	60-29-7	
Ethylbenzene	<0.081	ug/L	1.0	0.081	1		05/09/13 04:04	100-41-4	
Hexachloro-1,3-butadiene	<0.19	ug/L	5.0	0.19	1		05/09/13 04:04	87-68-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		05/09/13 04:04	591-78-6	
Isopropylbenzene (Cumene)	<0.076	ug/L	1.0	0.076	1		05/09/13 04:04	98-82-8	
p-Isopropyltoluene	<0.086	ug/L	1.0	0.086	1		05/09/13 04:04	99-87-6	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		05/09/13 04:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		05/09/13 04:04	108-10-1	
Methyl-tert-butyl ether	1.9	ug/L	1.0	0.088	1		05/09/13 04:04	1634-04-4	
Naphthalene	<0.068	ug/L	4.0	0.068	1		05/09/13 04:04	91-20-3	
n-Propylbenzene	<0.078	ug/L	1.0	0.078	1		05/09/13 04:04	103-65-1	
Styrene	<0.060	ug/L	1.0	0.060	1		05/09/13 04:04	100-42-5	
1,1,1,2-Tetrachloroethane	<0.36	ug/L	1.0	0.36	1		05/09/13 04:04	630-20-6	
1,1,2,2-Tetrachloroethane	<0.097	ug/L	1.0	0.097	1		05/09/13 04:04	79-34-5	
Tetrachloroethene	<0.13	ug/L	1.0	0.13	1		05/09/13 04:04	127-18-4	
Tetrahydrofuran	<0.97	ug/L	10.0	0.97	1		05/09/13 04:04	109-99-9	
Toluene	<0.077	ug/L	1.0	0.077	1		05/09/13 04:04	108-88-3	
1,2,3-Trichlorobenzene	<0.13	ug/L	1.0	0.13	1		05/09/13 04:04	87-61-6	
1,2,4-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		05/09/13 04:04	120-82-1	
1,1,1-Trichloroethane	<0.19	ug/L	1.0	0.19	1		05/09/13 04:04	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		05/09/13 04:04	79-00-5	
Trichloroethene	<0.083	ug/L	1.0	0.083	1		05/09/13 04:04	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		05/09/13 04:04	75-69-4	
1,2,3-Trichloropropane	<0.33	ug/L	4.0	0.33	1		05/09/13 04:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.18	ug/L	1.0	0.18	1		05/09/13 04:04	76-13-1	
1,2,4-Trimethylbenzene	<0.071	ug/L	1.0	0.071	1		05/09/13 04:04	95-63-6	
1,3,5-Trimethylbenzene	<0.087	ug/L	1.0	0.087	1		05/09/13 04:04	108-67-8	
Vinyl chloride	<0.16	ug/L	0.40	0.16	1		05/09/13 04:04	75-01-4	
Xylene (Total)	<0.22	ug/L	3.0	0.22	1		05/09/13 04:04	1330-20-7	
m&p-Xylene	<0.11	ug/L	2.0	0.11	1		05/09/13 04:04	179601-23-1	
o-Xylene	<0.10	ug/L	1.0	0.10	1		05/09/13 04:04	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		05/09/13 04:04	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		05/09/13 04:04	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		05/09/13 04:04	460-00-4	

QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

QC Batch: GCV/10704 Analysis Method: NWTPH-Gx/8021
QC Batch Method: NWTPH-Gx/8021 Analysis Description: NWTPH-Gx/8021B Water
Associated Lab Samples: 10227466001, 10227466002, 10227466003

METHOD BLANK: 1425321 Matrix: Water

Associated Lab Samples: 10227466001, 10227466002, 10227466003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	<43.0	100	05/09/13 09:22	
a,a,a-Trifluorotoluene (S)	%	86	75-125	05/09/13 09:22	

LABORATORY CONTROL SAMPLE & LCSD: 1425322

1425323

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	919	915	92	92	75-126	.5	20	
a,a,a-Trifluorotoluene (S)	%				94	93	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1425324

1425325

Parameter	Units	10227423003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	340	1000	1000	1310	1530	97	119	75-137	16	30	
a,a,a-Trifluorotoluene (S)	%						104	118	75-125			

QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

QC Batch: MSV/23570

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 465 W

Associated Lab Samples: 10227466001, 10227466002, 10227466003

METHOD BLANK: 1424503

Matrix: Water

Associated Lab Samples: 10227466001, 10227466002, 10227466003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.36	1.0	05/08/13 23:56	
1,1,1-Trichloroethane	ug/L	<0.19	1.0	05/08/13 23:56	
1,1,2,2-Tetrachloroethane	ug/L	<0.097	1.0	05/08/13 23:56	
1,1,2-Trichloroethane	ug/L	<0.15	1.0	05/08/13 23:56	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.18	1.0	05/08/13 23:56	
1,1-Dichloroethane	ug/L	<0.11	1.0	05/08/13 23:56	
1,1-Dichloroethene	ug/L	<0.19	1.0	05/08/13 23:56	
1,1-Dichloropropene	ug/L	<0.35	1.0	05/08/13 23:56	
1,2,3-Trichlorobenzene	ug/L	0.16J	1.0	05/08/13 23:56	
1,2,3-Trichloropropane	ug/L	<0.33	4.0	05/08/13 23:56	
1,2,4-Trichlorobenzene	ug/L	<0.25	1.0	05/08/13 23:56	
1,2,4-Trimethylbenzene	ug/L	<0.071	1.0	05/08/13 23:56	
1,2-Dibromo-3-chloropropane	ug/L	<0.62	4.0	05/08/13 23:56	
1,2-Dibromoethane (EDB)	ug/L	<0.091	1.0	05/08/13 23:56	
1,2-Dichlorobenzene	ug/L	<0.36	1.0	05/08/13 23:56	
1,2-Dichloroethane	ug/L	<0.37	1.0	05/08/13 23:56	
1,2-Dichloropropane	ug/L	<0.27	4.0	05/08/13 23:56	
1,3,5-Trimethylbenzene	ug/L	<0.087	1.0	05/08/13 23:56	
1,3-Dichlorobenzene	ug/L	<0.11	1.0	05/08/13 23:56	
1,3-Dichloropropane	ug/L	<0.081	1.0	05/08/13 23:56	
1,4-Dichlorobenzene	ug/L	0.084J	1.0	05/08/13 23:56	
2,2-Dichloropropane	ug/L	<0.15	4.0	05/08/13 23:56	
2-Butanone (MEK)	ug/L	<2.5	5.0	05/08/13 23:56	
2-Chlorotoluene	ug/L	<0.50	1.0	05/08/13 23:56	
2-Hexanone	ug/L	<2.5	5.0	05/08/13 23:56	
4-Chlorotoluene	ug/L	<0.068	1.0	05/08/13 23:56	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	05/08/13 23:56	
Acetone	ug/L	<10.0	20.0	05/08/13 23:56	
Allyl chloride	ug/L	<1.8	4.0	05/08/13 23:56	
Benzene	ug/L	<0.062	1.0	05/08/13 23:56	
Bromobenzene	ug/L	<0.086	1.0	05/08/13 23:56	
Bromochloromethane	ug/L	<0.32	1.0	05/08/13 23:56	
Bromodichloromethane	ug/L	<0.11	1.0	05/08/13 23:56	
Bromoform	ug/L	<0.068	4.0	05/08/13 23:56	
Bromomethane	ug/L	1.2J	4.0	05/08/13 23:56	
Carbon disulfide	ug/L	<0.50	1.0	05/08/13 23:56	
Carbon tetrachloride	ug/L	<0.16	1.0	05/08/13 23:56	
Chlorobenzene	ug/L	<0.10	1.0	05/08/13 23:56	
Chloroethane	ug/L	<0.22	1.0	05/08/13 23:56	
Chloroform	ug/L	<0.14	1.0	05/08/13 23:56	
Chloromethane	ug/L	<0.41	4.0	05/08/13 23:56	
cis-1,2-Dichloroethene	ug/L	<0.085	1.0	05/08/13 23:56	
cis-1,3-Dichloropropene	ug/L	<0.090	4.0	05/08/13 23:56	

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QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

METHOD BLANK: 1424503

Matrix: Water

Associated Lab Samples: 10227466001, 10227466002, 10227466003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.10	1.0	05/08/13 23:56	
Dibromomethane	ug/L	<0.21	4.0	05/08/13 23:56	
Dichlorodifluoromethane	ug/L	<0.20	1.0	05/08/13 23:56	
Dichlorofluoromethane	ug/L	<0.11	1.0	05/08/13 23:56	
Diethyl ether (Ethyl ether)	ug/L	<2.0	4.0	05/08/13 23:56	
Ethylbenzene	ug/L	<0.081	1.0	05/08/13 23:56	
Hexachloro-1,3-butadiene	ug/L	<0.19	5.0	05/08/13 23:56	
Isopropylbenzene (Cumene)	ug/L	<0.076	1.0	05/08/13 23:56	
m&p-Xylene	ug/L	<0.11	2.0	05/08/13 23:56	
Methyl-tert-butyl ether	ug/L	<0.088	1.0	05/08/13 23:56	
Methylene Chloride	ug/L	<2.0	4.0	05/08/13 23:56	
n-Butylbenzene	ug/L	<0.15	1.0	05/08/13 23:56	
n-Propylbenzene	ug/L	<0.078	1.0	05/08/13 23:56	
Naphthalene	ug/L	0.23J	4.0	05/08/13 23:56	
o-Xylene	ug/L	<0.10	1.0	05/08/13 23:56	
p-Isopropyltoluene	ug/L	<0.086	1.0	05/08/13 23:56	
sec-Butylbenzene	ug/L	<0.10	1.0	05/08/13 23:56	
Styrene	ug/L	<0.060	1.0	05/08/13 23:56	
tert-Butylbenzene	ug/L	<0.10	1.0	05/08/13 23:56	
Tetrachloroethene	ug/L	<0.13	1.0	05/08/13 23:56	
Tetrahydrofuran	ug/L	<0.97	10.0	05/08/13 23:56	
Toluene	ug/L	<0.077	1.0	05/08/13 23:56	
trans-1,2-Dichloroethene	ug/L	<0.15	1.0	05/08/13 23:56	
trans-1,3-Dichloropropene	ug/L	<0.37	4.0	05/08/13 23:56	
Trichloroethene	ug/L	<0.083	1.0	05/08/13 23:56	
Trichlorofluoromethane	ug/L	<0.13	1.0	05/08/13 23:56	
Vinyl chloride	ug/L	<0.16	0.40	05/08/13 23:56	
Xylene (Total)	ug/L	<0.22	3.0	05/08/13 23:56	
1,2-Dichloroethane-d4 (S)	%	103	75-125	05/08/13 23:56	
4-Bromofluorobenzene (S)	%	101	75-125	05/08/13 23:56	
Toluene-d8 (S)	%	101	75-125	05/08/13 23:56	

LABORATORY CONTROL SAMPLE: 1424504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.6	108	75-125	
1,1,1-Trichloroethane	ug/L	20	21.1	106	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	75-125	
1,1,2-Trichloroethane	ug/L	20	22.0	110	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.2	91	51-139	
1,1-Dichloroethane	ug/L	20	18.2	91	75-125	
1,1-Dichloroethene	ug/L	20	18.4	92	71-126	
1,1-Dichloropropene	ug/L	20	21.0	105	74-125	
1,2,3-Trichlorobenzene	ug/L	20	19.5	98	75-125	
1,2,3-Trichloropropane	ug/L	20	20.8	104	75-125	

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QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

LABORATORY CONTROL SAMPLE: 1424504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	20	19.8	99	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.3	97	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	51.3	103	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	19.7	98	75-125	
1,2-Dichlorobenzene	ug/L	20	19.9	99	75-125	
1,2-Dichloroethane	ug/L	20	19.5	97	74-125	
1,2-Dichloropropane	ug/L	20	20.6	103	75-125	
1,3,5-Trimethylbenzene	ug/L	20	19.5	98	75-125	
1,3-Dichlorobenzene	ug/L	20	20.1	101	75-125	
1,3-Dichloropropane	ug/L	20	21.2	106	75-125	
1,4-Dichlorobenzene	ug/L	20	19.5	98	75-125	
2,2-Dichloropropane	ug/L	20	19.9	99	67-132	
2-Butanone (MEK)	ug/L	100	100	100	68-126	
2-Chlorotoluene	ug/L	20	20.1	101	74-125	
2-Hexanone	ug/L	100	104	104	70-125	
4-Chlorotoluene	ug/L	20	19.9	100	74-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	72-125	
Acetone	ug/L	100	103	103	69-132	
Allyl chloride	ug/L	20	21.1	106	74-125	
Benzene	ug/L	20	19.5	98	75-125	
Bromobenzene	ug/L	20	20.6	103	75-125	
Bromochloromethane	ug/L	20	19.8	99	75-125	
Bromodichloromethane	ug/L	20	22.5	113	75-125	
Bromoform	ug/L	20	20.0	100	75-126	
Bromomethane	ug/L	20	21.9	110	30-150	
Carbon disulfide	ug/L	20	17.7	89	66-126	
Carbon tetrachloride	ug/L	20	22.6	113	74-127	
Chlorobenzene	ug/L	20	19.5	98	75-125	
Chloroethane	ug/L	20	19.0	95	68-132	
Chloroform	ug/L	20	20.6	103	75-125	
Chloromethane	ug/L	20	18.3	91	61-129	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	75-125	
cis-1,3-Dichloropropene	ug/L	20	18.3	91	75-125	
Dibromochloromethane	ug/L	20	22.4	112	75-125	
Dibromomethane	ug/L	20	19.8	99	75-125	
Dichlorodifluoromethane	ug/L	20	19.6	98	49-137	
Dichlorofluoromethane	ug/L	20	18.4	92	66-133	
Diethyl ether (Ethyl ether)	ug/L	20	21.8	109	75-125	
Ethylbenzene	ug/L	20	18.5	93	75-125	
Hexachloro-1,3-butadiene	ug/L	20	19.7	99	69-127	
Isopropylbenzene (Cumene)	ug/L	20	19.5	98	75-125	
m&p-Xylene	ug/L	40	37.7	94	75-125	
Methyl-tert-butyl ether	ug/L	20	22.2	111	74-126	
Methylene Chloride	ug/L	20	19.2	96	75-125	
n-Butylbenzene	ug/L	20	20.2	101	72-126	
n-Propylbenzene	ug/L	20	19.0	95	73-125	
Naphthalene	ug/L	20	20.6	103	75-125	
o-Xylene	ug/L	20	19.5	97	75-125	

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QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Peace Project No.: 10227466

LABORATORY CONTROL SAMPLE: 1424504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Isopropyltoluene	ug/L	20	20.4	102	74-125	
sec-Butylbenzene	ug/L	20	19.6	98	73-125	
Styrene	ug/L	20	19.5	97	75-125	
tert-Butylbenzene	ug/L	20	18.8	94	73-125	
Tetrachloroethene	ug/L	20	19.2	96	75-125	
Tetrahydrofuran	ug/L	200	219	109	71-125	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.1	96	74-125	
trans-1,3-Dichloropropene	ug/L	20	22.0	110	75-125	
Trichloroethene	ug/L	20	19.4	97	75-125	
Trichlorofluoromethane	ug/L	20	17.9	89	69-129	
Vinyl chloride	ug/L	20	18.6	93	70-128	
Xylene (Total)	ug/L	60	57.2	95	75-125	
1,2-Dichloroethane-d4 (S)	%			104	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			102	75-125	

MATRIX SPIKE SAMPLE: 1432682

Parameter	Units	10227331001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	22.0	110	75-125	
1,1,1-Trichloroethane	ug/L	ND	20	23.1	115	75-136	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.1	101	66-131	
1,1,2-Trichloroethane	ug/L	ND	20	21.1	105	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	27.2	136	75-150	
1,1-Dichloroethane	ug/L	ND	20	19.3	97	75-131	
1,1-Dichloroethene	ug/L	ND	20	20.3	101	75-138	
1,1-Dichloropropene	ug/L	ND	20	23.6	118	75-136	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.5	97	75-125	
1,2,3-Trichloropropane	ug/L	ND	20	20.0	100	71-126	
1,2,4-Trichlorobenzene	ug/L	ND	20	19.4	97	75-125	
1,2,4-Trimethylbenzene	ug/L	ND	20	20.1	101	70-126	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	49.7	99	69-127	
1,2-Dibromoethane (EDB)	ug/L	ND	20	18.9	95	75-125	
1,2-Dichlorobenzene	ug/L	ND	20	20.1	101	75-125	
1,2-Dichloroethane	ug/L	ND	20	19.2	96	74-128	
1,2-Dichloropropane	ug/L	ND	20	21.2	106	75-125	
1,3,5-Trimethylbenzene	ug/L	ND	20	20.8	104	72-126	
1,3-Dichlorobenzene	ug/L	ND	20	20.4	102	75-125	
1,3-Dichloropropane	ug/L	ND	20	20.5	102	75-125	
1,4-Dichlorobenzene	ug/L	ND	20	19.5	97	75-125	
2,2-Dichloropropane	ug/L	ND	20	22.3	111	71-143	
2-Butanone (MEK)	ug/L	ND	100	96.8	97	64-125	
2-Chlorotoluene	ug/L	ND	20	21.0	105	74-125	
2-Hexanone	ug/L	ND	100	102	102	67-125	
4-Chlorotoluene	ug/L	ND	20	20.8	104	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	99.2	99	69-125	

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QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

MATRIX SPIKE SAMPLE:		1432682					
Parameter	Units	10227331001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	ND	100	92.1	91	57-135	
Allyl chloride	ug/L	ND	20	22.7	113	73-134	
Benzene	ug/L	ND	20	20.3	101	70-135	
Bromobenzene	ug/L	ND	20	20.3	101	75-125	
Bromochloromethane	ug/L	ND	20	19.9	100	75-125	
Bromodichloromethane	ug/L	ND	20	22.3	111	75-125	
Bromoform	ug/L	ND	20	19.4	97	68-133	
Bromomethane	ug/L	ND	20	24.0	115	56-150	
Carbon disulfide	ug/L	ND	20	20.0	99	66-135	
Carbon tetrachloride	ug/L	ND	20	25.7	129	75-137	
Chlorobenzene	ug/L	ND	20	19.7	98	75-125	
Chloroethane	ug/L	ND	20	21.3	107	64-150	
Chloroform	ug/L	ND	20	21.2	106	75-127	
Chloromethane	ug/L	ND	20	20.3	101	65-140	
cis-1,2-Dichloroethene	ug/L	ND	20	20.7	103	75-129	
cis-1,3-Dichloropropene	ug/L	ND	20	18.2	91	75-125	
Dibromochloromethane	ug/L	ND	20	21.5	107	75-125	
Dibromomethane	ug/L	ND	20	18.9	95	75-125	
Dichlorodifluoromethane	ug/L	ND	20	27.4	137	70-150	
Dichlorofluoromethane	ug/L	ND	20	21.1	106	69-142	
Diethyl ether (Ethyl ether)	ug/L	ND	20	19.7	98	75-125	
Ethylbenzene	ug/L	ND	20	19.5	98	75-125	
Hexachloro-1,3-butadiene	ug/L	ND	20	20.4	102	75-135	
Isopropylbenzene (Cumene)	ug/L	ND	20	20.8	104	75-125	
m&p-Xylene	ug/L	ND	40	39.8	100	75-125	
Methyl-tert-butyl ether	ug/L	ND	20	22.1	111	70-132	
Methylene Chloride	ug/L	ND	20	19.2	96	73-125	
n-Butylbenzene	ug/L	ND	20	21.5	107	75-130	
n-Propylbenzene	ug/L	ND	20	20.7	103	75-128	
Naphthalene	ug/L	ND	20	19.7	98	73-126	
o-Xylene	ug/L	ND	20	20.2	101	75-125	
p-Isopropyltoluene	ug/L	ND	20	21.9	110	75-125	
sec-Butylbenzene	ug/L	ND	20	21.7	108	75-126	
Styrene	ug/L	ND	20	20.2	101	52-137	
tert-Butylbenzene	ug/L	ND	20	20.5	103	75-125	
Tetrachloroethene	ug/L	ND	20	21.4	106	75-130	
Tetrahydrofuran	ug/L	ND	200	193	97	69-125	
Toluene	ug/L	ND	20	20.1	101	75-125	
trans-1,2-Dichloroethene	ug/L	ND	20	20.6	103	75-135	
trans-1,3-Dichloropropene	ug/L	ND	20	21.4	107	75-125	
Trichloroethene	ug/L	ND	20	20.7	103	75-129	
Trichlorofluoromethane	ug/L	ND	20	25.3	126	75-150	
Vinyl chloride	ug/L	ND	20	22.1	110	75-147	
Xylene (Total)	ug/L	ND	60	60.1	100	75-125	
1,2-Dichloroethane-d4 (S)	%				104	75-125	
4-Bromofluorobenzene (S)	%				103	75-125	
Toluene-d8 (S)	%				104	75-125	

QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

SAMPLE DUPLICATE: 1432683

Parameter	Units	10227331002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.36		30	
1,1,1-Trichloroethane	ug/L	ND	<0.19		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.097		30	
1,1,2-Trichloroethane	ug/L	ND	<0.15		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.18		30	
1,1-Dichloroethane	ug/L	ND	<0.11		30	
1,1-Dichloroethene	ug/L	ND	<0.19		30	
1,1-Dichloropropene	ug/L	ND	<0.35		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.13		30	
1,2,3-Trichloropropane	ug/L	ND	<0.33		30	
1,2,4-Trichlorobenzene	ug/L	ND	<0.25		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.071		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.62		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.091		30	
1,2-Dichlorobenzene	ug/L	ND	<0.36		30	
1,2-Dichloroethane	ug/L	ND	<0.37		30	
1,2-Dichloropropane	ug/L	ND	<0.27		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.087		30	
1,3-Dichlorobenzene	ug/L	ND	<0.11		30	
1,3-Dichloropropane	ug/L	ND	<0.081		30	
1,4-Dichlorobenzene	ug/L	ND	<0.064		30	
2,2-Dichloropropane	ug/L	ND	<0.15		30	
2-Butanone (MEK)	ug/L	ND	<2.5		30	
2-Chlorotoluene	ug/L	ND	<0.50		30	
2-Hexanone	ug/L	ND	<2.5		30	
4-Chlorotoluene	ug/L	ND	<0.068		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<2.5		30	
Acetone	ug/L	ND	<10.0		30	
Allyl chloride	ug/L	ND	<1.8		30	
Benzene	ug/L	ND	<0.062		30	
Bromobenzene	ug/L	ND	<0.086		30	
Bromochloromethane	ug/L	ND	<0.32		30	
Bromodichloromethane	ug/L	ND	<0.11		30	
Bromoform	ug/L	ND	<0.068		30	
Bromomethane	ug/L	ND	0.68J		30	
Carbon disulfide	ug/L	ND	<0.50		30	
Carbon tetrachloride	ug/L	ND	<0.16		30	
Chlorobenzene	ug/L	ND	<0.10		30	
Chloroethane	ug/L	ND	<0.22		30	
Chloroform	ug/L	ND	<0.14		30	
Chloromethane	ug/L	ND	<0.41		30	
cis-1,2-Dichloroethene	ug/L	ND	<0.085		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.090		30	
Dibromochloromethane	ug/L	ND	<0.10		30	
Dibromomethane	ug/L	ND	<0.21		30	
Dichlorodifluoromethane	ug/L	ND	<0.20		30	
Dichlorofluoromethane	ug/L	ND	<0.11		30	
Diethyl ether (Ethyl ether)	ug/L	ND	<2.0		30	

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QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

SAMPLE DUPLICATE: 1432683

Parameter	Units	10227331002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/L	ND	<0.081		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.19		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.076		30	
m&p-Xylene	ug/L	ND	<0.11		30	
Methyl-tert-butyl ether	ug/L	ND	<0.088		30	
Methylene Chloride	ug/L	ND	<2.0		30	
n-Butylbenzene	ug/L	ND	<0.15		30	
n-Propylbenzene	ug/L	ND	<0.078		30	
Naphthalene	ug/L	ND	<0.068		30	
o-Xylene	ug/L	ND	<0.10		30	
p-Isopropyltoluene	ug/L	ND	<0.086		30	
sec-Butylbenzene	ug/L	ND	<0.10		30	
Styrene	ug/L	ND	<0.060		30	
tert-Butylbenzene	ug/L	ND	<0.10		30	
Tetrachloroethene	ug/L	4.8	5.2	8	30	
Tetrahydrofuran	ug/L	ND	<0.97		30	
Toluene	ug/L	ND	<0.077		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.37		30	
Trichloroethene	ug/L	ND	0.16J		30	
Trichlorofluoromethane	ug/L	ND	<0.13		30	
Vinyl chloride	ug/L	ND	<0.16		30	
Xylene (Total)	ug/L	ND	<0.22		30	
1,2-Dichloroethane-d4 (S)	%	103	103	.08		
4-Bromofluorobenzene (S)	%	99	100	.8		
Toluene-d8 (S)	%	100	101	.6		

QUALITY CONTROL DATA

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

QC Batch:	OEXT/21684	Analysis Method:	EPA 8011
QC Batch Method:	EPA 8011	Analysis Description:	GCS 8011 EDB DBCP
Associated Lab Samples:	10227466001, 10227466002, 10227466003		

METHOD BLANK: 1433113 Matrix: Water

Associated Lab Samples: 10227466001, 10227466002, 10227466003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0028	0.010	05/15/13 16:51	
4-Bromofluorobenzene (S)	%	120	70-130	05/15/13 16:51	

LABORATORY CONTROL SAMPLE & LCSD: 1433114

LABORATORY CONTROL SAMPLE & LCSD: 1433114			1433115							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.11	0.11	0.11	97	102	60-140	3	20	

QUALIFIERS

Project: Tarr Vancouver-GWM
Pace Project No.: 10227466

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

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Tarr Vancouver-GWM

Pace Project No.: 10227466

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10227466001	MW-1	EPA 8011	OEXT/21684	EPA 8011	GCSV/11307
10227466002	MW-4	EPA 8011	OEXT/21684	EPA 8011	GCSV/11307
10227466003	MW-5	EPA 8011	OEXT/21684	EPA 8011	GCSV/11307
10227466001	MW-1	NWTPH-Gx/8021	GCV/10704		
10227466002	MW-4	NWTPH-Gx/8021	GCV/10704		
10227466003	MW-5	NWTPH-Gx/8021	GCV/10704		
10227466001	MW-1	EPA 8260	MSV/23570		
10227466002	MW-4	EPA 8260	MSV/23570		
10227466003	MW-5	EPA 8260	MSV/23570		



Client Name: Ash Creek Associates

Address: 3015 SW First Ave

City/State/Zip: **Portland, OR 97201**

City/State/Zip: **Portland, OR 97201**

Telephone Number: 503.924.4704

Fax No.: **503.943.6357**

Project Manager: John Foxwell

Project Name: Tarr Vancouver- GWM

Project Number: 1821-00

Sampler Name: Cammen Owens

Analytical Lab: Pace Analytical

Report To: jfoxwell@ashcreekassociates.com

Page: 1 of 1

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	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.06	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt: **Client Name:** Ash Creek Associates **Project #:** **WO#: 10227466**
Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____
Tracking Number: 9020 4472 9680

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Optional:** Proj. Due Date: _____ Proj. Name: _____
Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No
Thermom. Used: ☒ 888A912167504 ☐ 80512447 ☐ 72337080 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on Ice, cooling process has begun
Cooler Temp Read (°C): 3.9 **Cooler Temp Corrected (°C):** 4.7 **Biological Tissue Frozen?** ☐ Yes ☒ No
Temp should be above freezing to 6°C **Correction Factor:** f. 8 **Date and Initials of Person Examining Contents:** CU 5-3-13

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	10.
Containers Intact?	☒ Yes ☐ No ☐ N/A	11.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	12.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	13.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes ☐ No ☒ N/A	13. ☐ HNO ₃ ☐ H ₂ SO ₄ ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	☐ Yes ☐ No ☒ N/A	Sample #
Exceptions (VOA coliform, TOC, Oil and Grease, WI-DRO (water))	☒ Yes ☐ No	Initial when completed: <u>CU</u> Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes ☒ No ☐ N/A	14.
Trip Blank Present?	☒ Yes ☐ No ☐ N/A	15. <u>6</u>
Trip Blank Custody Seals Present?	☒ Yes ☐ No ☐ N/A	<u>3WT Trip Blank</u>
Pace Trip Blank Lot # (if purchased):		<u>CU5-3-13</u>

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No
Person Contacted: Carmen @ Ashcreek **Date/Time:** 5/6/13 10:40
Comments/Resolution: Do not analyse Trip Blank and collected data for MW-4 & MW-5 is 5/2/13. no

Project Manager Review: Jenni Goff **Date:** 5/6/13
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Analytical Lab: Pace Analytical

Sampler Name: Carmen Owens

27 of 27

November 08, 2013

John Foxwell
Apex Companies, LLC
3015 SW First Ave
Portland, OR 97201

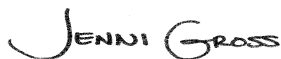
RE: Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

Dear John Foxwell:

Enclosed are the analytical results for sample(s) received by the laboratory on November 01, 2013. 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,



Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

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

Nebraska Certification #: Pace

Nevada Certification #: MN_00064

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Dakota Certification #: R-036

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

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SAMPLE SUMMARY

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10247959001	MW-1	Water	10/31/13 09:30	11/01/13 09:20
10247959002	MW-4	Water	10/31/13 10:20	11/01/13 09:20
10247959003	MW-5	Water	10/31/13 11:30	11/01/13 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10247959001	MW-1	EPA 8011	KL1	2	PASI-M
		NWTPH-Gx/8021	LLC	2	PASI-M
		EPA 8260	LPM	74	PASI-M
10247959002	MW-4	EPA 8011	KL1	2	PASI-M
		NWTPH-Gx/8021	LLC	2	PASI-M
		EPA 8260	LPM	74	PASI-M
10247959003	MW-5	EPA 8011	KL1	2	PASI-M
		NWTPH-Gx/8021	LLC	2	PASI-M
		EPA 8260	LPM	74	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

Method: EPA 8011
Description: 8011 GCS EDB and DBCP
Client: Ash Creek Associates OR
Date: November 08, 2013

General Information:

3 samples were analyzed for EPA 8011. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 8011 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/23567

S0: Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 1570064)
 - 4-Bromofluorobenzene (S)
- MSD (Lab ID: 1570065)
 - 4-Bromofluorobenzene (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/23567

C0: Result confirmed by second analysis.

- MS (Lab ID: 1570064)
 - 4-Bromofluorobenzene (S)
- MSD (Lab ID: 1570065)
 - 4-Bromofluorobenzene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

Method: NWTPH-Gx/8021
Description: NWTPH-Gx GCV
Client: Ash Creek Associates OR
Date: November 08, 2013

General Information:

3 samples were analyzed for NWTPH-Gx/8021. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

Method: EPA 8260
Description: 8260 VOC
Client: Ash Creek Associates OR
Date: November 08, 2013

General Information:

3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/25514

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10247974001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1569854)
 - 2,2-Dichloropropane
 - Hexachloro-1,3-butadiene
 - n-Butylbenzene

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: MSV/25514

D6: The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 1569855)
 - 1,1,1-Trichloroethane

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Method: EPA 8260

Description: 8260 VOC

Client: Ash Creek Associates OR

Date: November 08, 2013

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Sample: MW-1		Lab ID: 10247959001		Collected: 10/31/13 09:30		Received: 11/01/13 09:20		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	<0.0027	ug/L	0.0097	0.0027	1	11/05/13 11:55	11/07/13 01:42	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	110	%	70-130		1	11/05/13 11:55	11/07/13 01:42	460-00-4	
NWTPH-Gx GCV									
Analytical Method: NWTPH-Gx/8021									
TPH as Gas	401	ug/L	100	50.0	1		11/08/13 00:44		
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	75-125		1		11/08/13 00:44	98-08-8	
8260 VOC									
Analytical Method: EPA 8260									
Acetone	<10.0	ug/L	20.0	10.0	1		11/06/13 18:08	67-64-1	
Allyl chloride	<0.23	ug/L	4.0	0.23	1		11/06/13 18:08	107-05-1	
Benzene	0.34J	ug/L	1.0	0.24	1		11/06/13 18:08	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/13 18:08	108-86-1	
Bromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	74-97-5	
Bromodichloromethane	<0.25	ug/L	1.0	0.25	1		11/06/13 18:08	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	74-83-9	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		11/06/13 18:08	78-93-3	
n-Butylbenzene	1.4	ug/L	1.0	0.50	1		11/06/13 18:08	104-51-8	
sec-Butylbenzene	3.1	ug/L	1.0	0.50	1		11/06/13 18:08	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	98-06-6	
Carbon disulfide	<0.22	ug/L	1.0	0.22	1		11/06/13 18:08	75-15-0	
Carbon tetrachloride	<0.31	ug/L	1.0	0.31	1		11/06/13 18:08	56-23-5	
Chlorobenzene	<0.24	ug/L	1.0	0.24	1		11/06/13 18:08	108-90-7	
Chloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	75-00-3	
Chloroform	<0.27	ug/L	1.0	0.27	1		11/06/13 18:08	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	95-49-8	
4-Chlorotoluene	<0.23	ug/L	1.0	0.23	1		11/06/13 18:08	106-43-4	
1,2-Dibromo-3-chloropropane	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	96-12-8	
Dibromochloromethane	<0.27	ug/L	1.0	0.27	1		11/06/13 18:08	124-48-1	
1,2-Dibromoethane (EDB)	<0.23	ug/L	1.0	0.23	1		11/06/13 18:08	106-93-4	
Dibromomethane	<0.14	ug/L	4.0	0.14	1		11/06/13 18:08	74-95-3	
1,2-Dichlorobenzene	<0.092	ug/L	1.0	0.092	1		11/06/13 18:08	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	106-46-7	
Dichlorodifluoromethane	<0.40	ug/L	1.0	0.40	1		11/06/13 18:08	75-71-8	
1,1-Dichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	1.0	0.22	1		11/06/13 18:08	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		11/06/13 18:08	75-35-4	
cis-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		11/06/13 18:08	156-59-2	
trans-1,2-Dichloroethene	<0.24	ug/L	1.0	0.24	1		11/06/13 18:08	156-60-5	
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		11/06/13 18:08	75-43-4	
1,2-Dichloropropane	<0.20	ug/L	4.0	0.20	1		11/06/13 18:08	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	142-28-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Sample: MW-1 Lab ID: 10247959001 Collected: 10/31/13 09:30 Received: 11/01/13 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
2,2-Dichloropropane	<0.50	ug/L	4.0	0.50	1		11/06/13 18:08	594-20-7	
1,1-Dichloropropene	<0.25	ug/L	1.0	0.25	1		11/06/13 18:08	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	4.0	0.50	1		11/06/13 18:08	10061-01-5	
trans-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	10061-02-6	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	60-29-7	
Ethylbenzene	13.1	ug/L	1.0	0.24	1		11/06/13 18:08	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	87-68-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		11/06/13 18:08	591-78-6	
Isopropylbenzene (Cumene)	9.7	ug/L	1.0	0.50	1		11/06/13 18:08	98-82-8	
p-Isopropyltoluene	0.56J	ug/L	1.0	0.50	1		11/06/13 18:08	99-87-6	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		11/06/13 18:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		11/06/13 18:08	108-10-1	
Methyl-tert-butyl ether	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	1634-04-4	
Naphthalene	5.4	ug/L	4.0	2.0	1		11/06/13 18:08	91-20-3	
n-Propylbenzene	20.3	ug/L	1.0	0.50	1		11/06/13 18:08	103-65-1	
Styrene	<0.24	ug/L	1.0	0.24	1		11/06/13 18:08	100-42-5	
1,1,1,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	630-20-6	
1,1,2,2-Tetrachloroethane	<0.13	ug/L	1.0	0.13	1		11/06/13 18:08	79-34-5	
Tetrachloroethene	<0.29	ug/L	1.0	0.29	1		11/06/13 18:08	127-18-4	
Tetrahydrofuran	<2.9	ug/L	10.0	2.9	1		11/06/13 18:08	109-99-9	
Toluene	<0.23	ug/L	1.0	0.23	1		11/06/13 18:08	108-88-3	
1,2,3-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	87-61-6	
1,2,4-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 18:08	71-55-6	
1,1,2-Trichloroethane	<0.16	ug/L	1.0	0.16	1		11/06/13 18:08	79-00-5	
Trichloroethene	<0.12	ug/L	0.40	0.12	1		11/06/13 18:08	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		11/06/13 18:08	75-69-4	
1,2,3-Trichloropropane	<0.54	ug/L	4.0	0.54	1		11/06/13 18:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.33	ug/L	1.0	0.33	1		11/06/13 18:08	76-13-1	
1,2,4-Trimethylbenzene	48.7	ug/L	1.0	0.50	1		11/06/13 18:08	95-63-6	
1,3,5-Trimethylbenzene	15.4	ug/L	1.0	0.50	1		11/06/13 18:08	108-67-8	
Vinyl chloride	<0.14	ug/L	0.40	0.14	1		11/06/13 18:08	75-01-4	
Xylene (Total)	12.9	ug/L	3.0	0.72	1		11/06/13 18:08	1330-20-7	
m&p-Xylene	12.9	ug/L	2.0	0.48	1		11/06/13 18:08	179601-23-1	
o-Xylene	0.50J	ug/L	1.0	0.24	1		11/06/13 18:08	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		11/06/13 18:08	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		11/06/13 18:08	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/06/13 18:08	460-00-4	

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ANALYTICAL RESULTS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Sample: MW-4		Lab ID: 10247959002		Collected: 10/31/13 10:20		Received: 11/01/13 09:20		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	<0.0028	ug/L	0.0098	0.0028	1	11/05/13 11:55	11/07/13 02:08	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		1	11/05/13 11:55	11/07/13 02:08	460-00-4	
NWTPH-Gx GCV									
Analytical Method: NWTPH-Gx/8021									
TPH as Gas	<50.0	ug/L	100	50.0	1		11/08/13 01:04		
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%	75-125		1		11/08/13 01:04	98-08-8	
8260 VOC									
Analytical Method: EPA 8260									
Acetone	<10.0	ug/L	20.0	10.0	1		11/06/13 19:56	67-64-1	
Allyl chloride	<0.23	ug/L	4.0	0.23	1		11/06/13 19:56	107-05-1	
Benzene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/06/13 19:56	108-86-1	
Bromochloromethane	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	74-97-5	
Bromodichloromethane	<0.25	ug/L	1.0	0.25	1		11/06/13 19:56	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	74-83-9	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		11/06/13 19:56	78-93-3	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	104-51-8	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	98-06-6	
Carbon disulfide	<0.22	ug/L	1.0	0.22	1		11/06/13 19:56	75-15-0	
Carbon tetrachloride	<0.31	ug/L	1.0	0.31	1		11/06/13 19:56	56-23-5	
Chlorobenzene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	108-90-7	
Chloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	75-00-3	
Chloroform	<0.27	ug/L	1.0	0.27	1		11/06/13 19:56	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	95-49-8	
4-Chlorotoluene	<0.23	ug/L	1.0	0.23	1		11/06/13 19:56	106-43-4	
1,2-Dibromo-3-chloropropane	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	96-12-8	
Dibromochloromethane	<0.27	ug/L	1.0	0.27	1		11/06/13 19:56	124-48-1	
1,2-Dibromoethane (EDB)	<0.23	ug/L	1.0	0.23	1		11/06/13 19:56	106-93-4	
Dibromomethane	<0.14	ug/L	4.0	0.14	1		11/06/13 19:56	74-95-3	
1,2-Dichlorobenzene	<0.092	ug/L	1.0	0.092	1		11/06/13 19:56	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	106-46-7	
Dichlorodifluoromethane	<0.40	ug/L	1.0	0.40	1		11/06/13 19:56	75-71-8	
1,1-Dichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	1.0	0.22	1		11/06/13 19:56	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	75-35-4	
cis-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		11/06/13 19:56	156-59-2	
trans-1,2-Dichloroethene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	156-60-5	
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		11/06/13 19:56	75-43-4	
1,2-Dichloropropane	<0.20	ug/L	4.0	0.20	1		11/06/13 19:56	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	142-28-9	

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ANALYTICAL RESULTS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Sample: MW-4 Lab ID: 10247959002 Collected: 10/31/13 10:20 Received: 11/01/13 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC Analytical Method: EPA 8260									
2,2-Dichloropropane	<0.50	ug/L	4.0	0.50	1		11/06/13 19:56	594-20-7	
1,1-Dichloropropene	<0.25	ug/L	1.0	0.25	1		11/06/13 19:56	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	4.0	0.50	1		11/06/13 19:56	10061-01-5	
trans-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	10061-02-6	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	60-29-7	
Ethylbenzene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	87-68-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		11/06/13 19:56	591-78-6	
Isopropylbenzene (Cumene)	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	99-87-6	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		11/06/13 19:56	108-10-1	
Methyl-tert-butyl ether	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	1634-04-4	
Naphthalene	<2.0	ug/L	4.0	2.0	1		11/06/13 19:56	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	103-65-1	
Styrene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	100-42-5	
1,1,1,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	630-20-6	
1,1,2,2-Tetrachloroethane	<0.13	ug/L	1.0	0.13	1		11/06/13 19:56	79-34-5	
Tetrachloroethene	<0.29	ug/L	1.0	0.29	1		11/06/13 19:56	127-18-4	
Tetrahydrofuran	<2.9	ug/L	10.0	2.9	1		11/06/13 19:56	109-99-9	
Toluene	<0.23	ug/L	1.0	0.23	1		11/06/13 19:56	108-88-3	
1,2,3-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	87-61-6	
1,2,4-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	71-55-6	
1,1,2-Trichloroethane	<0.16	ug/L	1.0	0.16	1		11/06/13 19:56	79-00-5	
Trichloroethene	<0.12	ug/L	0.40	0.12	1		11/06/13 19:56	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		11/06/13 19:56	75-69-4	
1,2,3-Trichloropropane	<0.54	ug/L	4.0	0.54	1		11/06/13 19:56	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.33	ug/L	1.0	0.33	1		11/06/13 19:56	76-13-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/06/13 19:56	108-67-8	
Vinyl chloride	<0.14	ug/L	0.40	0.14	1		11/06/13 19:56	75-01-4	
Xylene (Total)	<0.72	ug/L	3.0	0.72	1		11/06/13 19:56	1330-20-7	
m&p-Xylene	<0.48	ug/L	2.0	0.48	1		11/06/13 19:56	179601-23-1	
o-Xylene	<0.24	ug/L	1.0	0.24	1		11/06/13 19:56	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		11/06/13 19:56	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		11/06/13 19:56	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/06/13 19:56	460-00-4	

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ANALYTICAL RESULTS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Sample: MW-5		Lab ID: 10247959003		Collected: 10/31/13 11:30		Received: 11/01/13 09:20		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	<0.0028	ug/L	0.0098	0.0028	1	11/05/13 11:55	11/07/13 02:33	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1	11/05/13 11:55	11/07/13 02:33	460-00-4	
NWTPH-Gx GCV		Analytical Method: NWTPH-Gx/8021							
TPH as Gas	<50.0	ug/L	100	50.0	1		11/08/13 01:24		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%	75-125		1		11/08/13 01:24	98-08-8	
8260 VOC		Analytical Method: EPA 8260							
Acetone	<10.0	ug/L	20.0	10.0	1		11/07/13 09:03	67-64-1	
Allyl chloride	<0.23	ug/L	4.0	0.23	1		11/07/13 09:03	107-05-1	
Benzene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		11/07/13 09:03	108-86-1	
Bromochloromethane	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	74-97-5	
Bromodichloromethane	<0.25	ug/L	1.0	0.25	1		11/07/13 09:03	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	74-83-9	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		11/07/13 09:03	78-93-3	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	104-51-8	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	98-06-6	
Carbon disulfide	<0.22	ug/L	1.0	0.22	1		11/07/13 09:03	75-15-0	
Carbon tetrachloride	<0.31	ug/L	1.0	0.31	1		11/07/13 09:03	56-23-5	
Chlorobenzene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	108-90-7	
Chloroethane	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	75-00-3	
Chloroform	<0.27	ug/L	1.0	0.27	1		11/07/13 09:03	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	95-49-8	
4-Chlorotoluene	<0.23	ug/L	1.0	0.23	1		11/07/13 09:03	106-43-4	
1,2-Dibromo-3-chloropropane	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	96-12-8	
Dibromochloromethane	<0.27	ug/L	1.0	0.27	1		11/07/13 09:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.23	ug/L	1.0	0.23	1		11/07/13 09:03	106-93-4	
Dibromomethane	<0.14	ug/L	4.0	0.14	1		11/07/13 09:03	74-95-3	
1,2-Dichlorobenzene	<0.092	ug/L	1.0	0.092	1		11/07/13 09:03	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	106-46-7	
Dichlorodifluoromethane	<0.40	ug/L	1.0	0.40	1		11/07/13 09:03	75-71-8	
1,1-Dichloroethane	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	1.0	0.22	1		11/07/13 09:03	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	75-35-4	
cis-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		11/07/13 09:03	156-59-2	
trans-1,2-Dichloroethene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	156-60-5	
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		11/07/13 09:03	75-43-4	
1,2-Dichloropropane	<0.20	ug/L	4.0	0.20	1		11/07/13 09:03	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	142-28-9	

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ANALYTICAL RESULTS

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Sample: MW-5 Lab ID: 10247959003 Collected: 10/31/13 11:30 Received: 11/01/13 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
2,2-Dichloropropane	<0.50	ug/L	4.0	0.50	1		11/07/13 09:03	594-20-7	
1,1-Dichloropropene	<0.25	ug/L	1.0	0.25	1		11/07/13 09:03	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	4.0	0.50	1		11/07/13 09:03	10061-01-5	
trans-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	10061-02-6	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	60-29-7	
Ethylbenzene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	87-68-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		11/07/13 09:03	591-78-6	
Isopropylbenzene (Cumene)	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	99-87-6	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		11/07/13 09:03	108-10-1	
Methyl-tert-butyl ether	1.6	ug/L	1.0	0.50	1		11/07/13 09:03	1634-04-4	
Naphthalene	<2.0	ug/L	4.0	2.0	1		11/07/13 09:03	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	103-65-1	
Styrene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.13	ug/L	1.0	0.13	1		11/07/13 09:03	79-34-5	
Tetrachloroethene	<0.29	ug/L	1.0	0.29	1		11/07/13 09:03	127-18-4	
Tetrahydrofuran	<2.9	ug/L	10.0	2.9	1		11/07/13 09:03	109-99-9	
Toluene	<0.23	ug/L	1.0	0.23	1		11/07/13 09:03	108-88-3	
1,2,3-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	87-61-6	
1,2,4-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	71-55-6	
1,1,2-Trichloroethane	<0.16	ug/L	1.0	0.16	1		11/07/13 09:03	79-00-5	
Trichloroethene	<0.12	ug/L	0.40	0.12	1		11/07/13 09:03	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		11/07/13 09:03	75-69-4	
1,2,3-Trichloropropane	<0.54	ug/L	4.0	0.54	1		11/07/13 09:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.33	ug/L	1.0	0.33	1		11/07/13 09:03	76-13-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		11/07/13 09:03	108-67-8	
Vinyl chloride	<0.14	ug/L	0.40	0.14	1		11/07/13 09:03	75-01-4	
Xylene (Total)	<0.72	ug/L	3.0	0.72	1		11/07/13 09:03	1330-20-7	
m&p-Xylene	<0.48	ug/L	2.0	0.48	1		11/07/13 09:03	179601-23-1	
o-Xylene	<0.24	ug/L	1.0	0.24	1		11/07/13 09:03	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		11/07/13 09:03	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		11/07/13 09:03	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/07/13 09:03	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

QC Batch: GCV/11437 Analysis Method: NWTPH-Gx/8021
QC Batch Method: NWTPH-Gx/8021 Analysis Description: NWTPH-Gx/8021B Water
Associated Lab Samples: 10247959001, 10247959002, 10247959003

METHOD BLANK: 1571832 Matrix: Water
Associated Lab Samples: 10247959001, 10247959002, 10247959003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	<50.0	100	11/08/13 00:24	
a,a,a-Trifluorotoluene (S)	%	98	75-125	11/08/13 00:24	

METHOD BLANK: 1573194 Matrix: Water
Associated Lab Samples: 10247959001, 10247959002, 10247959003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	<50.0	100	11/08/13 07:04	
a,a,a-Trifluorotoluene (S)	%	93	75-125	11/08/13 07:04	

LABORATORY CONTROL SAMPLE & LCSD: 1571833

1571834

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1000	975	100	98	75-126	3	20	
a,a,a-Trifluorotoluene (S)	%				105	104	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1573201

1573202

Parameter	Units	10247631002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	18400	20000	20000	40600	40000	111	108	75-137	2	30	
a,a,a-Trifluorotoluene (S)	%						119	125	75-125			

SAMPLE DUPLICATE: 1573193

Parameter	Units	10247631012 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	19700	18900	4	30	
a,a,a-Trifluorotoluene (S)	%	112	104	7		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

QC Batch: MSV/25513 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 465 W
Associated Lab Samples: 10247959001, 10247959002

METHOD BLANK: 1569843 Matrix: Water
Associated Lab Samples: 10247959001, 10247959002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	1.0	11/06/13 17:53	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	11/06/13 17:53	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	1.0	11/06/13 17:53	
1,1,2-Trichloroethane	ug/L	<0.16	1.0	11/06/13 17:53	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	1.0	11/06/13 17:53	
1,1-Dichloroethane	ug/L	<0.50	1.0	11/06/13 17:53	
1,1-Dichloroethene	ug/L	<0.24	1.0	11/06/13 17:53	
1,1-Dichloropropene	ug/L	<0.25	1.0	11/06/13 17:53	
1,2,3-Trichlorobenzene	ug/L	<0.50	1.0	11/06/13 17:53	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	11/06/13 17:53	
1,2,4-Trichlorobenzene	ug/L	<0.50	1.0	11/06/13 17:53	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	11/06/13 17:53	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	11/06/13 17:53	
1,2-Dibromoethane (EDB)	ug/L	<0.23	1.0	11/06/13 17:53	
1,2-Dichlorobenzene	ug/L	<0.092	1.0	11/06/13 17:53	
1,2-Dichloroethane	ug/L	<0.22	1.0	11/06/13 17:53	
1,2-Dichloropropane	ug/L	<0.20	4.0	11/06/13 17:53	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	11/06/13 17:53	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	11/06/13 17:53	
1,3-Dichloropropane	ug/L	<0.50	1.0	11/06/13 17:53	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	11/06/13 17:53	
2,2-Dichloropropane	ug/L	<0.50	4.0	11/06/13 17:53	
2-Butanone (MEK)	ug/L	<2.5	5.0	11/06/13 17:53	
2-Chlorotoluene	ug/L	<0.50	1.0	11/06/13 17:53	
2-Hexanone	ug/L	<2.5	5.0	11/06/13 17:53	
4-Chlorotoluene	ug/L	<0.23	1.0	11/06/13 17:53	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	11/06/13 17:53	
Acetone	ug/L	<10.0	20.0	11/06/13 17:53	
Allyl chloride	ug/L	<0.23	4.0	11/06/13 17:53	
Benzene	ug/L	<0.24	1.0	11/06/13 17:53	
Bromobenzene	ug/L	<0.23	1.0	11/06/13 17:53	
Bromochloromethane	ug/L	<0.50	1.0	11/06/13 17:53	
Bromodichloromethane	ug/L	<0.25	1.0	11/06/13 17:53	
Bromoform	ug/L	<2.0	4.0	11/06/13 17:53	
Bromomethane	ug/L	<2.0	4.0	11/06/13 17:53	
Carbon disulfide	ug/L	<0.22	1.0	11/06/13 17:53	
Carbon tetrachloride	ug/L	<0.31	1.0	11/06/13 17:53	
Chlorobenzene	ug/L	<0.24	1.0	11/06/13 17:53	
Chloroethane	ug/L	<0.50	1.0	11/06/13 17:53	
Chloroform	ug/L	<0.27	1.0	11/06/13 17:53	
Chloromethane	ug/L	<2.0	4.0	11/06/13 17:53	
cis-1,2-Dichloroethene	ug/L	<0.23	1.0	11/06/13 17:53	
cis-1,3-Dichloropropene	ug/L	<0.50	4.0	11/06/13 17:53	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

METHOD BLANK: 1569843

Matrix: Water

Associated Lab Samples: 10247959001, 10247959002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.27	1.0	11/06/13 17:53	
Dibromomethane	ug/L	<0.14	4.0	11/06/13 17:53	
Dichlorodifluoromethane	ug/L	<0.40	1.0	11/06/13 17:53	
Dichlorofluoromethane	ug/L	<0.20	1.0	11/06/13 17:53	
Diethyl ether (Ethyl ether)	ug/L	<2.0	4.0	11/06/13 17:53	
Ethylbenzene	ug/L	<0.24	1.0	11/06/13 17:53	
Hexachloro-1,3-butadiene	ug/L	<0.50	1.0	11/06/13 17:53	
Isopropylbenzene (Cumene)	ug/L	<0.50	1.0	11/06/13 17:53	
m&p-Xylene	ug/L	<0.48	2.0	11/06/13 17:53	
Methyl-tert-butyl ether	ug/L	<0.50	1.0	11/06/13 17:53	
Methylene Chloride	ug/L	<2.0	4.0	11/06/13 17:53	
n-Butylbenzene	ug/L	<0.50	1.0	11/06/13 17:53	
n-Propylbenzene	ug/L	<0.50	1.0	11/06/13 17:53	
Naphthalene	ug/L	<2.0	4.0	11/06/13 17:53	
o-Xylene	ug/L	<0.24	1.0	11/06/13 17:53	
p-Isopropyltoluene	ug/L	<0.50	1.0	11/06/13 17:53	
sec-Butylbenzene	ug/L	<0.50	1.0	11/06/13 17:53	
Styrene	ug/L	<0.24	1.0	11/06/13 17:53	
tert-Butylbenzene	ug/L	<0.50	1.0	11/06/13 17:53	
Tetrachloroethene	ug/L	<0.29	1.0	11/06/13 17:53	
Tetrahydrofuran	ug/L	<2.9	10.0	11/06/13 17:53	
Toluene	ug/L	<0.23	1.0	11/06/13 17:53	
trans-1,2-Dichloroethene	ug/L	<0.24	1.0	11/06/13 17:53	
trans-1,3-Dichloropropene	ug/L	<2.0	4.0	11/06/13 17:53	
Trichloroethene	ug/L	<0.12	0.40	11/06/13 17:53	
Trichlorofluoromethane	ug/L	<0.13	1.0	11/06/13 17:53	
Vinyl chloride	ug/L	<0.14	0.40	11/06/13 17:53	
Xylene (Total)	ug/L	<0.72	3.0	11/06/13 17:53	
1,2-Dichloroethane-d4 (S)	%	96	75-125	11/06/13 17:53	
4-Bromofluorobenzene (S)	%	103	75-125	11/06/13 17:53	
Toluene-d8 (S)	%	93	75-125	11/06/13 17:53	

LABORATORY CONTROL SAMPLE: 1569844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.5	98	75-125	
1,1,1-Trichloroethane	ug/L	20	19.3	97	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	94	75-125	
1,1,2-Trichloroethane	ug/L	20	19.4	97	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.5	103	51-139	
1,1-Dichloroethane	ug/L	20	19.5	97	75-125	
1,1-Dichloroethene	ug/L	20	20.5	103	71-126	
1,1-Dichloropropene	ug/L	20	19.5	98	74-125	
1,2,3-Trichlorobenzene	ug/L	20	20.1	100	75-125	
1,2,3-Trichloropropane	ug/L	20	18.2	91	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

LABORATORY CONTROL SAMPLE: 1569844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	20	20.6	103	75-125	
1,2,4-Trimethylbenzene	ug/L	20	18.8	94	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	43.9	88	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	17.7	88	75-125	
1,2-Dichlorobenzene	ug/L	20	19.3	97	75-125	
1,2-Dichloroethane	ug/L	20	18.3	92	74-125	
1,2-Dichloropropane	ug/L	20	19.1	95	75-125	
1,3,5-Trimethylbenzene	ug/L	20	19.0	95	75-125	
1,3-Dichlorobenzene	ug/L	20	19.7	98	75-125	
1,3-Dichloropropane	ug/L	20	19.6	98	75-125	
1,4-Dichlorobenzene	ug/L	20	19.7	99	75-125	
2,2-Dichloropropane	ug/L	20	20.1	100	67-132	
2-Butanone (MEK)	ug/L	100	85.2	85	68-126	
2-Chlorotoluene	ug/L	20	18.2	91	74-125	
2-Hexanone	ug/L	100	89.0	89	70-125	
4-Chlorotoluene	ug/L	20	18.4	92	74-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.2	90	72-125	
Acetone	ug/L	100	98.6	99	69-132	
Allyl chloride	ug/L	20	19.3	97	74-125	
Benzene	ug/L	20	19.0	95	75-125	
Bromobenzene	ug/L	20	19.7	98	75-125	
Bromochloromethane	ug/L	20	19.0	95	75-125	
Bromodichloromethane	ug/L	20	18.1	91	75-125	
Bromoform	ug/L	20	18.7	93	75-126	
Bromomethane	ug/L	20	22.8	114	30-150	
Carbon disulfide	ug/L	20	16.3	82	66-126	
Carbon tetrachloride	ug/L	20	18.5	93	74-127	
Chlorobenzene	ug/L	20	18.4	92	75-125	
Chloroethane	ug/L	20	21.9	109	68-132	
Chloroform	ug/L	20	17.9	89	75-125	
Chloromethane	ug/L	20	20.1	100	61-129	
cis-1,2-Dichloroethene	ug/L	20	18.0	90	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.4	97	75-125	
Dibromochloromethane	ug/L	20	18.6	93	75-125	
Dibromomethane	ug/L	20	19.3	96	75-125	
Dichlorodifluoromethane	ug/L	20	19.2	96	49-137	
Dichlorofluoromethane	ug/L	20	19.0	95	66-133	
Diethyl ether (Ethyl ether)	ug/L	20	17.1	85	75-125	
Ethylbenzene	ug/L	20	18.8	94	75-125	
Hexachloro-1,3-butadiene	ug/L	20	21.3	106	69-127	
Isopropylbenzene (Cumene)	ug/L	20	19.6	98	75-125	
m&p-Xylene	ug/L	40	39.6	99	75-125	
Methyl-tert-butyl ether	ug/L	20	18.5	92	74-126	
Methylene Chloride	ug/L	20	18.4	92	75-125	
n-Butylbenzene	ug/L	20	19.2	96	72-126	
n-Propylbenzene	ug/L	20	19.3	96	73-125	
Naphthalene	ug/L	20	19.7	99	75-125	
o-Xylene	ug/L	20	19.1	95	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

LABORATORY CONTROL SAMPLE: 1569844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Isopropyltoluene	ug/L	20	19.7	98	74-125	
sec-Butylbenzene	ug/L	20	19.7	98	73-125	
Styrene	ug/L	20	19.8	99	75-125	
tert-Butylbenzene	ug/L	20	19.1	96	73-125	
Tetrachloroethene	ug/L	20	19.9	100	75-125	
Tetrahydrofuran	ug/L	200	206	103	71-125	
Toluene	ug/L	20	19.5	98	75-125	
trans-1,2-Dichloroethene	ug/L	20	17.7	88	74-125	
trans-1,3-Dichloropropene	ug/L	20	19.3	97	75-125	
Trichloroethene	ug/L	20	20.1	101	75-125	
Trichlorofluoromethane	ug/L	20	20.2	101	69-129	
Vinyl chloride	ug/L	20	21.9	109	70-128	
Xylene (Total)	ug/L	60	58.7	98	75-125	
1,2-Dichloroethane-d4 (S)	%			98	75-125	
4-Bromofluorobenzene (S)	%			98	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE SAMPLE: 1570019

Parameter	Units	10247959001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	20	19.8	99	75-125	
1,1,1-Trichloroethane	ug/L	<0.50	20	20.7	104	75-136	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	20	19.0	95	66-131	
1,1,2-Trichloroethane	ug/L	<0.16	20	20.2	101	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	20	25.3	127	75-150	
1,1-Dichloroethane	ug/L	<0.50	20	19.4	97	75-131	
1,1-Dichloroethene	ug/L	<0.24	20	22.6	113	75-138	
1,1-Dichloropropene	ug/L	<0.25	20	21.2	106	75-136	
1,2,3-Trichlorobenzene	ug/L	<0.50	20	22.2	111	75-125	
1,2,3-Trichloropropane	ug/L	<0.54	20	18.6	93	71-126	
1,2,4-Trichlorobenzene	ug/L	<0.50	20	21.9	110	75-125	
1,2,4-Trimethylbenzene	ug/L	48.7	20	69.7	105	70-126	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	47.8	96	69-127	
1,2-Dibromoethane (EDB)	ug/L	<0.23	20	18.1	91	75-125	
1,2-Dichlorobenzene	ug/L	<0.092	20	20.2	101	75-125	
1,2-Dichloroethane	ug/L	<0.22	20	18.7	94	74-128	
1,2-Dichloropropane	ug/L	<0.20	20	19.7	98	75-125	
1,3,5-Trimethylbenzene	ug/L	15.4	20	35.5	101	72-126	
1,3-Dichlorobenzene	ug/L	<0.50	20	20.3	102	75-125	
1,3-Dichloropropane	ug/L	<0.50	20	19.8	99	75-125	
1,4-Dichlorobenzene	ug/L	<0.50	20	20.4	102	75-125	
2,2-Dichloropropane	ug/L	<0.50	20	18.4	92	71-143	
2-Butanone (MEK)	ug/L	<2.5	100	97.8	98	64-125	
2-Chlorotoluene	ug/L	<0.50	20	20.8	104	74-125	
2-Hexanone	ug/L	<2.5	100	95.1	95	67-125	
4-Chlorotoluene	ug/L	<0.23	20	19.1	96	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	96.1	96	69-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

MATRIX SPIKE SAMPLE:		1570019					
Parameter	Units	10247959001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	<10.0	100	107	107	57-135	
Allyl chloride	ug/L	<0.23	20	19.6	98	73-134	
Benzene	ug/L	0.34J	20	20.5	101	70-135	
Bromobenzene	ug/L	<0.23	20	20.4	102	75-125	
Bromochloromethane	ug/L	<0.50	20	19.5	97	75-125	
Bromodichloromethane	ug/L	<0.25	20	18.7	94	75-125	
Bromoform	ug/L	<2.0	20	19.1	95	68-133	
Bromomethane	ug/L	<2.0	20	20.7	102	56-150	
Carbon disulfide	ug/L	<0.22	20	18.0	89	66-135	
Carbon tetrachloride	ug/L	<0.31	20	20.4	102	75-137	
Chlorobenzene	ug/L	<0.24	20	19.2	96	75-125	
Chloroethane	ug/L	<0.50	20	20.1	100	64-150	
Chloroform	ug/L	<0.27	20	19.1	96	75-127	
Chloromethane	ug/L	<2.0	20	19.3	96	65-140	
cis-1,2-Dichloroethene	ug/L	<0.23	20	18.6	93	75-129	
cis-1,3-Dichloropropene	ug/L	<0.50	20	19.7	99	75-125	
Dibromochloromethane	ug/L	<0.27	20	19.1	96	75-125	
Dibromomethane	ug/L	<0.14	20	19.8	99	75-125	
Dichlorodifluoromethane	ug/L	<0.40	20	24.0	120	70-150	
Dichlorofluoromethane	ug/L	<0.20	20	20.1	100	69-142	
Diethyl ether (Ethyl ether)	ug/L	<2.0	20	17.1	86	75-125	
Ethylbenzene	ug/L	13.1	20	33.0	99	75-125	
Hexachloro-1,3-butadiene	ug/L	<0.50	20	21.9	110	75-135	
Isopropylbenzene (Cumene)	ug/L	9.7	20	30.7	105	75-125	
m&p-Xylene	ug/L	12.9	40	54.7	104	75-125	
Methyl-tert-butyl ether	ug/L	<0.50	20	19.8	99	70-132	
Methylene Chloride	ug/L	<2.0	20	19.2	96	73-125	
n-Butylbenzene	ug/L	1.4	20	21.7	102	75-130	
n-Propylbenzene	ug/L	20.3	20	39.2	95	75-128	
Naphthalene	ug/L	5.4	20	28.3	115	73-126	
o-Xylene	ug/L	0.50J	20	20.4	99	75-125	
p-Isopropyltoluene	ug/L	0.56J	20	21.8	106	75-125	
sec-Butylbenzene	ug/L	3.1	20	23.9	104	75-126	
Styrene	ug/L	<0.24	20	19.2	96	52-137	
tert-Butylbenzene	ug/L	<0.50	20	20.2	101	75-125	
Tetrachloroethene	ug/L	<0.29	20	21.2	106	75-130	
Tetrahydrofuran	ug/L	<2.9	200	204	102	69-125	
Toluene	ug/L	<0.23	20	20.7	103	75-125	
trans-1,2-Dichloroethene	ug/L	<0.24	20	19.1	95	75-135	
trans-1,3-Dichloropropene	ug/L	<2.0	20	19.6	98	75-125	
Trichloroethene	ug/L	<0.12	20	21.4	107	75-129	
Trichlorofluoromethane	ug/L	<0.13	20	22.8	114	75-150	
Vinyl chloride	ug/L	<0.14	20	20.9	104	75-147	
Xylene (Total)	ug/L	12.9	60	75.0	104	75-125	
1,2-Dichloroethane-d4 (S)	%				98	75-125	
4-Bromofluorobenzene (S)	%				97	75-125	
Toluene-d8 (S)	%				101	75-125	

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

SAMPLE DUPLICATE: 1570020

Parameter	Units	10247959002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50		30	
1,1,1-Trichloroethane	ug/L	<0.50	<0.50		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	<0.13		30	
1,1,2-Trichloroethane	ug/L	<0.16	<0.16		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	<0.33		30	
1,1-Dichloroethane	ug/L	<0.50	<0.50		30	
1,1-Dichloroethene	ug/L	<0.24	<0.24		30	
1,1-Dichloropropene	ug/L	<0.25	<0.25		30	
1,2,3-Trichlorobenzene	ug/L	<0.50	<0.50		30	
1,2,3-Trichloropropane	ug/L	<0.54	<0.54		30	
1,2,4-Trichlorobenzene	ug/L	<0.50	<0.50		30	
1,2,4-Trimethylbenzene	ug/L	<0.50	<0.50		30	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	<2.0		30	
1,2-Dibromoethane (EDB)	ug/L	<0.23	<0.23		30	
1,2-Dichlorobenzene	ug/L	<0.092	<0.092		30	
1,2-Dichloroethane	ug/L	<0.22	<0.22		30	
1,2-Dichloropropane	ug/L	<0.20	<0.20		30	
1,3,5-Trimethylbenzene	ug/L	<0.50	<0.50		30	
1,3-Dichlorobenzene	ug/L	<0.50	<0.50		30	
1,3-Dichloropropane	ug/L	<0.50	<0.50		30	
1,4-Dichlorobenzene	ug/L	<0.50	<0.50		30	
2,2-Dichloropropane	ug/L	<0.50	<0.50		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Chlorotoluene	ug/L	<0.50	<0.50		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
4-Chlorotoluene	ug/L	<0.23	<0.23		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Allyl chloride	ug/L	<0.23	<0.23		30	
Benzene	ug/L	<0.24	<0.24		30	
Bromobenzene	ug/L	<0.23	<0.23		30	
Bromochloromethane	ug/L	<0.50	<0.50		30	
Bromodichloromethane	ug/L	<0.25	<0.25		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	
Carbon disulfide	ug/L	<0.22	<0.22		30	
Carbon tetrachloride	ug/L	<0.31	<0.31		30	
Chlorobenzene	ug/L	<0.24	<0.24		30	
Chloroethane	ug/L	<0.50	<0.50		30	
Chloroform	ug/L	<0.27	<0.27		30	
Chloromethane	ug/L	<2.0	<2.0		30	
cis-1,2-Dichloroethene	ug/L	<0.23	<0.23		30	
cis-1,3-Dichloropropene	ug/L	<0.50	<0.50		30	
Dibromochloromethane	ug/L	<0.27	<0.27		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.40	<0.40		30	
Dichlorofluoromethane	ug/L	<0.20	<0.20		30	
Diethyl ether (Ethyl ether)	ug/L	<2.0	<2.0		30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

SAMPLE DUPLICATE: 1570020

Parameter	Units	10247959002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/L	<0.24	0.36J		30	
Hexachloro-1,3-butadiene	ug/L	<0.50	<0.50		30	
Isopropylbenzene (Cumene)	ug/L	<0.50	<0.50		30	
m&p-Xylene	ug/L	<0.48	<0.48		30	
Methyl-tert-butyl ether	ug/L	<0.50	<0.50		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Butylbenzene	ug/L	<0.50	<0.50		30	
n-Propylbenzene	ug/L	<0.50	<0.50		30	
Naphthalene	ug/L	<2.0	<2.0		30	
o-Xylene	ug/L	<0.24	<0.24		30	
p-Isopropyltoluene	ug/L	<0.50	<0.50		30	
sec-Butylbenzene	ug/L	<0.50	<0.50		30	
Styrene	ug/L	<0.24	<0.24		30	
tert-Butylbenzene	ug/L	<0.50	<0.50		30	
Tetrachloroethene	ug/L	<0.29	<0.29		30	
Tetrahydrofuran	ug/L	<2.9	<2.9		30	
Toluene	ug/L	<0.23	0.27J		30	
trans-1,2-Dichloroethene	ug/L	<0.24	<0.24		30	
trans-1,3-Dichloropropene	ug/L	<2.0	<2.0		30	
Trichloroethene	ug/L	<0.12	<0.12		30	
Trichlorofluoromethane	ug/L	<0.13	<0.13		30	
Vinyl chloride	ug/L	<0.14	<0.14		30	
Xylene (Total)	ug/L	<0.72	<0.72		30	
1,2-Dichloroethane-d4 (S)	%	100	97	3		
4-Bromofluorobenzene (S)	%	101	102	.5		
Toluene-d8 (S)	%	101	101	.08		

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

QC Batch:	MSV/25514	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 465 W
Associated Lab Samples:	10247959003		

METHOD BLANK:	1569848	Matrix:	Water
Associated Lab Samples:	10247959003		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	1.0	11/07/13 04:41	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	11/07/13 04:41	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	1.0	11/07/13 04:41	
1,1,2-Trichloroethane	ug/L	<0.16	1.0	11/07/13 04:41	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	1.0	11/07/13 04:41	
1,1-Dichloroethane	ug/L	<0.50	1.0	11/07/13 04:41	
1,1-Dichloroethene	ug/L	<0.24	1.0	11/07/13 04:41	
1,1-Dichloropropene	ug/L	<0.25	1.0	11/07/13 04:41	
1,2,3-Trichlorobenzene	ug/L	<0.50	1.0	11/07/13 04:41	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	11/07/13 04:41	
1,2,4-Trichlorobenzene	ug/L	<0.50	1.0	11/07/13 04:41	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	11/07/13 04:41	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	11/07/13 04:41	
1,2-Dibromoethane (EDB)	ug/L	<0.23	1.0	11/07/13 04:41	
1,2-Dichlorobenzene	ug/L	<0.092	1.0	11/07/13 04:41	
1,2-Dichloroethane	ug/L	<0.22	1.0	11/07/13 04:41	
1,2-Dichloropropane	ug/L	<0.20	4.0	11/07/13 04:41	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	11/07/13 04:41	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	11/07/13 04:41	
1,3-Dichloropropane	ug/L	<0.50	1.0	11/07/13 04:41	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	11/07/13 04:41	
2,2-Dichloropropane	ug/L	<0.50	4.0	11/07/13 04:41	
2-Butanone (MEK)	ug/L	<2.5	5.0	11/07/13 04:41	
2-Chlorotoluene	ug/L	<0.50	1.0	11/07/13 04:41	
2-Hexanone	ug/L	<2.5	5.0	11/07/13 04:41	
4-Chlorotoluene	ug/L	<0.23	1.0	11/07/13 04:41	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	11/07/13 04:41	
Acetone	ug/L	<10.0	20.0	11/07/13 04:41	
Allyl chloride	ug/L	<0.23	4.0	11/07/13 04:41	
Benzene	ug/L	<0.24	1.0	11/07/13 04:41	
Bromobenzene	ug/L	<0.23	1.0	11/07/13 04:41	
Bromochloromethane	ug/L	<0.50	1.0	11/07/13 04:41	
Bromodichloromethane	ug/L	<0.25	1.0	11/07/13 04:41	
Bromoform	ug/L	<2.0	4.0	11/07/13 04:41	
Bromomethane	ug/L	<2.0	4.0	11/07/13 04:41	
Carbon disulfide	ug/L	<0.22	1.0	11/07/13 04:41	
Carbon tetrachloride	ug/L	<0.31	1.0	11/07/13 04:41	
Chlorobenzene	ug/L	<0.24	1.0	11/07/13 04:41	
Chloroethane	ug/L	<0.50	1.0	11/07/13 04:41	
Chloroform	ug/L	<0.27	1.0	11/07/13 04:41	
Chloromethane	ug/L	<2.0	4.0	11/07/13 04:41	
cis-1,2-Dichloroethene	ug/L	<0.23	1.0	11/07/13 04:41	
cis-1,3-Dichloropropene	ug/L	<0.50	4.0	11/07/13 04:41	

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Project No.: 10247959

METHOD BLANK: 1569848

Matrix: Water

Associated Lab Samples: 10247959003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.27	1.0	11/07/13 04:41	
Dibromomethane	ug/L	<0.14	4.0	11/07/13 04:41	
Dichlorodifluoromethane	ug/L	<0.40	1.0	11/07/13 04:41	
Dichlorofluoromethane	ug/L	<0.20	1.0	11/07/13 04:41	
Diethyl ether (Ethyl ether)	ug/L	<2.0	4.0	11/07/13 04:41	
Ethylbenzene	ug/L	<0.24	1.0	11/07/13 04:41	
Hexachloro-1,3-butadiene	ug/L	<0.50	1.0	11/07/13 04:41	
Isopropylbenzene (Cumene)	ug/L	<0.50	1.0	11/07/13 04:41	
m&p-Xylene	ug/L	<0.48	2.0	11/07/13 04:41	
Methyl-tert-butyl ether	ug/L	<0.50	1.0	11/07/13 04:41	
Methylene Chloride	ug/L	<2.0	4.0	11/07/13 04:41	
n-Butylbenzene	ug/L	<0.50	1.0	11/07/13 04:41	
n-Propylbenzene	ug/L	<0.50	1.0	11/07/13 04:41	
Naphthalene	ug/L	<2.0	4.0	11/07/13 04:41	
o-Xylene	ug/L	<0.24	1.0	11/07/13 04:41	
p-Isopropyltoluene	ug/L	<0.50	1.0	11/07/13 04:41	
sec-Butylbenzene	ug/L	<0.50	1.0	11/07/13 04:41	
Styrene	ug/L	<0.24	1.0	11/07/13 04:41	
tert-Butylbenzene	ug/L	<0.50	1.0	11/07/13 04:41	
Tetrachloroethene	ug/L	<0.29	1.0	11/07/13 04:41	
Tetrahydrofuran	ug/L	<2.9	10.0	11/07/13 04:41	
Toluene	ug/L	<0.23	1.0	11/07/13 04:41	
trans-1,2-Dichloroethene	ug/L	<0.24	1.0	11/07/13 04:41	
trans-1,3-Dichloropropene	ug/L	<2.0	4.0	11/07/13 04:41	
Trichloroethene	ug/L	<0.12	0.40	11/07/13 04:41	
Trichlorofluoromethane	ug/L	<0.13	1.0	11/07/13 04:41	
Vinyl chloride	ug/L	<0.14	0.40	11/07/13 04:41	
Xylene (Total)	ug/L	<0.72	3.0	11/07/13 04:41	
1,2-Dichloroethane-d4 (S)	%	99	75-125	11/07/13 04:41	
4-Bromofluorobenzene (S)	%	101	75-125	11/07/13 04:41	
Toluene-d8 (S)	%	100	75-125	11/07/13 04:41	

LABORATORY CONTROL SAMPLE: 1569849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	18.7	93	75-125	
1,1,1-Trichloroethane	ug/L	20	18.4	92	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	19.7	99	75-125	
1,1,2-Trichloroethane	ug/L	20	19.6	98	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.8	94	51-139	
1,1-Dichloroethane	ug/L	20	18.7	94	75-125	
1,1-Dichloroethene	ug/L	20	18.8	94	71-126	
1,1-Dichloropropene	ug/L	20	19.5	97	74-125	
1,2,3-Trichlorobenzene	ug/L	20	19.5	98	75-125	
1,2,3-Trichloropropane	ug/L	20	18.3	92	75-125	

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

LABORATORY CONTROL SAMPLE: 1569849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	20	19.1	96	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.0	95	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	43.2	86	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	17.7	89	75-125	
1,2-Dichlorobenzene	ug/L	20	19.6	98	75-125	
1,2-Dichloroethane	ug/L	20	18.6	93	74-125	
1,2-Dichloropropane	ug/L	20	19.5	98	75-125	
1,3,5-Trimethylbenzene	ug/L	20	18.9	95	75-125	
1,3-Dichlorobenzene	ug/L	20	19.5	98	75-125	
1,3-Dichloropropane	ug/L	20	20.1	101	75-125	
1,4-Dichlorobenzene	ug/L	20	19.5	98	75-125	
2,2-Dichloropropane	ug/L	20	15.9	80	67-132	
2-Butanone (MEK)	ug/L	100	96.6	97	68-126	
2-Chlorotoluene	ug/L	20	18.4	92	74-125	
2-Hexanone	ug/L	100	97.1	97	70-125	
4-Chlorotoluene	ug/L	20	18.6	93	74-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.4	98	72-125	
Acetone	ug/L	100	98.4	98	69-132	
Allyl chloride	ug/L	20	18.1	90	74-125	
Benzene	ug/L	20	19.5	97	75-125	
Bromobenzene	ug/L	20	19.4	97	75-125	
Bromochloromethane	ug/L	20	19.1	95	75-125	
Bromodichloromethane	ug/L	20	17.8	89	75-125	
Bromoform	ug/L	20	17.4	87	75-126	
Bromomethane	ug/L	20	16.3	82	30-150	
Carbon disulfide	ug/L	20	17.3	86	66-126	
Carbon tetrachloride	ug/L	20	17.4	87	74-127	
Chlorobenzene	ug/L	20	18.3	91	75-125	
Chloroethane	ug/L	20	20.3	101	68-132	
Chloroform	ug/L	20	18.0	90	75-125	
Chloromethane	ug/L	20	17.3	86	61-129	
cis-1,2-Dichloroethene	ug/L	20	18.0	90	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.0	95	75-125	
Dibromochloromethane	ug/L	20	18.0	90	75-125	
Dibromomethane	ug/L	20	18.4	92	75-125	
Dichlorodifluoromethane	ug/L	20	17.0	85	49-137	
Dichlorofluoromethane	ug/L	20	16.6	83	66-133	
Diethyl ether (Ethyl ether)	ug/L	20	17.8	89	75-125	
Ethylbenzene	ug/L	20	18.8	94	75-125	
Hexachloro-1,3-butadiene	ug/L	20	17.2	86	69-127	
Isopropylbenzene (Cumene)	ug/L	20	19.3	97	75-125	
m&p-Xylene	ug/L	40	38.8	97	75-125	
Methyl-tert-butyl ether	ug/L	20	20.0	100	74-126	
Methylene Chloride	ug/L	20	18.7	93	75-125	
n-Butylbenzene	ug/L	20	18.8	94	72-126	
n-Propylbenzene	ug/L	20	19.4	97	73-125	
Naphthalene	ug/L	20	19.5	97	75-125	
o-Xylene	ug/L	20	19.0	95	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

LABORATORY CONTROL SAMPLE: 1569849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Isopropyltoluene	ug/L	20	19.1	95	74-125	
sec-Butylbenzene	ug/L	20	19.5	98	73-125	
Styrene	ug/L	20	20.0	100	75-125	
tert-Butylbenzene	ug/L	20	18.8	94	73-125	
Tetrachloroethene	ug/L	20	18.7	93	75-125	
Tetrahydrofuran	ug/L	200	195	98	71-125	
Toluene	ug/L	20	19.3	97	75-125	
trans-1,2-Dichloroethene	ug/L	20	17.5	87	74-125	
trans-1,3-Dichloropropene	ug/L	20	18.8	94	75-125	
Trichloroethene	ug/L	20	19.1	96	75-125	
Trichlorofluoromethane	ug/L	20	18.2	91	69-129	
Vinyl chloride	ug/L	20	18.9	95	70-128	
Xylene (Total)	ug/L	60	57.8	96	75-125	
1,2-Dichloroethane-d4 (S)	%			100	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			103	75-125	

MATRIX SPIKE SAMPLE: 1569854

Parameter	Units	10247974001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	17.4	87	75-125	
1,1,1-Trichloroethane	ug/L	12.2	20	28.9	83	75-136	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.3	97	66-131	
1,1,2-Trichloroethane	ug/L	ND	20	19.1	95	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	18.6	93	75-150	
1,1-Dichloroethane	ug/L	ND	20	20.4	102	75-131	
1,1-Dichloroethene	ug/L	ND	20	18.5	93	75-138	
1,1-Dichloropropene	ug/L	ND	20	17.6	88	75-136	
1,2,3-Trichlorobenzene	ug/L	ND	20	17.6	88	75-125	
1,2,3-Trichloropropane	ug/L	ND	20	18.3	91	71-126	
1,2,4-Trichlorobenzene	ug/L	ND	20	17.0	85	75-125	
1,2,4-Trimethylbenzene	ug/L	ND	20	16.0	80	70-126	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	43.5	87	69-127	
1,2-Dibromoethane (EDB)	ug/L	ND	20	17.0	85	75-125	
1,2-Dichlorobenzene	ug/L	ND	20	17.4	87	75-125	
1,2-Dichloroethane	ug/L	ND	20	18.2	91	74-128	
1,2-Dichloropropane	ug/L	ND	20	19.1	96	75-125	
1,3,5-Trimethylbenzene	ug/L	ND	20	16.0	80	72-126	
1,3-Dichlorobenzene	ug/L	ND	20	17.1	86	75-125	
1,3-Dichloropropane	ug/L	ND	20	19.2	96	75-125	
1,4-Dichlorobenzene	ug/L	ND	20	17.0	85	75-125	
2,2-Dichloropropane	ug/L	ND	20	13.7	69	71-143 M1	
2-Butanone (MEK)	ug/L	ND	100	97.1	97	64-125	
2-Chlorotoluene	ug/L	ND	20	15.9	80	74-125	
2-Hexanone	ug/L	ND	100	96.5	97	67-125	
4-Chlorotoluene	ug/L	ND	20	16.0	80	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	97.2	97	69-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

MATRIX SPIKE SAMPLE:		1569854					
Parameter	Units	10247974001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	ND	100	104	104	57-135	
Allyl chloride	ug/L	ND	20	18.3	92	73-134	
Benzene	ug/L	ND	20	18.9	95	70-135	
Bromobenzene	ug/L	ND	20	17.6	88	75-125	
Bromochloromethane	ug/L	ND	20	18.7	93	75-125	
Bromodichloromethane	ug/L	ND	20	17.5	87	75-125	
Bromoform	ug/L	ND	20	16.3	82	68-133	
Bromomethane	ug/L	ND	20	16.1	79	56-150	
Carbon disulfide	ug/L	ND	20	15.6	78	66-135	
Carbon tetrachloride	ug/L	ND	20	15.9	80	75-137	
Chlorobenzene	ug/L	ND	20	16.2	81	75-125	
Chloroethane	ug/L	ND	20	18.3	92	64-150	
Chloroform	ug/L	ND	20	17.9	89	75-127	
Chloromethane	ug/L	ND	20	16.3	82	65-140	
cis-1,2-Dichloroethene	ug/L	ND	20	18.3	91	75-129	
cis-1,3-Dichloropropene	ug/L	ND	20	17.6	88	75-125	
Dibromochloromethane	ug/L	ND	20	17.0	85	75-125	
Dibromomethane	ug/L	ND	20	17.8	89	75-125	
Dichlorodifluoromethane	ug/L	ND	20	18.2	91	70-150	
Dichlorofluoromethane	ug/L	ND	20	17.5	88	69-142	
Diethyl ether (Ethyl ether)	ug/L	ND	20	16.9	85	75-125	
Ethylbenzene	ug/L	ND	20	16.1	81	75-125	
Hexachloro-1,3-butadiene	ug/L	ND	20	13.8	69	75-135 M1	
Isopropylbenzene (Cumene)	ug/L	ND	20	15.8	79	75-125	
m&p-Xylene	ug/L	ND	40	33.3	83	75-125	
Methyl-tert-butyl ether	ug/L	ND	20	19.7	99	70-132	
Methylene Chloride	ug/L	ND	20	19.1	95	73-125	
n-Butylbenzene	ug/L	ND	20	14.8	74	75-130 M1	
n-Propylbenzene	ug/L	ND	20	15.7	79	75-128	
Naphthalene	ug/L	ND	20	18.7	94	73-126	
o-Xylene	ug/L	ND	20	16.6	83	75-125	
p-Isopropyltoluene	ug/L	ND	20	15.4	77	75-125	
sec-Butylbenzene	ug/L	ND	20	15.6	78	75-126	
Styrene	ug/L	ND	20	17.4	87	52-137	
tert-Butylbenzene	ug/L	ND	20	15.5	77	75-125	
Tetrachloroethene	ug/L	ND	20	15.4	77	75-130	
Tetrahydrofuran	ug/L	ND	200	203	101	69-125	
Toluene	ug/L	ND	20	17.4	87	75-125	
trans-1,2-Dichloroethene	ug/L	ND	20	17.1	86	75-135	
trans-1,3-Dichloropropene	ug/L	ND	20	17.4	87	75-125	
Trichloroethene	ug/L	ND	20	17.5	88	75-129	
Trichlorofluoromethane	ug/L	ND	20	16.4	82	75-150	
Vinyl chloride	ug/L	ND	20	17.5	87	75-147	
Xylene (Total)	ug/L	ND	60	49.9	83	75-125	
1,2-Dichloroethane-d4 (S)	%				101	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				102	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

SAMPLE DUPLICATE: 1569855

Parameter	Units	10247974002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.50		30	
1,1,1-Trichloroethane	ug/L	12.3	8.8	33	30	D6
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.13		30	
1,1,2-Trichloroethane	ug/L	ND	<0.16		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.33		30	
1,1-Dichloroethane	ug/L	ND	<0.50		30	
1,1-Dichloroethene	ug/L	ND	<0.24		30	
1,1-Dichloropropene	ug/L	ND	<0.25		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.50		30	
1,2,3-Trichloropropane	ug/L	ND	<0.54		30	
1,2,4-Trichlorobenzene	ug/L	ND	<0.50		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.50		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<2.0		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.23		30	
1,2-Dichlorobenzene	ug/L	ND	<0.092		30	
1,2-Dichloroethane	ug/L	ND	<0.22		30	
1,2-Dichloropropane	ug/L	ND	<0.20		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.50		30	
1,3-Dichlorobenzene	ug/L	ND	<0.50		30	
1,3-Dichloropropane	ug/L	ND	<0.50		30	
1,4-Dichlorobenzene	ug/L	ND	<0.50		30	
2,2-Dichloropropane	ug/L	ND	<0.50		30	
2-Butanone (MEK)	ug/L	ND	<2.5		30	
2-Chlorotoluene	ug/L	ND	<0.50		30	
2-Hexanone	ug/L	ND	<2.5		30	
4-Chlorotoluene	ug/L	ND	<0.23		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<2.5		30	
Acetone	ug/L	ND	<10.0		30	
Allyl chloride	ug/L	ND	<0.23		30	
Benzene	ug/L	ND	<0.24		30	
Bromobenzene	ug/L	ND	<0.23		30	
Bromochloromethane	ug/L	ND	<0.50		30	
Bromodichloromethane	ug/L	ND	<0.25		30	
Bromoform	ug/L	ND	<2.0		30	
Bromomethane	ug/L	ND	<2.0		30	
Carbon disulfide	ug/L	ND	<0.22		30	
Carbon tetrachloride	ug/L	ND	<0.31		30	
Chlorobenzene	ug/L	ND	<0.24		30	
Chloroethane	ug/L	ND	<0.50		30	
Chloroform	ug/L	ND	<0.27		30	
Chloromethane	ug/L	ND	<2.0		30	
cis-1,2-Dichloroethene	ug/L	ND	<0.23		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.50		30	
Dibromochloromethane	ug/L	ND	<0.27		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.40		30	
Dichlorofluoromethane	ug/L	ND	<0.20		30	
Diethyl ether (Ethyl ether)	ug/L	ND	<2.0		30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

SAMPLE DUPLICATE: 1569855

Parameter	Units	10247974002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/L	ND	<0.24		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.50		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.50		30	
m&p-Xylene	ug/L	ND	<0.48		30	
Methyl-tert-butyl ether	ug/L	ND	<0.50		30	
Methylene Chloride	ug/L	ND	<2.0		30	
n-Butylbenzene	ug/L	ND	<0.50		30	
n-Propylbenzene	ug/L	ND	<0.50		30	
Naphthalene	ug/L	ND	<2.0		30	
o-Xylene	ug/L	ND	<0.24		30	
p-Isopropyltoluene	ug/L	ND	<0.50		30	
sec-Butylbenzene	ug/L	ND	<0.50		30	
Styrene	ug/L	ND	<0.24		30	
tert-Butylbenzene	ug/L	ND	<0.50		30	
Tetrachloroethene	ug/L	ND	0.46J		30	
Tetrahydrofuran	ug/L	ND	<2.9		30	
Toluene	ug/L	ND	<0.23		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.24		30	
trans-1,3-Dichloropropene	ug/L	ND	<2.0		30	
Trichloroethene	ug/L	ND	<0.12		30	
Trichlorofluoromethane	ug/L	ND	<0.13		30	
Vinyl chloride	ug/L	ND	<0.14		30	
Xylene (Total)	ug/L	ND	<0.72		30	
1,2-Dichloroethane-d4 (S)	%	98	97	.5		
4-Bromofluorobenzene (S)	%	102	103	.2		
Toluene-d8 (S)	%	100	100	.1		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

QC Batch: OEXT/23567 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 10247959001, 10247959002, 10247959003

METHOD BLANK: 1570062 Matrix: Water

Associated Lab Samples: 10247959001, 10247959002, 10247959003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0028	0.010	11/07/13 01:16	
4-Bromofluorobenzene (S)	%	98	70-130	11/07/13 01:16	

LABORATORY CONTROL SAMPLE: 1570063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.11	0.12	110	60-140	
4-Bromofluorobenzene (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1570064 1570065

Parameter	Units	10247969004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.014	.1	.11	0.11	0.11	91	94	60-140	4	20	
4-Bromofluorobenzene (S)	%						46	37	70-130			C0,S0

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1821-00 TARR VANCOUVER-GWM
Pace Project No.: 10247959

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

ANALYTE QUALIFIERS

C0 Result confirmed by second analysis.

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1821-00 TARR VANCOUVER-GWM

Pace Project No.: 10247959

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10247959001	MW-1	EPA 8011	OEXT/23567	EPA 8011	GCSV/12378
10247959002	MW-4	EPA 8011	OEXT/23567	EPA 8011	GCSV/12378
10247959003	MW-5	EPA 8011	OEXT/23567	EPA 8011	GCSV/12378
10247959001	MW-1	NWTPH-Gx/8021	GCV/11437		
10247959002	MW-4	NWTPH-Gx/8021	GCV/11437		
10247959003	MW-5	NWTPH-Gx/8021	GCV/11437		
10247959001	MW-1	EPA 8260	MSV/25513		
10247959002	MW-4	EPA 8260	MSV/25513		
10247959003	MW-5	EPA 8260	MSV/25514		

REPORT OF LABORATORY ANALYSIS

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Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Analytical Lab: Pace Analytical

Report To: foxwell@ashcreekassociates.com

Project Number: 1821-00

Sampler Name: Carmen Owens

300 200 100

Laboratory Comments:

Temperature Upon Receipt:

VOCs Free of Headspace?

2.5

VOCs Free of Heads

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
02/10/13 APA	10-31-13	1400	11/ / PACE	10-13	0920
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

	Document Name:	Document Revised: 19Sep2013
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-MN-L-213-rev.07	Issuing Authority: Pace Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 10247959



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 7970 4949 8779

Custody Seal on Cooler/Box Present?

☐ Yes ☒ No

Seals Intact?

☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material:

☐ Bubble Wrap

☒ Bubble Bags

☐ None

☐ Other: _____

Temp Blank?

☐ Yes

☒ No

Thermom. Used:

☐ 80512447

☐ 72337080

☒ B88A912167504

☐ B88A9132521491

Type of Ice:

☒ Wet

☐ Blue

☐ None

☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C):

23

Cooler Temp Corrected (°C):

2.7

Biological Tissue Frozen?

☐ Yes

☐ No

Temp should be above freezing to 6°C

Correction Factor: +0.4

Date and Initials of Person Examining Contents:

14 11-1-13

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes ☒ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	☐ Yes ☐ No ☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☒ Yes ☐ No	Initial when completed: 14
Headspace in VOA Vials (>6mm)?	☐ Yes ☒ No ☐ N/A	Lot # of added preservative:
Trip Blank Present?	☐ Yes ☒ No ☐ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes ☒ No ☐ N/A	15.
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Date:

11/4/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

November 26, 2013

John Foxwell
Apex Companies, LLC
3015 SW First Ave
Portland, OR 97201

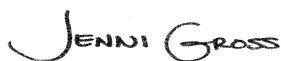
RE: Project: 1821-00.006 TARR VANCOUVER-GWM
Pace Project No.: 10249068

Dear John Foxwell:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2013. 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,



Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Dept of Environmental Management #40770

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 5 #WD-15J

EPA Region 8 Certification #: Pace

Florida/NELAP Certification #: E87605

Georgia Certification #: 959

Hawaii Certification #Pace

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

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

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

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SAMPLE ANALYTE COUNT

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10249068001	MW-4	EPA 6020	AJM	1	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

Method: EPA 6020

Description: 6020 MET ICPMS

Client: Ash Creek Associates OR

Date: November 26, 2013

General Information:

1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

Sample: MW-4		Lab ID: 10249068001	Collected: 11/11/13 11:00	Received: 11/13/13 09:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3020						
Lead	36.8 ug/L		0.10	1	11/18/13 11:24	11/20/13 19:29	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

QC Batch:	MPRP/43310	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3020	Analysis Description:	6020 MET
Associated Lab Samples:	10249068001		

METHOD BLANK: 1577337 Matrix: Water

Associated Lab Samples: 10249068001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	0.10	11/20/13 18:46	

LABORATORY CONTROL SAMPLE: 1577338

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	80	85.5	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1578854 1578855

Parameter	Units	10250491001		MS		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Lead	ug/L	0.22	80	80	83.0	83.0	103	104	75-125	.1				

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1821-00.006 TARR VANCOUVER-GWM

Pace Project No.: 10249068

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10249068001	MW-4	EPA 3020	MPRP/43310	EPA 6020	ICPM/18497

REPORT OF LABORATORY ANALYSIS

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Telephone Number: 503.924.4704

Number: 503.924.4704
Fax No.: 503.943.6357

10249068

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 07Nov2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.08	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt **Client Name:** Ash Creek Associates, Inc. **Project #:** WO# 10249068

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: 9901 3456 6651

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____ **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☐ 80512447 ☒ 888A912167504 ☐ 72337080 ☒ 888A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.4 **Cooler Temp Corrected (°C):** 1.8 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** -0.4 **Date and Initials of Person Examining Contents:** 1H 11-13-13

			Comments:
Chain of Custody Present?	☒ Yes	☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No ☐ N/A	9.
-Pace Containers Used?	☐ Yes	☒ No ☐ N/A	
Containers Intact?	☒ Yes	☐ No ☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No ☒ N/A	11.
Sample Labels Match COC?	☒ Yes	☐ No ☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☒ Yes	☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	☒ Yes	☐ No ☐ N/A	Sample # <u>1</u>
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) DOC	☐ Yes	☒ No	Initial when completed: <u>1H</u> Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No ☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No ☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: LENN G 2088

Date: 11/13/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 14, 2014

John Foxwell
Apex Companies, LLC
3015 SW First Ave
Portland, OR 97201

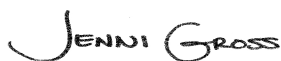
RE: Project: Tarr Vancouver 320001821-00
Pace Project No.: 10259072

Dear John Foxwell:

Enclosed are the analytical results for sample(s) received by the laboratory on February 28, 2014. 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,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #40770

Alabama Certification #40770

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 #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #: Pace

Georgia Certification #: 959

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nebraska Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

Wisconsin Certification #: 999407970

West Virginia Certification #: 382

West Virginia TO-15 Approval

West Virginia DHHR #:9952C

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10259072001	MW-5	Water	02/24/14 16:15	02/28/14 09:30
10259072002	MW-1	Water	02/24/14 17:00	02/28/14 09:30
10259072003	MW-4	Water	02/24/14 17:15	02/28/14 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10259072001	MW-5	EPA 8011	XV1	2	PASI-M
		NWTPH-Gx/8021	LLC	2	PASI-M
		EPA 8260	LPM	72	PASI-M
10259072002	MW-1	EPA 8011	XV1	2	PASI-M
		NWTPH-Gx/8021	LLC	2	PASI-M
		EPA 8260	LPM	72	PASI-M
10259072003	MW-4	EPA 8011	XV1	2	PASI-M
		NWTPH-Gx/8021	LLC	2	PASI-M
		EPA 6020	RJS	1	PASI-M
		EPA 6020	RJS	1	PASI-M
		EPA 8260	LPM	72	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Method: EPA 8011

Description: 8011 GCS EDB and DBCP

Client: APEX Companies

Date: March 14, 2014

General Information:

3 samples were analyzed for EPA 8011. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 8011 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/24505

S0: Surrogate recovery outside laboratory control limits.

- LCS (Lab ID: 1633701)
 - 4-Bromofluorobenzene (S)
- LCSD (Lab ID: 1633702)
 - 4-Bromofluorobenzene (S)

S3: Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- BLANK (Lab ID: 1633700)
 - 4-Bromofluorobenzene (S)
- MW-1 (Lab ID: 10259072002)
 - 4-Bromofluorobenzene (S)
- MW-4 (Lab ID: 10259072003)
 - 4-Bromofluorobenzene (S)
- MW-5 (Lab ID: 10259072001)
 - 4-Bromofluorobenzene (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Method: EPA 8011

Description: 8011 GCS EDB and DBCP

Client: APEX Companies

Date: March 14, 2014

Additional Comments:

Analyte Comments:

QC Batch: OEXT/24505

1M: high surr due to second analysis of failing curve, confirmed with initial run

- BLANK (Lab ID: 1633700)
 - 4-Bromofluorobenzene (S)
- LCS (Lab ID: 1633701)
 - 4-Bromofluorobenzene (S)
- LCSD (Lab ID: 1633702)
 - 4-Bromofluorobenzene (S)
- MW-1 (Lab ID: 10259072002)
 - 4-Bromofluorobenzene (S)
- MW-5 (Lab ID: 10259072001)
 - 4-Bromofluorobenzene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Method: NWTPH-Gx/8021

Description: NWTPH-Gx GCV

Client: APEX Companies

Date: March 14, 2014

General Information:

3 samples were analyzed for NWTPH-Gx/8021. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Method: EPA 6020

Description: 6020 MET ICPMS

Client: APEX Companies

Date: March 14, 2014

General Information:

1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Method: EPA 6020

Description: 6020 MET ICPMS, Dissolved

Client: APEX Companies

Date: March 14, 2014

General Information:

1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Method: EPA 8260

Description: 8260 VOC

Client: APEX Companies

Date: March 14, 2014

General Information:

3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/26462

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10258825016

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1633048)
 - Benzene
- MSD (Lab ID: 1633049)
 - Benzene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1633049)
 - Bromomethane

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Sample: MW-5		Lab ID: 10259072001		Collected: 02/24/14 16:15		Received: 02/28/14 09:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	<0.0027	ug/L	0.0098	0.0027	1	03/05/14 11:24	03/06/14 16:36	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	257	%.	70-130		1	03/05/14 11:24	03/06/14 16:36	460-00-4	1M,S3
NWTPH-Gx GCV		Analytical Method: NWTPH-Gx/8021							
TPH as Gas	<50.0	ug/L	100	50.0	1		03/03/14 16:04		
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%.	70-125		1		03/03/14 16:04	98-08-8	
8260 VOC		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.13	ug/L	1.0	0.13	1		03/03/14 16:25	79-34-5	
1,1,2-Trichloroethane	<0.16	ug/L	1.0	0.16	1		03/03/14 16:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.33	ug/L	4.0	0.33	1		03/03/14 16:25	76-13-1	
1,1-Dichloroethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:25	75-35-4	
1,1-Dichloropropene	<0.25	ug/L	1.0	0.25	1		03/03/14 16:25	563-58-6	
1,2,3-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	87-61-6	
1,2,3-Trichloropropane	<0.54	ug/L	4.0	0.54	1		03/03/14 16:25	96-18-4	
1,2,4-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	95-63-6	
1,2-Dibromo-3-chloropropane	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	96-12-8	
1,2-Dibromoethane (EDB)	<0.23	ug/L	1.0	0.23	1		03/03/14 16:25	106-93-4	
1,2-Dichlorobenzene	<0.092	ug/L	1.0	0.092	1		03/03/14 16:25	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	1.0	0.22	1		03/03/14 16:25	107-06-2	
1,2-Dichloropropane	<0.20	ug/L	4.0	0.20	1		03/03/14 16:25	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	106-46-7	
2,2-Dichloropropane	<0.50	ug/L	4.0	0.50	1		03/03/14 16:25	594-20-7	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		03/03/14 16:25	78-93-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	95-49-8	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		03/03/14 16:25	591-78-6	
4-Chlorotoluene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:25	106-43-4	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		03/03/14 16:25	108-10-1	
Acetone	<10.0	ug/L	20.0	10.0	1		03/03/14 16:25	67-64-1	
Allyl chloride	<0.23	ug/L	4.0	0.23	1		03/03/14 16:25	107-05-1	
Benzene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:25	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:25	108-86-1	
Bromochloromethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	74-97-5	
Bromodichloromethane	<0.25	ug/L	1.0	0.25	1		03/03/14 16:25	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	74-83-9	
Carbon disulfide	<0.22	ug/L	1.0	0.22	1		03/03/14 16:25	75-15-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Sample: MW-5 **Lab ID: 10259072001** Collected: 02/24/14 16:15 Received: 02/28/14 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Carbon tetrachloride	<0.31	ug/L	1.0	0.31	1		03/03/14 16:25	56-23-5	
Chlorobenzene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:25	108-90-7	
Chloroethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	75-00-3	
Chloroform	<0.27	ug/L	1.0	0.27	1		03/03/14 16:25	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	74-87-3	
Dibromochloromethane	<0.27	ug/L	1.0	0.27	1		03/03/14 16:25	124-48-1	
Dibromomethane	<0.38	ug/L	4.0	0.38	1		03/03/14 16:25	74-95-3	
Dichlorodifluoromethane	<0.40	ug/L	1.0	0.40	1		03/03/14 16:25	75-71-8	
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		03/03/14 16:25	75-43-4	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	60-29-7	
Ethylbenzene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:25	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	4.0	0.50	1		03/03/14 16:25	87-68-3	
Isopropylbenzene (Cumene)	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	98-82-8	
Methyl-tert-butyl ether	2.5	ug/L	1.0	0.50	1		03/03/14 16:25	1634-04-4	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	75-09-2	
Naphthalene	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	91-20-3	
Styrene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:25	100-42-5	
Tetrachloroethene	<0.29	ug/L	1.0	0.29	1		03/03/14 16:25	127-18-4	
Tetrahydrofuran	<2.9	ug/L	10.0	2.9	1		03/03/14 16:25	109-99-9	
Toluene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:25	108-88-3	
Trichloroethene	0.13J	ug/L	0.40	0.13	1		03/03/14 16:25	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		03/03/14 16:25	75-69-4	
Vinyl chloride	<0.14	ug/L	0.40	0.14	1		03/03/14 16:25	75-01-4	
Xylene (Total)	<0.72	ug/L	3.0	0.72	1		03/03/14 16:25	1330-20-7	
cis-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:25	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	4.0	0.50	1		03/03/14 16:25	10061-01-5	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	103-65-1	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	99-87-6	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:25	98-06-6	
trans-1,2-Dichloroethene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:25	156-60-5	
trans-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	1		03/03/14 16:25	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	75-125		1		03/03/14 16:25	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		03/03/14 16:25	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		03/03/14 16:25	460-00-4	

Sample: MW-1 **Lab ID: 10259072002** Collected: 02/24/14 17:00 Received: 02/28/14 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	<0.0027	ug/L	0.0096	0.0027	1	03/05/14 11:24	03/06/14 17:02	106-93-4	

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ANALYTICAL RESULTS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Sample: MW-1		Lab ID: 10259072002		Collected: 02/24/14 17:00		Received: 02/28/14 09:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
Surrogates									
4-Bromofluorobenzene (S)	165 %.		70-130		1	03/05/14 11:24	03/06/14 17:02	460-00-4	1M,S3
NWTPH-Gx GCV		Analytical Method: NWTPH-Gx/8021							
TPH as Gas	134 ug/L		100	50.0	1		03/03/14 15:04		
Surrogates									
a,a,a-Trifluorotoluene (S)	102 %.		70-125		1		03/03/14 15:04	98-08-8	
8260 VOC		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	630-20-6	
1,1,1-Trichloroethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	71-55-6	
1,1,2,2-Tetrachloroethane	<0.13 ug/L		1.0	0.13	1		03/03/14 16:40	79-34-5	
1,1,2-Trichloroethane	<0.16 ug/L		1.0	0.16	1		03/03/14 16:40	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.33 ug/L		4.0	0.33	1		03/03/14 16:40	76-13-1	
1,1-Dichloroethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	75-34-3	
1,1-Dichloroethene	<0.24 ug/L		1.0	0.24	1		03/03/14 16:40	75-35-4	
1,1-Dichloropropene	<0.25 ug/L		1.0	0.25	1		03/03/14 16:40	563-58-6	
1,2,3-Trichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	87-61-6	
1,2,3-Trichloropropane	<0.54 ug/L		4.0	0.54	1		03/03/14 16:40	96-18-4	
1,2,4-Trichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	120-82-1	
1,2,4-Trimethylbenzene	9.6 ug/L		1.0	0.50	1		03/03/14 16:40	95-63-6	
1,2-Dibromo-3-chloropropane	<2.0 ug/L		4.0	2.0	1		03/03/14 16:40	96-12-8	
1,2-Dibromoethane (EDB)	<0.23 ug/L		1.0	0.23	1		03/03/14 16:40	106-93-4	
1,2-Dichlorobenzene	<0.092 ug/L		1.0	0.092	1		03/03/14 16:40	95-50-1	
1,2-Dichloroethane	<0.22 ug/L		1.0	0.22	1		03/03/14 16:40	107-06-2	
1,2-Dichloropropane	<0.20 ug/L		4.0	0.20	1		03/03/14 16:40	78-87-5	
1,3,5-Trimethylbenzene	0.77J ug/L		1.0	0.50	1		03/03/14 16:40	108-67-8	
1,3-Dichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	541-73-1	
1,3-Dichloropropane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	142-28-9	
1,4-Dichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	106-46-7	
2,2-Dichloropropane	<0.50 ug/L		4.0	0.50	1		03/03/14 16:40	594-20-7	
2-Butanone (MEK)	<2.5 ug/L		5.0	2.5	1		03/03/14 16:40	78-93-3	
2-Chlorotoluene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	95-49-8	
2-Hexanone	<2.5 ug/L		5.0	2.5	1		03/03/14 16:40	591-78-6	
4-Chlorotoluene	<0.23 ug/L		1.0	0.23	1		03/03/14 16:40	106-43-4	
4-Methyl-2-pentanone (MIBK)	<2.5 ug/L		5.0	2.5	1		03/03/14 16:40	108-10-1	
Acetone	<10.0 ug/L		20.0	10.0	1		03/03/14 16:40	67-64-1	
Allyl chloride	<0.23 ug/L		4.0	0.23	1		03/03/14 16:40	107-05-1	
Benzene	<0.24 ug/L		1.0	0.24	1		03/03/14 16:40	71-43-2	
Bromobenzene	<0.23 ug/L		1.0	0.23	1		03/03/14 16:40	108-86-1	
Bromochloromethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:40	74-97-5	
Bromodichloromethane	<0.25 ug/L		1.0	0.25	1		03/03/14 16:40	75-27-4	
Bromoform	<2.0 ug/L		4.0	2.0	1		03/03/14 16:40	75-25-2	
Bromomethane	<2.0 ug/L		4.0	2.0	1		03/03/14 16:40	74-83-9	
Carbon disulfide	<0.22 ug/L		1.0	0.22	1		03/03/14 16:40	75-15-0	
Carbon tetrachloride	<0.31 ug/L		1.0	0.31	1		03/03/14 16:40	56-23-5	

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ANALYTICAL RESULTS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Sample: MW-1		Lab ID: 10259072002		Collected: 02/24/14 17:00		Received: 02/28/14 09:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Chlorobenzene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:40	108-90-7	
Chloroethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:40	75-00-3	
Chloroform	<0.27	ug/L	1.0	0.27	1		03/03/14 16:40	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	1		03/03/14 16:40	74-87-3	
Dibromochloromethane	<0.27	ug/L	1.0	0.27	1		03/03/14 16:40	124-48-1	
Dibromomethane	<0.38	ug/L	4.0	0.38	1		03/03/14 16:40	74-95-3	
Dichlorodifluoromethane	<0.40	ug/L	1.0	0.40	1		03/03/14 16:40	75-71-8	
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		03/03/14 16:40	75-43-4	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		03/03/14 16:40	60-29-7	
Ethylbenzene	1.0	ug/L	1.0	0.24	1		03/03/14 16:40	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	4.0	0.50	1		03/03/14 16:40	87-68-3	
Isopropylbenzene (Cumene)	0.56J	ug/L	1.0	0.50	1		03/03/14 16:40	98-82-8	
Methyl-tert-butyl ether	<0.50	ug/L	1.0	0.50	1		03/03/14 16:40	1634-04-4	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		03/03/14 16:40	75-09-2	
Naphthalene	<2.0	ug/L	4.0	2.0	1		03/03/14 16:40	91-20-3	
Styrene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:40	100-42-5	
Tetrachloroethene	<0.29	ug/L	1.0	0.29	1		03/03/14 16:40	127-18-4	
Tetrahydrofuran	<2.9	ug/L	10.0	2.9	1		03/03/14 16:40	109-99-9	
Toluene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:40	108-88-3	
Trichloroethene	<0.13	ug/L	0.40	0.13	1		03/03/14 16:40	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		03/03/14 16:40	75-69-4	
Vinyl chloride	<0.14	ug/L	0.40	0.14	1		03/03/14 16:40	75-01-4	
Xylene (Total)	8.4	ug/L	3.0	0.72	1		03/03/14 16:40	1330-20-7	
cis-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:40	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	4.0	0.50	1		03/03/14 16:40	10061-01-5	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:40	104-51-8	
n-Propylbenzene	0.97J	ug/L	1.0	0.50	1		03/03/14 16:40	103-65-1	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:40	99-87-6	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:40	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:40	98-06-6	
trans-1,2-Dichloroethene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:40	156-60-5	
trans-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	1		03/03/14 16:40	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	75-125		1		03/03/14 16:40	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		03/03/14 16:40	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/14 16:40	460-00-4	

Sample: MW-4		Lab ID: 10259072003		Collected: 02/24/14 17:15		Received: 02/28/14 09:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	<0.0027	ug/L	0.0097	0.0027	1	03/05/14 11:24	03/06/14 17:29	106-93-4	

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ANALYTICAL RESULTS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Sample: MW-4		Lab ID: 10259072003		Collected: 02/24/14 17:15		Received: 02/28/14 09:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP									
Analytical Method: EPA 8011 Preparation Method: EPA 8011									
Surrogates									
4-Bromofluorobenzene (S)	141 %.		70-130		1	03/05/14 11:24	03/06/14 17:29	460-00-4	S3
NWTPH-Gx GCV									
Analytical Method: NWTPH-Gx/8021									
TPH as Gas	<50.0 ug/L		100	50.0	1		03/03/14 15:24		
Surrogates									
a,a,a-Trifluorotoluene (S)	102 %.		70-125		1		03/03/14 15:24	98-08-8	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Lead	8.7 ug/L		0.10	0.046	1	03/11/14 15:27	03/12/14 11:11	7439-92-1	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Lead, Dissolved	6.3 ug/L		0.10	0.046	1	03/11/14 14:12	03/11/14 19:13	7439-92-1	
8260 VOC									
Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	630-20-6	
1,1,1-Trichloroethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	71-55-6	
1,1,2,2-Tetrachloroethane	<0.13 ug/L		1.0	0.13	1		03/03/14 16:55	79-34-5	
1,1,2-Trichloroethane	<0.16 ug/L		1.0	0.16	1		03/03/14 16:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.33 ug/L		4.0	0.33	1		03/03/14 16:55	76-13-1	
1,1-Dichloroethane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	75-34-3	
1,1-Dichloroethene	<0.24 ug/L		1.0	0.24	1		03/03/14 16:55	75-35-4	
1,1-Dichloropropene	<0.25 ug/L		1.0	0.25	1		03/03/14 16:55	563-58-6	
1,2,3-Trichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	87-61-6	
1,2,3-Trichloropropane	<0.54 ug/L		4.0	0.54	1		03/03/14 16:55	96-18-4	
1,2,4-Trichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	120-82-1	
1,2,4-Trimethylbenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	95-63-6	
1,2-Dibromo-3-chloropropane	<2.0 ug/L		4.0	2.0	1		03/03/14 16:55	96-12-8	
1,2-Dibromoethane (EDB)	<0.23 ug/L		1.0	0.23	1		03/03/14 16:55	106-93-4	
1,2-Dichlorobenzene	<0.092 ug/L		1.0	0.092	1		03/03/14 16:55	95-50-1	
1,2-Dichloroethane	<0.22 ug/L		1.0	0.22	1		03/03/14 16:55	107-06-2	
1,2-Dichloropropane	<0.20 ug/L		4.0	0.20	1		03/03/14 16:55	78-87-5	
1,3,5-Trimethylbenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	108-67-8	
1,3-Dichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	541-73-1	
1,3-Dichloropropane	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	142-28-9	
1,4-Dichlorobenzene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	106-46-7	
2,2-Dichloropropane	<0.50 ug/L		4.0	0.50	1		03/03/14 16:55	594-20-7	
2-Butanone (MEK)	<2.5 ug/L		5.0	2.5	1		03/03/14 16:55	78-93-3	
2-Chlorotoluene	<0.50 ug/L		1.0	0.50	1		03/03/14 16:55	95-49-8	
2-Hexanone	<2.5 ug/L		5.0	2.5	1		03/03/14 16:55	591-78-6	
4-Chlorotoluene	<0.23 ug/L		1.0	0.23	1		03/03/14 16:55	106-43-4	
4-Methyl-2-pentanone (MIBK)	<2.5 ug/L		5.0	2.5	1		03/03/14 16:55	108-10-1	
Acetone	<10.0 ug/L		20.0	10.0	1		03/03/14 16:55	67-64-1	
Allyl chloride	<0.23 ug/L		4.0	0.23	1		03/03/14 16:55	107-05-1	
Benzene	<0.24 ug/L		1.0	0.24	1		03/03/14 16:55	71-43-2	
Bromobenzene	<0.23 ug/L		1.0	0.23	1		03/03/14 16:55	108-86-1	

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ANALYTICAL RESULTS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Sample: MW-4 Lab ID: 10259072003 Collected: 02/24/14 17:15 Received: 02/28/14 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Bromochloromethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	74-97-5	
Bromodichloromethane	<0.25	ug/L	1.0	0.25	1		03/03/14 16:55	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	74-83-9	
Carbon disulfide	<0.22	ug/L	1.0	0.22	1		03/03/14 16:55	75-15-0	
Carbon tetrachloride	<0.31	ug/L	1.0	0.31	1		03/03/14 16:55	56-23-5	
Chlorobenzene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:55	108-90-7	
Chloroethane	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	75-00-3	
Chloroform	<0.27	ug/L	1.0	0.27	1		03/03/14 16:55	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	74-87-3	
Dibromochloromethane	<0.27	ug/L	1.0	0.27	1		03/03/14 16:55	124-48-1	
Dibromomethane	<0.38	ug/L	4.0	0.38	1		03/03/14 16:55	74-95-3	
Dichlorodifluoromethane	<0.40	ug/L	1.0	0.40	1		03/03/14 16:55	75-71-8	
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		03/03/14 16:55	75-43-4	
Diethyl ether (Ethyl ether)	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	60-29-7	
Ethylbenzene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:55	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	4.0	0.50	1		03/03/14 16:55	87-68-3	
Isopropylbenzene (Cumene)	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	98-82-8	
Methyl-tert-butyl ether	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	1634-04-4	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	75-09-2	
Naphthalene	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	91-20-3	
Styrene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:55	100-42-5	
Tetrachloroethene	<0.29	ug/L	1.0	0.29	1		03/03/14 16:55	127-18-4	
Tetrahydrofuran	<2.9	ug/L	10.0	2.9	1		03/03/14 16:55	109-99-9	
Toluene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:55	108-88-3	
Trichloroethene	<0.13	ug/L	0.40	0.13	1		03/03/14 16:55	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	1.0	0.13	1		03/03/14 16:55	75-69-4	
Vinyl chloride	<0.14	ug/L	0.40	0.14	1		03/03/14 16:55	75-01-4	
Xylene (Total)	<0.72	ug/L	3.0	0.72	1		03/03/14 16:55	1330-20-7	
cis-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		03/03/14 16:55	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	4.0	0.50	1		03/03/14 16:55	10061-01-5	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	103-65-1	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	99-87-6	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/03/14 16:55	98-06-6	
trans-1,2-Dichloroethene	<0.24	ug/L	1.0	0.24	1		03/03/14 16:55	156-60-5	
trans-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	1		03/03/14 16:55	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	75-125		1		03/03/14 16:55	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		03/03/14 16:55	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/14 16:55	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

QC Batch: GCV/11741 Analysis Method: NWTPH-Gx/8021
QC Batch Method: NWTPH-Gx/8021 Analysis Description: NWTPH-Gx/8021B Water
Associated Lab Samples: 10259072001, 10259072002, 10259072003

METHOD BLANK: 1632563 Matrix: Water

Associated Lab Samples: 10259072001, 10259072002, 10259072003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	<50.0	100	03/03/14 13:44	
a,a,a-Trifluorotoluene (S)	%.	104	70-125	03/03/14 13:44	

LABORATORY CONTROL SAMPLE & LCSD: 1632564

LABORATORY CONTROL SAMPLE & LCSD: 1632564			1632565							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1030	1010	103	101	75-125	2	20	
a,a,a-Trifluorotoluene (S)	%.				118	111	70-125			

MATRIX SPIKE SAMPLE: 1632908

Parameter	Units	10259072001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
TPH as Gas	ug/L	<50.0	1000	1030	103	52-150	
a,a,a-Trifluorotoluene (S)	%.				113	70-125	

SAMPLE DUPLICATE: 1632909

Parameter	Units	10259072003 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	<50.0	<50.0		30	
a,a,a-Trifluorotoluene (S)	%.	102	99	3		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

QC Batch:	MPRP/44684	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3020	Analysis Description:	6020 MET
Associated Lab Samples:	10259072003		

METHOD BLANK:	1635895	Matrix:	Water
Associated Lab Samples:	10259072003		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<0.046	0.10	03/12/14 10:57	

LABORATORY CONTROL SAMPLE: 1635896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	80	81.2	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1636610 1636611

Parameter	Units	10259370001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	ND	80	80	82.8	81.2	103	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

QC Batch: MPRP/44699

Analysis Method: EPA 6020

QC Batch Method: EPA 3020

Analysis Description: 6020 MET Dissolved

Associated Lab Samples: 10259072003

METHOD BLANK: 1636447

Matrix: Water

Associated Lab Samples: 10259072003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead, Dissolved	ug/L	<0.046	0.10	03/11/14 18:59	

LABORATORY CONTROL SAMPLE: 1636448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	80	77.3	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1636449 1636450

Parameter	Units	10259072003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead, Dissolved	ug/L	6.3	80	80	84.5	83.8	98	97	75-125	.9	20	

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

QC Batch: MSV/26462 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 465 W
Associated Lab Samples: 10259072001, 10259072002, 10259072003

METHOD BLANK: 1632466 Matrix: Water

Associated Lab Samples: 10259072001, 10259072002, 10259072003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	1.0	03/03/14 10:43	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	03/03/14 10:43	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	1.0	03/03/14 10:43	
1,1,2-Trichloroethane	ug/L	<0.16	1.0	03/03/14 10:43	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	4.0	03/03/14 10:43	
1,1-Dichloroethane	ug/L	<0.50	1.0	03/03/14 10:43	
1,1-Dichloroethene	ug/L	<0.24	1.0	03/03/14 10:43	
1,1-Dichloropropene	ug/L	<0.25	1.0	03/03/14 10:43	
1,2,3-Trichlorobenzene	ug/L	<0.50	1.0	03/03/14 10:43	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	03/03/14 10:43	
1,2,4-Trichlorobenzene	ug/L	<0.50	1.0	03/03/14 10:43	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	03/03/14 10:43	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	03/03/14 10:43	
1,2-Dibromoethane (EDB)	ug/L	<0.23	1.0	03/03/14 10:43	
1,2-Dichlorobenzene	ug/L	<0.092	1.0	03/03/14 10:43	
1,2-Dichloroethane	ug/L	<0.22	1.0	03/03/14 10:43	
1,2-Dichloropropane	ug/L	<0.20	4.0	03/03/14 10:43	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	03/03/14 10:43	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	03/03/14 10:43	
1,3-Dichloropropane	ug/L	<0.50	1.0	03/03/14 10:43	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	03/03/14 10:43	
2,2-Dichloropropane	ug/L	<0.50	4.0	03/03/14 10:43	
2-Butanone (MEK)	ug/L	<2.5	5.0	03/03/14 10:43	
2-Chlorotoluene	ug/L	<0.50	1.0	03/03/14 10:43	
2-Hexanone	ug/L	<2.5	5.0	03/03/14 10:43	
4-Chlorotoluene	ug/L	<0.23	1.0	03/03/14 10:43	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	03/03/14 10:43	
Acetone	ug/L	<10.0	20.0	03/03/14 10:43	
Allyl chloride	ug/L	<0.23	4.0	03/03/14 10:43	
Benzene	ug/L	<0.24	1.0	03/03/14 10:43	
Bromobenzene	ug/L	<0.23	1.0	03/03/14 10:43	
Bromochloromethane	ug/L	<0.50	1.0	03/03/14 10:43	
Bromodichloromethane	ug/L	<0.25	1.0	03/03/14 10:43	
Bromoform	ug/L	<2.0	4.0	03/03/14 10:43	
Bromomethane	ug/L	<2.0	4.0	03/03/14 10:43	
Carbon disulfide	ug/L	<0.22	1.0	03/03/14 10:43	
Carbon tetrachloride	ug/L	<0.31	1.0	03/03/14 10:43	
Chlorobenzene	ug/L	<0.24	1.0	03/03/14 10:43	
Chloroethane	ug/L	<0.50	1.0	03/03/14 10:43	
Chloroform	ug/L	<0.27	1.0	03/03/14 10:43	
Chloromethane	ug/L	<2.0	4.0	03/03/14 10:43	
cis-1,2-Dichloroethene	ug/L	<0.23	1.0	03/03/14 10:43	
cis-1,3-Dichloropropene	ug/L	<0.50	4.0	03/03/14 10:43	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

METHOD BLANK: 1632466

Matrix: Water

Associated Lab Samples: 10259072001, 10259072002, 10259072003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.27	1.0	03/03/14 10:43	
Dibromomethane	ug/L	<0.38	4.0	03/03/14 10:43	
Dichlorodifluoromethane	ug/L	<0.40	1.0	03/03/14 10:43	
Dichlorofluoromethane	ug/L	<0.20	1.0	03/03/14 10:43	
Diethyl ether (Ethyl ether)	ug/L	<2.0	4.0	03/03/14 10:43	
Ethylbenzene	ug/L	<0.24	1.0	03/03/14 10:43	
Hexachloro-1,3-butadiene	ug/L	<0.50	4.0	03/03/14 10:43	
Isopropylbenzene (Cumene)	ug/L	<0.50	1.0	03/03/14 10:43	
Methyl-tert-butyl ether	ug/L	<0.50	1.0	03/03/14 10:43	
Methylene Chloride	ug/L	<2.0	4.0	03/03/14 10:43	
n-Butylbenzene	ug/L	<0.50	1.0	03/03/14 10:43	
n-Propylbenzene	ug/L	<0.50	1.0	03/03/14 10:43	
Naphthalene	ug/L	<2.0	4.0	03/03/14 10:43	
p-Isopropyltoluene	ug/L	<0.50	1.0	03/03/14 10:43	
sec-Butylbenzene	ug/L	<0.50	1.0	03/03/14 10:43	
Styrene	ug/L	<0.24	1.0	03/03/14 10:43	
tert-Butylbenzene	ug/L	<0.50	1.0	03/03/14 10:43	
Tetrachloroethene	ug/L	<0.29	1.0	03/03/14 10:43	
Tetrahydrofuran	ug/L	<2.9	10.0	03/03/14 10:43	
Toluene	ug/L	<0.23	1.0	03/03/14 10:43	
trans-1,2-Dichloroethene	ug/L	<0.24	1.0	03/03/14 10:43	
trans-1,3-Dichloropropene	ug/L	<2.0	4.0	03/03/14 10:43	
Trichloroethene	ug/L	<0.13	0.40	03/03/14 10:43	
Trichlorofluoromethane	ug/L	<0.13	1.0	03/03/14 10:43	
Vinyl chloride	ug/L	<0.14	0.40	03/03/14 10:43	
Xylene (Total)	ug/L	<0.72	3.0	03/03/14 10:43	
1,2-Dichloroethane-d4 (S)	%	98	75-125	03/03/14 10:43	
4-Bromofluorobenzene (S)	%	100	75-125	03/03/14 10:43	
Toluene-d8 (S)	%	99	75-125	03/03/14 10:43	

LABORATORY CONTROL SAMPLE: 1632467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	18.1	91	75-125	
1,1,1-Trichloroethane	ug/L	20	17.4	87	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	17.4	87	74-125	
1,1,2-Trichloroethane	ug/L	20	18.0	90	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.1	86	56-133	
1,1-Dichloroethane	ug/L	20	17.2	86	75-125	
1,1-Dichloroethene	ug/L	20	15.6	78	70-125	
1,1-Dichloropropene	ug/L	20	16.8	84	73-125	
1,2,3-Trichlorobenzene	ug/L	20	18.3	91	75-125	
1,2,3-Trichloropropane	ug/L	20	19.3	96	75-125	
1,2,4-Trichlorobenzene	ug/L	20	19.5	98	75-125	
1,2,4-Trimethylbenzene	ug/L	20	17.8	89	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

LABORATORY CONTROL SAMPLE: 1632467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	50	44.4	89	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	18.1	90	75-125	
1,2-Dichlorobenzene	ug/L	20	17.7	88	75-125	
1,2-Dichloroethane	ug/L	20	18.2	91	75-125	
1,2-Dichloropropane	ug/L	20	18.6	93	75-125	
1,3,5-Trimethylbenzene	ug/L	20	18.0	90	75-125	
1,3-Dichlorobenzene	ug/L	20	18.1	91	75-125	
1,3-Dichloropropane	ug/L	20	18.8	94	75-125	
1,4-Dichlorobenzene	ug/L	20	18.4	92	75-125	
2,2-Dichloropropane	ug/L	20	18.0	90	66-130	
2-Butanone (MEK)	ug/L	100	83.2	83	64-126	
2-Chlorotoluene	ug/L	20	17.6	88	73-125	
2-Hexanone	ug/L	100	89.9	90	69-127	
4-Chlorotoluene	ug/L	20	17.9	89	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.7	92	71-125	
Acetone	ug/L	100	94.3	94	66-131	
Allyl chloride	ug/L	20	17.8	89	70-129	
Benzene	ug/L	20	16.6	83	75-125	
Bromobenzene	ug/L	20	17.7	88	75-125	
Bromochloromethane	ug/L	20	17.8	89	75-125	
Bromodichloromethane	ug/L	20	17.6	88	75-125	
Bromoform	ug/L	20	18.2	91	70-125	
Bromomethane	ug/L	20	20.4	102	30-150	
Carbon disulfide	ug/L	20	13.1	65	60-125	
Carbon tetrachloride	ug/L	20	17.4	87	68-129	
Chlorobenzene	ug/L	20	18.0	90	75-125	
Chloroethane	ug/L	20	18.9	95	68-133	
Chloroform	ug/L	20	17.2	86	75-125	
Chloromethane	ug/L	20	17.5	87	57-140	
cis-1,2-Dichloroethene	ug/L	20	16.7	84	75-125	
cis-1,3-Dichloropropene	ug/L	20	18.8	94	75-125	
Dibromochloromethane	ug/L	20	18.5	92	75-125	
Dibromomethane	ug/L	20	18.9	95	75-125	
Dichlorodifluoromethane	ug/L	20	18.2	91	50-134	
Dichlorofluoromethane	ug/L	20	17.5	88	74-125	
Diethyl ether (Ethyl ether)	ug/L	20	16.7	83	75-125	
Ethylbenzene	ug/L	20	17.7	88	75-125	
Hexachloro-1,3-butadiene	ug/L	20	20.4	102	74-128	
Isopropylbenzene (Cumene)	ug/L	20	18.2	91	73-125	
Methyl-tert-butyl ether	ug/L	20	17.3	86	75-125	
Methylene Chloride	ug/L	20	17.4	87	75-125	
n-Butylbenzene	ug/L	20	18.3	91	73-125	
n-Propylbenzene	ug/L	20	18.0	90	72-125	
Naphthalene	ug/L	20	18.1	90	74-125	
p-Isopropyltoluene	ug/L	20	18.1	90	74-125	
sec-Butylbenzene	ug/L	20	18.1	91	74-125	
Styrene	ug/L	20	18.2	91	75-125	
tert-Butylbenzene	ug/L	20	17.8	89	74-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00
Pace Project No.: 10259072

LABORATORY CONTROL SAMPLE: 1632467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	20	18.5	93	71-125	
Tetrahydrofuran	ug/L	200	187	94	70-125	
Toluene	ug/L	20	18.0	90	75-125	
trans-1,2-Dichloroethene	ug/L	20	15.9	80	73-125	
trans-1,3-Dichloropropene	ug/L	20	18.6	93	75-125	
Trichloroethene	ug/L	20	18.0	90	75-125	
Trichlorofluoromethane	ug/L	20	19.0	95	70-128	
Vinyl chloride	ug/L	20	18.2	91	70-130	
Xylene (Total)	ug/L	60	53.7	89	75-125	
1,2-Dichloroethane-d4 (S)	%			100	75-125	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			102	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633048 1633049

Parameter	10258825016		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
	Units	Result	Conc.	Conc.								
1,1,1,2-Tetrachloroethane	ug/L	ND	100	100	96.8	93.4	97	93	74-131	4	30	
1,1,1-Trichloroethane	ug/L	ND	100	100	109	99.8	109	100	73-139	9	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	100	100	96.7	98.0	97	98	72-125	1	30	
1,1,2-Trichloroethane	ug/L	ND	100	100	96.1	95.6	96	96	75-125	.5	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	100	100	103	105	103	105	68-150	1	30	
1,1-Dichloroethane	ug/L	ND	100	100	102	96.3	102	96	73-132	5	30	
1,1-Dichloroethene	ug/L	ND	100	100	90.9	90.3	91	90	71-142	.6	30	
1,1-Dichloropropene	ug/L	ND	100	100	103	93.6	103	94	73-139	10	30	
1,2,3-Trichlorobenzene	ug/L	ND	100	100	95.9	95.6	96	96	70-129	.3	30	
1,2,3-Trichloropropane	ug/L	ND	100	100	107	108	107	108	74-125	1	30	
1,2,4-Trichlorobenzene	ug/L	ND	100	100	98.1	101	98	101	70-129	3	30	
1,2,4-Trimethylbenzene	ug/L	118	100	100	218	218	100	100	72-136	.3	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	250	250	240	225	96	90	66-127	6	30	
1,2-Dibromoethane (EDB)	ug/L	ND	100	100	98.8	98.6	99	99	75-125	.2	30	
1,2-Dichlorobenzene	ug/L	ND	100	100	97.7	98.3	98	98	75-125	.6	30	
1,2-Dichloroethane	ug/L	7.5	100	100	119	114	112	107	68-128	4	30	
1,2-Dichloropropane	ug/L	ND	100	100	99.3	95.3	99	95	74-131	4	30	
1,3,5-Trimethylbenzene	ug/L	41.3	100	100	139	143	98	101	75-131	3	30	
1,3-Dichlorobenzene	ug/L	ND	100	100	96.9	99.5	97	99	73-125	3	30	
1,3-Dichloropropane	ug/L	ND	100	100	98.6	98.3	99	98	75-125	.2	30	
1,4-Dichlorobenzene	ug/L	ND	100	100	97.7	99.9	98	100	73-125	2	30	
2,2-Dichloropropane	ug/L	ND	100	100	101	96.4	101	96	58-150	5	30	
2-Butanone (MEK)	ug/L	ND	500	500	487	436	97	87	56-140	11	30	
2-Chlorotoluene	ug/L	ND	100	100	105	106	105	106	70-130	1	30	
2-Hexanone	ug/L	ND	500	500	452	454	90	91	63-132	.3	30	
4-Chlorotoluene	ug/L	ND	100	100	102	103	102	103	73-126	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	500	500	462	458	92	92	69-128	.8	30	
Acetone	ug/L	ND	500	500	573	611	115	122	57-143	6	30	
Allyl chloride	ug/L	ND	100	100	89.6	86.6	90	87	65-146	3	30	
Benzene	ug/L	743	100	100	876	815	133	72	75-129	7	30 M1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633048 1633049											
Parameter	Units	10258825016		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Bromobenzene	ug/L	ND	100	100	100	96.2	95.3	96	95	74-125	.9 30
Bromochloromethane	ug/L	ND	100	100	100	101	101	101	101	75-126	.3 30
Bromodichloromethane	ug/L	ND	100	100	100	98.5	97.3	99	97	75-128	1 30
Bromoform	ug/L	ND	100	100	100	83.4	83.3	83	83	66-130	.1 30
Bromomethane	ug/L	ND	100	100	100	39.3	54.8	39	55	30-150	33 30 R1
Carbon disulfide	ug/L	ND	100	100	100	76.0	73.0	75	72	56-140	4 30
Carbon tetrachloride	ug/L	ND	100	100	100	103	97.6	103	98	69-148	5 30
Chlorobenzene	ug/L	ND	100	100	100	99.2	99.6	99	100	75-125	.4 30
Chloroethane	ug/L	ND	100	100	100	110	106	110	106	71-143	4 30
Chloroform	ug/L	ND	100	100	100	111	105	107	102	75-126	5 30
Chloromethane	ug/L	ND	100	100	100	108	98.2	108	98	55-150	9 30
cis-1,2-Dichloroethene	ug/L	ND	100	100	100	98.6	97.2	99	97	75-130	2 30
cis-1,3-Dichloropropene	ug/L	ND	100	100	100	96.6	99.6	97	100	72-129	3 30
Dibromochloromethane	ug/L	ND	100	100	100	92.7	93.9	93	94	73-129	1 30
Dibromomethane	ug/L	ND	100	100	100	92.8	94.1	93	94	75-125	1 30
Dichlorodifluoromethane	ug/L	ND	100	100	100	113	107	113	107	70-150	5 30
Dichlorofluoromethane	ug/L	ND	100	100	100	101	98.2	101	98	75-135	2 30
Diethyl ether (Ethyl ether)	ug/L	ND	100	100	100	98.0	92.9	98	93	72-126	5 30
Ethylbenzene	ug/L	36.2	100	100	100	130	131	94	95	75-128	.8 30
Hexachloro-1,3-butadiene	ug/L	ND	100	100	100	91.9	90.0	92	90	65-144	2 30
Isopropylbenzene (Cumene)	ug/L	ND	100	100	100	103	103	100	99	75-131	.3 30
Methyl-tert-butyl ether	ug/L	366	100	100	100	457	477	91	112	74-128	4 30
Methylene Chloride	ug/L	ND	100	100	100	101	99.4	101	99	69-125	2 30
n-Butylbenzene	ug/L	ND	100	100	100	103	106	102	105	70-137	3 30
n-Propylbenzene	ug/L	ND	100	100	100	105	105	102	102	72-131	.03 30
Naphthalene	ug/L	70.1	100	100	100	171	171	101	100	70-132	.1 30
p-Isopropyltoluene	ug/L	ND	100	100	100	102	103	101	102	73-133	.6 30
sec-Butylbenzene	ug/L	ND	100	100	100	102	102	101	101	74-133	.1 30
Styrene	ug/L	ND	100	100	100	97.8	99.8	98	100	75-128	2 30
tert-Butylbenzene	ug/L	ND	100	100	100	101	101	101	101	74-130	.1 30
Tetrachloroethene	ug/L	ND	100	100	100	93.8	93.3	94	93	68-140	.6 30
Tetrahydrofuran	ug/L	ND	1000	1000	1000	1170	1220	117	122	65-131	4 30
Toluene	ug/L	48.8	100	100	100	147	144	98	95	75-129	2 30
trans-1,2-Dichloroethene	ug/L	ND	100	100	100	91.2	93.6	91	94	70-136	3 30
trans-1,3-Dichloropropene	ug/L	ND	100	100	100	95.3	97.3	95	97	71-125	2 30
Trichloroethene	ug/L	ND	100	100	100	91.5	94.5	92	95	72-135	3 30
Trichlorofluoromethane	ug/L	ND	100	100	100	112	110	112	110	75-150	2 30
Vinyl chloride	ug/L	ND	100	100	100	102	96.8	102	97	73-150	5 30
Xylene (Total)	ug/L	36.9	300	300	300	333	333	99	99	75-129	.1 30
1,2-Dichloroethane-d4 (S)	%							114	99	75-125	
4-Bromofluorobenzene (S)	%							101	103	75-125	
Toluene-d8 (S)	%							101	100	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

QC Batch:	OEXT/24505	Analysis Method:	EPA 8011
QC Batch Method:	EPA 8011	Analysis Description:	GCS 8011 EDB DBCP
Associated Lab Samples: 10259072001, 10259072002, 10259072003			

METHOD BLANK: 1633700 Matrix: Water

Associated Lab Samples: 10259072001, 10259072002, 10259072003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0028	0.010	03/06/14 15:42	
4-Bromofluorobenzene (S)	%.	168	70-130	03/06/14 15:42	1M,S3

LABORATORY CONTROL SAMPLE & LCSD: 1633701

Parameter	Units	1633702								Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD			
1,2-Dibromoethane (EDB)	ug/L	.11	0.12	0.11	107	105	60-140	3	20		
4-Bromofluorobenzene (S)	%.				152	156	70-130				1M,S0

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

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

ANALYTE QUALIFIERS

1M high surr due to second analysis of failing curve, confirmed with initial run

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

S0 Surrogate recovery outside laboratory control limits.

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Parameter	Matrix	Analytical Method	Preparation Method
6020 MET ICPMS	Water	SW-846 6020A	SW-846 3020A
6020 MET ICPMS, Dissolved	Water	SW-846 6020A	SW-846 3020A
8260 VOC	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

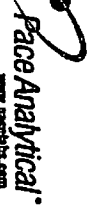
Project: Tarr Vancouver 320001821-00

Pace Project No.: 10259072

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10259072001	MW-5	EPA 8011	OEXT/24505	EPA 8011	GCSV/12911
10259072002	MW-1	EPA 8011	OEXT/24505	EPA 8011	GCSV/12911
10259072003	MW-4	EPA 8011	OEXT/24505	EPA 8011	GCSV/12911
10259072001	MW-5	NWTPH-Gx/8021	GCV/11741		
10259072002	MW-1	NWTPH-Gx/8021	GCV/11741		
10259072003	MW-4	NWTPH-Gx/8021	GCV/11741		
10259072003	MW-4	EPA 3020	MPRP/44684	EPA 6020	ICPM/19388
10259072003	MW-4	EPA 3020	MPRP/44699	EPA 6020	ICPM/19379
10259072001	MW-5	EPA 8260	MSV/26462		
10259072002	MW-1	EPA 8260	MSV/26462		
10259072003	MW-4	EPA 8260	MSV/26462		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10259072

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Page: 1 of 1
1505295

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	APEX COMPANIES	Report To:		Advertiser:	SAME
Address:	3015 SW FIRST AVE	Copy To:		Company Name:	
	PORTLAND, OR 97201	Purchase Order No.:		Address:	
Email To:	POWER@APEX.COM			Paid Date:	
Phone:	(503) 924-4701	Project Name:	THRE VANCOVER	Reference:	
Fac:		Project Number:	320001821-00	Paid Project Manager:	
Requested Data Description:				Paid Price:	33470 line 1
		Requested Analysis Filtered (Y/N)		Site Location:	WA
				STATE:	
				REGULATORY AGENCY:	
				NPDES / GROUND WATER	
				UST / RCRA	
				DRINKING WATER	
				OTHER	

Section D Required Client Information		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix Codes MATRIX / CODE		Matrix 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ORIGINAL	
SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	MICHAEL WATSON
SIGNATURE of SAMPLER:	
DATE Signed (MM/DD/YYYY):	02-27-14
Temp in °C	
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

F-ALL-Q-020rev.07, 15-May-2007

1154

	Document Name:	Document Revised: 07Nov2013
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-MN-L-213-rev.08	Issuing Authority: Pace Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 10259072

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 5774 5331 1097



10259072

Custody Seal on Cooler/Box Present? ☒ Yes ☐ NoSeals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap☒ Bubble Bags ☐ None ☒ Other: 2 PLCTemp Blank? ☒ Yes ☐ NoThermom. Used: ☐ 80512447
☐ 72337080☐ 888A912167504
☒ 888A9132521491Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.7

Cooler Temp Corrected (°C): 2.3

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C

Correction Factor: -0.4

Date and Initials of Person Examining Contents: 2/28/14 AA

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☒ No ☐ N/A	11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☒ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation?	☒ Yes ☐ No ☐ N/A	Sample #
(HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)		MW-4
Exceptions: VOC, Coliform, TOC, Oil and Grease, WI-DRO (water) DOC	☒ Yes ☐ No	Initial when completed: AA
Headspace in VOA Vials (>6mm)?	☐ Yes ☒ No ☐ N/A	Lot # of added preservative:
Trip Blank Present?	☒ Yes ☐ No ☐ N/A	14.
Trip Blank Custody Seals Present?	☒ Yes ☐ No ☐ N/A	15. not on COC
Pace Trip Blank Lot # (if purchased): NO LOT NUMBER		

Field Data Required? ☐ Yes ☐ No

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____

Date: 02/28/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 20, 2014

John Foxwell
Apex Companies, LLC
3015 SW First Ave
Portland, OR 97201

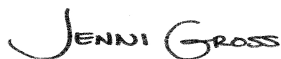
RE: Project: 1821-00 Tarr Vancouver-GWM
Pace Project No.: 10260283

Dear John Foxwell:

Enclosed are the analytical results for sample(s) received by the laboratory on March 14, 2014. 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,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #40770

Alabama Certification #40770

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 #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #: Pace

Georgia Certification #: 959

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nebraska Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

Wisconsin Certification #: 999407970

West Virginia Certification #: 382

West Virginia TO-15 Approval

West Virginia DHHR #:9952C

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10260283001	MW-1	Water	03/13/14 10:40	03/14/14 07:52
10260283002	MW-4	Water	03/13/14 10:00	03/14/14 07:52
10260283003	MW-5	Water	03/13/14 11:05	03/14/14 07:52

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10260283001	MW-1	NWTPH-Dx	MT	4	PASI-M
10260283002	MW-4	NWTPH-Dx	MT	4	PASI-M
10260283003	MW-5	NWTPH-Dx	MT	4	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

Method: NWTPH-Dx

Description: NWTPH-Dx GCS LV

Client: APEX Companies

Date: March 20, 2014

General Information:

3 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: OEXT/24595

B: Analyte was detected in the associated method blank.

- BLANK for HBN 289543 [OEXT/245 (Lab ID: 1640495)]
 - Diesel Fuel Range
 - Motor Oil Range

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: GCSV/12962

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

Sample: MW-1		Lab ID: 10260283001		Collected: 03/13/14 10:40		Received: 03/14/14 07:52		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV		Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	0.85	mg/L	0.40	0.011	1	03/17/14 17:19	03/20/14 08:37	68334-30-5	
Motor Oil Range	0.33J	mg/L	0.40	0.018	1	03/17/14 17:19	03/20/14 08:37		B
Surrogates									
o-Terphenyl (S)	81 %		30-125		1	03/17/14 17:19	03/20/14 08:37	84-15-1	
n-Triacontane (S)	84 %		30-125		1	03/17/14 17:19	03/20/14 08:37	638-68-6	

Sample: MW-4		Lab ID: 10260283002		Collected: 03/13/14 10:00		Received: 03/14/14 07:52		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV		Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	0.084J	mg/L	0.40	0.011	1	03/17/14 17:19	03/20/14 09:20	68334-30-5	B
Motor Oil Range	0.11J	mg/L	0.40	0.018	1	03/17/14 17:19	03/20/14 09:20		B
Surrogates									
o-Terphenyl (S)	81 %		30-125		1	03/17/14 17:19	03/20/14 09:20	84-15-1	
n-Triacontane (S)	82 %		30-125		1	03/17/14 17:19	03/20/14 09:20	638-68-6	

Sample: MW-5		Lab ID: 10260283003		Collected: 03/13/14 11:05		Received: 03/14/14 07:52		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV		Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	0.21J	mg/L	0.40	0.011	1	03/17/14 17:19	03/20/14 09:41	68334-30-5	B
Motor Oil Range	0.17J	mg/L	0.40	0.018	1	03/17/14 17:19	03/20/14 09:41		B
Surrogates									
o-Terphenyl (S)	88 %		30-125		1	03/17/14 17:19	03/20/14 09:41	84-15-1	
n-Triacontane (S)	91 %		30-125		1	03/17/14 17:19	03/20/14 09:41	638-68-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

QC Batch: OEXT/24595 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3510 Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10260283001, 10260283002, 10260283003

METHOD BLANK: 1640495 Matrix: Water

Associated Lab Samples: 10260283001, 10260283002, 10260283003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	0.031J	0.40	03/20/14 06:16	
Motor Oil Range	mg/L	0.15J	0.40	03/20/14 06:16	
n-Triacontane (S)	%	79	30-125	03/20/14 06:16	
o-Terphenyl (S)	%	87	30-125	03/20/14 06:16	

LABORATORY CONTROL SAMPLE & LCSD: 1640496

LABORATORY CONTROL SAMPLE & LCSD: 1640496		1640497								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.7	1.7	83	84	50-150	2	20	
Motor Oil Range	mg/L	2	1.9	2.0	94	99	50-150	5	20	
n-Triacontane (S)	%				100	97	30-125			
o-Terphenyl (S)	%				93	92	30-125			

SAMPLE DUPLICATE: 1640498

Parameter	Units	10260283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.85	0.90	6	30	
Motor Oil Range	mg/L	0.33J	0.28J		30	
n-Triacontane (S)	%	84	87	4		
o-Terphenyl (S)	%	81	90	10		

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

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

BATCH QUALIFIERS

Batch: GCSV/12962

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1821-00 Tarr Vancouver-GWM

Pace Project No.: 10260283

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10260283001	MW-1	EPA 3510	OEXT/24595	NWTPH-Dx	GCSV/12962
10260283002	MW-4	EPA 3510	OEXT/24595	NWTPH-Dx	GCSV/12962
10260283003	MW-5	EPA 3510	OEXT/24595	NWTPH-Dx	GCSV/12962

REPORT OF LABORATORY ANALYSIS

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Client Name: Apex Companies
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Page: 1 of 1

10260283

001
002
003

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 07Nov2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.08	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: <u>Apex Companies</u>	Project #: WO# : 10260283
	Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: _____	 10260283

Tracking Number: 7982 1055 0507

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____ Temp Blank? ☐ Yes ☐ No

Thermom. Used: ☐ 80512447 ☐ 72337080 ☐ B88A912167504 ☒ B88A9132521491 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on Ice, cooling process has begun

Cooler Temp Read (°C): 2.8 Cooler Temp Corrected (°C): 2.4 Biological Tissue Frozen? ☐ Yes ☒ No ☐ N/A

Temp should be above freezing to 6°C Correction Factor: -0.4 Date and Initials of Person Examining Contents: CLF 3/14/14

Comments: _____

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☐ Yes ☒ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>INT</u>		
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	☐ Yes ☐ No ☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) DOC	☐ Yes ☐ No	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	☐ Yes ☐ No ☒ N/A	14.
Trip Blank Present?	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Date: 3/14/14

January 19, 2015

John Foxwell
Apex Companies, LLC
3015 SW First Ave
Portland, OR 97201

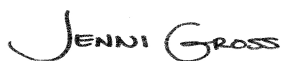
RE: Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

Dear John Foxwell:

Enclosed are the analytical results for sample(s) received by the laboratory on January 03, 2015. 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,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Carmen Owens, Apex Companies, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #: 14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10293234001	MW-5	Water	01/02/15 09:14	01/03/15 10:28
10293234002	MW-4	Water	01/02/15 10:07	01/03/15 10:28
10293234003	MW-1	Water	01/02/15 10:55	01/03/15 10:28

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10293234001	MW-5	EPA 8011	XV1	2	PASI-M
		NWTPH-Dx	JRH	4	PASI-M
		NWTPH-Gx	LLC	2	PASI-M
		EPA 6020	RJS	1	PASI-M
		EPA 8260	EB2	72	PASI-M
10293234002	MW-4	EPA 8011	XV1	2	PASI-M
		NWTPH-Dx	JRH	4	PASI-M
		NWTPH-Gx	LLC	2	PASI-M
		EPA 6020	TT3	1	PASI-M
		EPA 6020	RJS	1	PASI-M
10293234003	MW-1	EPA 8260	EB2	72	PASI-M
		EPA 8011	XV1	2	PASI-M
		NWTPH-Dx	JRH	4	PASI-M
		NWTPH-Gx	LLC	2	PASI-M
		EPA 6020	TT3	1	PASI-M
		EPA 8260	EB2	72	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

Method: EPA 8011
Description: 8011 GCS EDB and DBCP
Client: APEX Companies
Date: January 19, 2015

General Information:

3 samples were analyzed for EPA 8011. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 8011 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/27835

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Method: NWTPH-Dx

Description: NWTPH-Dx GCS LV

Client: APEX Companies

Date: January 19, 2015

General Information:

3 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: OEXT/27839

B: Analyte was detected in the associated method blank.

- BLANK for HBN 336144 [OEXT/278 (Lab ID: 1877645)
- Motor Oil Range

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/27839

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Method: NWTPH-Gx

Description: NWTPH-Gx GCV

Client: APEX Companies

Date: January 19, 2015

General Information:

3 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Method: EPA 6020

Description: 6020 MET ICPMS

Client: APEX Companies

Date: January 19, 2015

General Information:

3 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: MPRP/51731

B: Analyte was detected in the associated method blank.

- BLANK for HBN 336522 [MPRP/517 (Lab ID: 1879265)]
- Lead

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Method: EPA 6020

Description: 6020 MET ICPMS, Dissolved

Client: APEX Companies

Date: January 19, 2015

General Information:

1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Method: EPA 8260

Description: 8260 VOC

Client: APEX Companies

Date: January 19, 2015

General Information:

3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

- MW-1 (Lab ID: 10293234003)
- MW-4 (Lab ID: 10293234002)
- MW-5 (Lab ID: 10293234001)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/30074

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 1879331)
 - Dichlorodifluoromethane
- DUP (Lab ID: 1880527)
 - Dichlorodifluoromethane
- LCS (Lab ID: 1879332)
 - Dichlorodifluoromethane
- MS (Lab ID: 1880526)
 - Dichlorodifluoromethane
- MW-1 (Lab ID: 10293234003)
 - Dichlorodifluoromethane
- MW-4 (Lab ID: 10293234002)
 - Dichlorodifluoromethane
- MW-5 (Lab ID: 10293234001)
 - Dichlorodifluoromethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Method: EPA 8260

Description: 8260 VOC

Client: APEX Companies

Date: January 19, 2015

QC Batch: MSV/30074

B: Analyte was detected in the associated method blank.

- BLANK for HBN 336531 [MSV/3007 (Lab ID: 1879331)]
- Chlorobenzene

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/30074

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1879332)
- Dichlorodifluoromethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/30074

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10293234001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1880526)
- Carbon disulfide
- Chloroethane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Sample: MW-5 Lab ID: 10293234001 Collected: 01/02/15 09:14 Received: 01/03/15 10:28 Matrix: Water									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP Analytical Method: EPA 8011 Preparation Method: EPA 8011									
1,2-Dibromoethane (EDB)	<0.0044	ug/L	0.0098	0.0044	1	01/06/15 17:17	01/07/15 04:35	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	30-150		1	01/06/15 17:17	01/07/15 04:35	460-00-4	
NWTPH-Dx GCS LV Analytical Method: NWTPH-Dx Preparation Method: EPA 3510									
Diesel Fuel Range	0.13J	mg/L	0.40	0.048	1	01/07/15 08:34	01/10/15 11:44	68334-30-5	
Motor Oil Range	0.083J	mg/L	0.40	0.028	1	01/07/15 08:34	01/10/15 11:44		B
Surrogates									
o-Terphenyl (S)	81	%.	50-150		1	01/07/15 08:34	01/10/15 11:44	84-15-1	
n-Triacontane (S)	84	%.	50-150		1	01/07/15 08:34	01/10/15 11:44	638-68-6	
NWTPH-Gx GCV Analytical Method: NWTPH-Gx									
TPH as Gas	<50.0	ug/L	100	50.0	1		01/06/15 12:50		
Surrogates									
a,a,a-Trifluorotoluene (S)	92	%.	50-150		1		01/06/15 12:50	98-08-8	
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Lead	0.54	ug/L	0.10	0.046	1	01/09/15 14:21	01/12/15 18:42	7439-92-1	B
8260 VOC Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	630-20-6	
1,1,1-Trichloroethane	<0.26	ug/L	1.0	0.26	1		01/12/15 12:01	71-55-6	
1,1,2,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	79-34-5	
1,1,2-Trichloroethane	<0.14	ug/L	1.0	0.14	1		01/12/15 12:01	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	76-13-1	
1,1-Dichloroethane	<0.16	ug/L	1.0	0.16	1		01/12/15 12:01	75-34-3	
1,1-Dichloroethene	<0.20	ug/L	1.0	0.20	1		01/12/15 12:01	75-35-4	
1,1-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	563-58-6	
1,2,3-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	87-61-6	
1,2,3-Trichloropropane	<1.2	ug/L	4.0	1.2	1		01/12/15 12:01	96-18-4	
1,2,4-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	95-63-6	
1,2-Dibromo-3-chloropropane	<2.0	ug/L	4.0	2.0	1		01/12/15 12:01	96-12-8	
1,2-Dibromoethane (EDB)	<0.15	ug/L	1.0	0.15	1		01/12/15 12:01	106-93-4	
1,2-Dichlorobenzene	<0.16	ug/L	1.0	0.16	1		01/12/15 12:01	95-50-1	
1,2-Dichloroethane	<0.13	ug/L	1.0	0.13	1		01/12/15 12:01	107-06-2	
1,2-Dichloropropane	<0.14	ug/L	4.0	0.14	1		01/12/15 12:01	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	106-46-7	
2,2-Dichloropropane	<0.17	ug/L	4.0	0.17	1		01/12/15 12:01	594-20-7	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		01/12/15 12:01	78-93-3	
2-Chlorotoluene	<0.14	ug/L	1.0	0.14	1		01/12/15 12:01	95-49-8	
2-Hexanone	<2.5	ug/L	20.0	2.5	1		01/12/15 12:01	591-78-6	
4-Chlorotoluene	<0.083	ug/L	1.0	0.083	1		01/12/15 12:01	106-43-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

Sample: MW-5 **Lab ID:** 10293234001 **Collected:** 01/02/15 09:14 **Received:** 01/03/15 10:28 **Matrix:** Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		01/12/15 12:01	108-10-1	
Acetone	<10.0	ug/L	20.0	10.0	1		01/12/15 12:01	67-64-1	
Allyl chloride	<0.45	ug/L	4.0	0.45	1		01/12/15 12:01	107-05-1	
Benzene	<0.15	ug/L	1.0	0.15	1		01/12/15 12:01	71-43-2	
Bromobenzene	<0.13	ug/L	1.0	0.13	1		01/12/15 12:01	108-86-1	
Bromochloromethane	<0.12	ug/L	1.0	0.12	1		01/12/15 12:01	74-97-5	
Bromodichloromethane	<0.20	ug/L	1.0	0.20	1		01/12/15 12:01	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		01/12/15 12:01	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		01/12/15 12:01	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/12/15 12:01	75-15-0	M1
Carbon tetrachloride	<0.16	ug/L	1.0	0.16	1		01/12/15 12:01	56-23-5	
Chlorobenzene	<0.066	ug/L	4.0	0.066	1		01/12/15 12:01	108-90-7	
Chloroethane	<0.27	ug/L	1.0	0.27	1		01/12/15 12:01	75-00-3	M1
Chloroform	<0.16	ug/L	1.0	0.16	1		01/12/15 12:01	67-66-3	
Chloromethane	<0.34	ug/L	4.0	0.34	1		01/12/15 12:01	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	124-48-1	
Dibromomethane	<0.18	ug/L	4.0	0.18	1		01/12/15 12:01	74-95-3	
Dichlorodifluoromethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	75-71-8	CL,L2
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		01/12/15 12:01	75-43-4	
Diethyl ether (Ethyl ether)	<0.14	ug/L	4.0	0.14	1		01/12/15 12:01	60-29-7	
Ethylbenzene	0.34J	ug/L	1.0	0.16	1		01/12/15 12:01	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	87-68-3	
Isopropylbenzene (Cumene)	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	98-82-8	
Methyl-tert-butyl ether	1.8	ug/L	1.0	0.17	1		01/12/15 12:01	1634-04-4	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		01/12/15 12:01	75-09-2	
Naphthalene	<2.0	ug/L	4.0	2.0	1		01/12/15 12:01	91-20-3	
Styrene	<0.069	ug/L	4.0	0.069	1		01/12/15 12:01	100-42-5	
Tetrachloroethene	<0.16	ug/L	1.0	0.16	1		01/12/15 12:01	127-18-4	
Tetrahydrofuran	<2.0	ug/L	10.0	2.0	1		01/12/15 12:01	109-99-9	
Toluene	<0.11	ug/L	1.0	0.11	1		01/12/15 12:01	108-88-3	
Trichloroethene	<0.091	ug/L	0.40	0.091	1		01/12/15 12:01	79-01-6	
Trichlorofluoromethane	<0.22	ug/L	1.0	0.22	1		01/12/15 12:01	75-69-4	
Vinyl chloride	<0.10	ug/L	0.40	0.10	1		01/12/15 12:01	75-01-4	
Xylene (Total)	<0.40	ug/L	3.0	0.40	1		01/12/15 12:01	1330-20-7	
cis-1,2-Dichloroethene	<0.13	ug/L	1.0	0.13	1		01/12/15 12:01	156-59-2	
cis-1,3-Dichloropropene	<0.13	ug/L	4.0	0.13	1		01/12/15 12:01	10061-01-5	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	103-65-1	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	99-87-6	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:01	98-06-6	
trans-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		01/12/15 12:01	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	4.0	0.18	1		01/12/15 12:01	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99 %		75-125		1		01/12/15 12:01	17060-07-0	
Toluene-d8 (S)	104 %		75-125		1		01/12/15 12:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

Sample: MW-5		Lab ID: 10293234001		Collected: 01/02/15 09:14		Received: 01/03/15 10:28		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Surrogates									
4-Bromofluorobenzene (S)	113 %.		75-125		1		01/12/15 12:01	460-00-4	
Sample: MW-4		Lab ID: 10293234002		Collected: 01/02/15 10:07		Received: 01/03/15 10:28		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	<0.0044 ug/L		0.0098	0.0044	1	01/06/15 17:17	01/07/15 05:01	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	96 %.		30-150		1	01/06/15 17:17	01/07/15 05:01	460-00-4	
NWTPH-Dx GCS LV		Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	0.056J mg/L		0.40	0.048	1	01/07/15 08:34	01/10/15 10:39	68334-30-5	
Motor Oil Range	0.083J mg/L		0.40	0.028	1	01/07/15 08:34	01/10/15 10:39		B
Surrogates									
o-Terphenyl (S)	73 %.		50-150		1	01/07/15 08:34	01/10/15 10:39	84-15-1	
n-Triacontane (S)	76 %.		50-150		1	01/07/15 08:34	01/10/15 10:39	638-68-6	
NWTPH-Gx GCV		Analytical Method: NWTPH-Gx							
TPH as Gas	<50.0 ug/L		100	50.0	1		01/06/15 17:38		
Surrogates									
a,a,a-Trifluorotoluene (S)	91 %.		50-150		1		01/06/15 17:38	98-08-8	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Lead	1.9 ug/L		0.10	0.046	1	01/07/15 12:56	01/08/15 14:59	7439-92-1	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Lead, Dissolved	2.4 ug/L		0.10	0.046	1	01/08/15 11:45	01/09/15 17:41	7439-92-1	
8260 VOC		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	630-20-6	
1,1,1-Trichloroethane	<0.26 ug/L		1.0	0.26	1		01/12/15 12:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	79-34-5	
1,1,2-Trichloroethane	<0.14 ug/L		1.0	0.14	1		01/12/15 12:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	76-13-1	
1,1-Dichloroethane	<0.16 ug/L		1.0	0.16	1		01/12/15 12:24	75-34-3	
1,1-Dichloroethene	<0.20 ug/L		1.0	0.20	1		01/12/15 12:24	75-35-4	
1,1-Dichloropropene	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	563-58-6	
1,2,3-Trichlorobenzene	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	87-61-6	
1,2,3-Trichloropropane	<1.2 ug/L		4.0	1.2	1		01/12/15 12:24	96-18-4	
1,2,4-Trichlorobenzene	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	120-82-1	
1,2,4-Trimethylbenzene	<0.50 ug/L		1.0	0.50	1		01/12/15 12:24	95-63-6	
1,2-Dibromo-3-chloropropane	<2.0 ug/L		4.0	2.0	1		01/12/15 12:24	96-12-8	

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Sample: MW-4 **Lab ID: 10293234002** Collected: 01/02/15 10:07 Received: 01/03/15 10:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	<0.15	ug/L	1.0	0.15	1		01/12/15 12:24	106-93-4	
1,2-Dichlorobenzene	<0.16	ug/L	1.0	0.16	1		01/12/15 12:24	95-50-1	
1,2-Dichloroethane	<0.13	ug/L	1.0	0.13	1		01/12/15 12:24	107-06-2	
1,2-Dichloropropane	<0.14	ug/L	4.0	0.14	1		01/12/15 12:24	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	106-46-7	
2,2-Dichloropropane	<0.17	ug/L	4.0	0.17	1		01/12/15 12:24	594-20-7	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		01/12/15 12:24	78-93-3	
2-Chlorotoluene	<0.14	ug/L	1.0	0.14	1		01/12/15 12:24	95-49-8	
2-Hexanone	<2.5	ug/L	20.0	2.5	1		01/12/15 12:24	591-78-6	
4-Chlorotoluene	<0.083	ug/L	1.0	0.083	1		01/12/15 12:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		01/12/15 12:24	108-10-1	
Acetone	<10.0	ug/L	20.0	10.0	1		01/12/15 12:24	67-64-1	
Allyl chloride	<0.45	ug/L	4.0	0.45	1		01/12/15 12:24	107-05-1	
Benzene	<0.15	ug/L	1.0	0.15	1		01/12/15 12:24	71-43-2	
Bromobenzene	<0.13	ug/L	1.0	0.13	1		01/12/15 12:24	108-86-1	
Bromochloromethane	<0.12	ug/L	1.0	0.12	1		01/12/15 12:24	74-97-5	
Bromodichloromethane	<0.20	ug/L	1.0	0.20	1		01/12/15 12:24	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		01/12/15 12:24	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		01/12/15 12:24	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/12/15 12:24	75-15-0	
Carbon tetrachloride	<0.16	ug/L	1.0	0.16	1		01/12/15 12:24	56-23-5	
Chlorobenzene	0.63J	ug/L	4.0	0.066	1		01/12/15 12:24	108-90-7	B
Chloroethane	<0.27	ug/L	1.0	0.27	1		01/12/15 12:24	75-00-3	
Chloroform	<0.16	ug/L	1.0	0.16	1		01/12/15 12:24	67-66-3	
Chloromethane	<0.34	ug/L	4.0	0.34	1		01/12/15 12:24	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	124-48-1	
Dibromomethane	<0.18	ug/L	4.0	0.18	1		01/12/15 12:24	74-95-3	
Dichlorodifluoromethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	75-71-8	CL,L2
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		01/12/15 12:24	75-43-4	
Diethyl ether (Ethyl ether)	<0.14	ug/L	4.0	0.14	1		01/12/15 12:24	60-29-7	
Ethylbenzene	0.32J	ug/L	1.0	0.16	1		01/12/15 12:24	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	87-68-3	
Isopropylbenzene (Cumene)	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/12/15 12:24	1634-04-4	
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		01/12/15 12:24	75-09-2	
Naphthalene	<2.0	ug/L	4.0	2.0	1		01/12/15 12:24	91-20-3	
Styrene	<0.069	ug/L	4.0	0.069	1		01/12/15 12:24	100-42-5	
Tetrachloroethene	<0.16	ug/L	1.0	0.16	1		01/12/15 12:24	127-18-4	
Tetrahydrofuran	<2.0	ug/L	10.0	2.0	1		01/12/15 12:24	109-99-9	
Toluene	<0.11	ug/L	1.0	0.11	1		01/12/15 12:24	108-88-3	
Trichloroethene	<0.091	ug/L	0.40	0.091	1		01/12/15 12:24	79-01-6	
Trichlorofluoromethane	<0.22	ug/L	1.0	0.22	1		01/12/15 12:24	75-69-4	
Vinyl chloride	<0.10	ug/L	0.40	0.10	1		01/12/15 12:24	75-01-4	

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

Sample: MW-4		Lab ID: 10293234002		Collected: 01/02/15 10:07		Received: 01/03/15 10:28		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Xylene (Total)	<0.40	ug/L	3.0	0.40	1		01/12/15 12:24	1330-20-7	
cis-1,2-Dichloroethene	<0.13	ug/L	1.0	0.13	1		01/12/15 12:24	156-59-2	
cis-1,3-Dichloropropene	<0.13	ug/L	4.0	0.13	1		01/12/15 12:24	10061-01-5	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	103-65-1	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	99-87-6	
sec-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:24	98-06-6	
trans-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		01/12/15 12:24	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	4.0	0.18	1		01/12/15 12:24	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107 %		75-125		1		01/12/15 12:24	17060-07-0	
Toluene-d8 (S)	104 %		75-125		1		01/12/15 12:24	2037-26-5	
4-Bromofluorobenzene (S)	108 %		75-125		1		01/12/15 12:24	460-00-4	

Sample: MW-1		Lab ID: 10293234003		Collected: 01/02/15 10:55		Received: 01/03/15 10:28		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	<0.0044	ug/L	0.0099	0.0044	1	01/06/15 17:17	01/07/15 05:27	106-93-4	
Surrogates									
4-Bromofluorobenzene (S)	130 %		30-150		1	01/06/15 17:17	01/07/15 05:27	460-00-4	
NWTPH-Dx GCS LV		Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	0.45	mg/L	0.40	0.048	1	01/07/15 08:34	01/10/15 11:01	68334-30-5	
Motor Oil Range	0.16J	mg/L	0.40	0.028	1	01/07/15 08:34	01/10/15 11:01		B
Surrogates									
o-Terphenyl (S)	71 %		50-150		1	01/07/15 08:34	01/10/15 11:01	84-15-1	
n-Triacontane (S)	74 %		50-150		1	01/07/15 08:34	01/10/15 11:01	638-68-6	
NWTPH-Gx GCV		Analytical Method: NWTPH-Gx							
TPH as Gas	165	ug/L	100	50.0	1		01/06/15 17:18		
Surrogates									
a,a,a-Trifluorotoluene (S)	88 %		50-150		1		01/06/15 17:18	98-08-8	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Lead	0.74	ug/L	0.10	0.046	1	01/07/15 12:56	01/08/15 15:01	7439-92-1	
8260 VOC		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	630-20-6	
1,1,1-Trichloroethane	<0.26	ug/L	1.0	0.26	1		01/12/15 12:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	79-34-5	
1,1,2-Trichloroethane	<0.14	ug/L	1.0	0.14	1		01/12/15 12:48	79-00-5	

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Sample: MW-1 Lab ID: 10293234003 Collected: 01/02/15 10:55 Received: 01/03/15 10:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
1,1,2-Trichlorotrifluoroethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	76-13-1	
1,1-Dichloroethane	<0.16	ug/L	1.0	0.16	1		01/12/15 12:48	75-34-3	
1,1-Dichloroethene	<0.20	ug/L	1.0	0.20	1		01/12/15 12:48	75-35-4	
1,1-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	563-58-6	
1,2,3-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	87-61-6	
1,2,3-Trichloropropane	<1.2	ug/L	4.0	1.2	1		01/12/15 12:48	96-18-4	
1,2,4-Trichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	120-82-1	
1,2,4-Trimethylbenzene	7.4	ug/L	1.0	0.50	1		01/12/15 12:48	95-63-6	
1,2-Dibromo-3-chloropropane	<2.0	ug/L	4.0	2.0	1		01/12/15 12:48	96-12-8	
1,2-Dibromoethane (EDB)	<0.15	ug/L	1.0	0.15	1		01/12/15 12:48	106-93-4	
1,2-Dichlorobenzene	<0.16	ug/L	1.0	0.16	1		01/12/15 12:48	95-50-1	
1,2-Dichloroethane	<0.13	ug/L	1.0	0.13	1		01/12/15 12:48	107-06-2	
1,2-Dichloropropane	<0.14	ug/L	4.0	0.14	1		01/12/15 12:48	78-87-5	
1,3,5-Trimethylbenzene	1.4	ug/L	1.0	0.50	1		01/12/15 12:48	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	106-46-7	
2,2-Dichloropropane	<0.17	ug/L	4.0	0.17	1		01/12/15 12:48	594-20-7	
2-Butanone (MEK)	<2.5	ug/L	5.0	2.5	1		01/12/15 12:48	78-93-3	
2-Chlorotoluene	<0.14	ug/L	1.0	0.14	1		01/12/15 12:48	95-49-8	
2-Hexanone	<2.5	ug/L	20.0	2.5	1		01/12/15 12:48	591-78-6	
4-Chlorotoluene	<0.083	ug/L	1.0	0.083	1		01/12/15 12:48	106-43-4	
4-Methyl-2-pentanone (MIBK)	<2.5	ug/L	5.0	2.5	1		01/12/15 12:48	108-10-1	
Acetone	<10.0	ug/L	20.0	10.0	1		01/12/15 12:48	67-64-1	
Allyl chloride	<0.45	ug/L	4.0	0.45	1		01/12/15 12:48	107-05-1	
Benzene	0.25J	ug/L	1.0	0.15	1		01/12/15 12:48	71-43-2	
Bromobenzene	<0.13	ug/L	1.0	0.13	1		01/12/15 12:48	108-86-1	
Bromochloromethane	<0.12	ug/L	1.0	0.12	1		01/12/15 12:48	74-97-5	
Bromodichloromethane	<0.20	ug/L	1.0	0.20	1		01/12/15 12:48	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	1		01/12/15 12:48	75-25-2	
Bromomethane	<2.0	ug/L	4.0	2.0	1		01/12/15 12:48	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/12/15 12:48	75-15-0	
Carbon tetrachloride	<0.16	ug/L	1.0	0.16	1		01/12/15 12:48	56-23-5	
Chlorobenzene	<0.066	ug/L	4.0	0.066	1		01/12/15 12:48	108-90-7	
Chloroethane	<0.27	ug/L	1.0	0.27	1		01/12/15 12:48	75-00-3	
Chloroform	<0.16	ug/L	1.0	0.16	1		01/12/15 12:48	67-66-3	
Chloromethane	<0.34	ug/L	4.0	0.34	1		01/12/15 12:48	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	124-48-1	
Dibromomethane	<0.18	ug/L	4.0	0.18	1		01/12/15 12:48	74-95-3	
Dichlorodifluoromethane	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	75-71-8	CL,L2
Dichlorofluoromethane	<0.20	ug/L	1.0	0.20	1		01/12/15 12:48	75-43-4	
Diethyl ether (Ethyl ether)	<0.14	ug/L	4.0	0.14	1		01/12/15 12:48	60-29-7	
Ethylbenzene	1.3	ug/L	1.0	0.16	1		01/12/15 12:48	100-41-4	
Hexachloro-1,3-butadiene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	87-68-3	
Isopropylbenzene (Cumene)	1.4	ug/L	1.0	0.50	1		01/12/15 12:48	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/12/15 12:48	1634-04-4	

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ANALYTICAL RESULTS

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Sample: MW-1 **Lab ID:** 10293234003 **Collected:** 01/02/15 10:55 **Received:** 01/03/15 10:28 **Matrix:** Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Methylene Chloride	<2.0	ug/L	4.0	2.0	1		01/12/15 12:48	75-09-2	
Naphthalene	<2.0	ug/L	4.0	2.0	1		01/12/15 12:48	91-20-3	
Styrene	<0.069	ug/L	4.0	0.069	1		01/12/15 12:48	100-42-5	
Tetrachloroethene	<0.16	ug/L	1.0	0.16	1		01/12/15 12:48	127-18-4	
Tetrahydrofuran	<2.0	ug/L	10.0	2.0	1		01/12/15 12:48	109-99-9	
Toluene	<0.11	ug/L	1.0	0.11	1		01/12/15 12:48	108-88-3	
Trichloroethene	<0.091	ug/L	0.40	0.091	1		01/12/15 12:48	79-01-6	
Trichlorofluoromethane	<0.22	ug/L	1.0	0.22	1		01/12/15 12:48	75-69-4	
Vinyl chloride	<0.10	ug/L	0.40	0.10	1		01/12/15 12:48	75-01-4	
Xylene (Total)	<0.40	ug/L	3.0	0.40	1		01/12/15 12:48	1330-20-7	
cis-1,2-Dichloroethene	<0.13	ug/L	1.0	0.13	1		01/12/15 12:48	156-59-2	
cis-1,3-Dichloropropene	<0.13	ug/L	4.0	0.13	1		01/12/15 12:48	10061-01-5	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	104-51-8	
n-Propylbenzene	2.8	ug/L	1.0	0.50	1		01/12/15 12:48	103-65-1	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	99-87-6	
sec-Butylbenzene	1.7	ug/L	1.0	0.50	1		01/12/15 12:48	135-98-8	
tert-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/15 12:48	98-06-6	
trans-1,2-Dichloroethene	<0.23	ug/L	1.0	0.23	1		01/12/15 12:48	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	4.0	0.18	1		01/12/15 12:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	75-125		1		01/12/15 12:48	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		01/12/15 12:48	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1		01/12/15 12:48	460-00-4	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

QC Batch: GCV/13188 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10293234001, 10293234002, 10293234003

METHOD BLANK: 1876874 Matrix: Water
Associated Lab Samples: 10293234001, 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	<50.0	100	01/06/15 11:08	
a,a,a-Trifluorotoluene (S)	%.	95	50-150	01/06/15 11:08	

METHOD BLANK: 1876875 Matrix: Water
Associated Lab Samples: 10293234001, 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	<50.0	100	01/06/15 14:54	
a,a,a-Trifluorotoluene (S)	%.	93	50-150	01/06/15 14:54	

LABORATORY CONTROL SAMPLE & LCSD: 1876876

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1030	1120	103	112	65-125	9	20	
a,a,a-Trifluorotoluene (S)	%.				93	94	50-150			

MATRIX SPIKE SAMPLE: 1877732

Parameter	Units	10293201001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
TPH as Gas	ug/L	ND	1000	1190	119	50-150	
a,a,a-Trifluorotoluene (S)	%.				100	50-150	

SAMPLE DUPLICATE: 1877731

Parameter	Units	10293200001 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	54.1J		30	H5
a,a,a-Trifluorotoluene (S)	%.	92	93	1		

SAMPLE DUPLICATE: 1877733

Parameter	Units	10293201002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	<50.0		30	
a,a,a-Trifluorotoluene (S)	%.	92	91	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

QC Batch: MPRP/51638

Analysis Method: EPA 6020

QC Batch Method: EPA 3020

Analysis Description: 6020 MET

Associated Lab Samples: 10293234002, 10293234003

METHOD BLANK: 1877086

Matrix: Water

Associated Lab Samples: 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	0.055J	0.10	01/08/15 14:53	

LABORATORY CONTROL SAMPLE: 1877087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	80	82.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1877088 1877089

Parameter	Units	10293606001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	0.24	80	80	77.1	83.1	96	104	75-125	8	20	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

QC Batch:	MPRP/51731	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3020	Analysis Description:	6020 MET
Associated Lab Samples:	10293234001		

METHOD BLANK: 1879265 Matrix: Water
Associated Lab Samples: 10293234001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	0.067J	0.10	01/12/15 18:32	

LABORATORY CONTROL SAMPLE: 1879266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	80	79.3	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1879267 1879268

Parameter	Units	10293234001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	0.54	80	80	79.6	79.3	99	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

QC Batch:	MPRP/51677	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3020	Analysis Description:	6020 MET Dissolved
Associated Lab Samples:	10293234002		

METHOD BLANK: 1877853 Matrix: Water
Associated Lab Samples: 10293234002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead, Dissolved	ug/L	<0.046	0.10	01/09/15 17:31	

LABORATORY CONTROL SAMPLE: 1877854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	80	82.5	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1877855 1877856

Parameter	Units	10293234002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead, Dissolved	ug/L	2.4	80	80	82.9	84.3	101	102	75-125	2	20	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

QC Batch: MSV/30074 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 465 W
Associated Lab Samples: 10293234001, 10293234002, 10293234003

METHOD BLANK: 1879331 Matrix: Water
Associated Lab Samples: 10293234001, 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	1.0	01/12/15 11:13	
1,1,1-Trichloroethane	ug/L	<0.26	1.0	01/12/15 11:13	
1,1,2,2-Tetrachloroethane	ug/L	<0.50	1.0	01/12/15 11:13	
1,1,2-Trichloroethane	ug/L	<0.14	1.0	01/12/15 11:13	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.50	1.0	01/12/15 11:13	
1,1-Dichloroethane	ug/L	<0.16	1.0	01/12/15 11:13	
1,1-Dichloroethene	ug/L	<0.20	1.0	01/12/15 11:13	
1,1-Dichloropropene	ug/L	<0.50	1.0	01/12/15 11:13	
1,2,3-Trichlorobenzene	ug/L	<0.50	1.0	01/12/15 11:13	
1,2,3-Trichloropropane	ug/L	<1.2	4.0	01/12/15 11:13	
1,2,4-Trichlorobenzene	ug/L	<0.50	1.0	01/12/15 11:13	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	01/12/15 11:13	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	01/12/15 11:13	
1,2-Dibromoethane (EDB)	ug/L	<0.15	1.0	01/12/15 11:13	
1,2-Dichlorobenzene	ug/L	<0.16	1.0	01/12/15 11:13	
1,2-Dichloroethane	ug/L	<0.13	1.0	01/12/15 11:13	
1,2-Dichloropropane	ug/L	<0.14	4.0	01/12/15 11:13	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	01/12/15 11:13	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	01/12/15 11:13	
1,3-Dichloropropane	ug/L	<0.50	1.0	01/12/15 11:13	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	01/12/15 11:13	
2,2-Dichloropropane	ug/L	<0.17	4.0	01/12/15 11:13	
2-Butanone (MEK)	ug/L	<2.5	5.0	01/12/15 11:13	
2-Chlorotoluene	ug/L	<0.14	1.0	01/12/15 11:13	
2-Hexanone	ug/L	<2.5	20.0	01/12/15 11:13	
4-Chlorotoluene	ug/L	<0.083	1.0	01/12/15 11:13	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	01/12/15 11:13	
Acetone	ug/L	<10.0	20.0	01/12/15 11:13	
Allyl chloride	ug/L	<0.45	4.0	01/12/15 11:13	
Benzene	ug/L	<0.15	1.0	01/12/15 11:13	
Bromobenzene	ug/L	<0.13	1.0	01/12/15 11:13	
Bromochloromethane	ug/L	<0.12	1.0	01/12/15 11:13	
Bromodichloromethane	ug/L	<0.20	1.0	01/12/15 11:13	
Bromoform	ug/L	<2.0	4.0	01/12/15 11:13	
Bromomethane	ug/L	<2.0	4.0	01/12/15 11:13	
Carbon disulfide	ug/L	<0.20	1.0	01/12/15 11:13	
Carbon tetrachloride	ug/L	<0.16	1.0	01/12/15 11:13	
Chlorobenzene	ug/L	0.63J	4.0	01/12/15 11:13	
Chloroethane	ug/L	<0.27	1.0	01/12/15 11:13	
Chloroform	ug/L	<0.16	1.0	01/12/15 11:13	
Chloromethane	ug/L	<0.34	4.0	01/12/15 11:13	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

METHOD BLANK: 1879331

Matrix: Water

Associated Lab Samples: 10293234001, 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	<0.13	1.0	01/12/15 11:13	
cis-1,3-Dichloropropene	ug/L	<0.13	4.0	01/12/15 11:13	
Dibromochloromethane	ug/L	<0.50	1.0	01/12/15 11:13	
Dibromomethane	ug/L	<0.18	4.0	01/12/15 11:13	
Dichlorodifluoromethane	ug/L	<0.50	1.0	01/12/15 11:13	CL
Dichlorofluoromethane	ug/L	<0.20	1.0	01/12/15 11:13	
Diethyl ether (Ethyl ether)	ug/L	<0.14	4.0	01/12/15 11:13	
Ethylbenzene	ug/L	<0.16	1.0	01/12/15 11:13	
Hexachloro-1,3-butadiene	ug/L	<0.50	1.0	01/12/15 11:13	
Isopropylbenzene (Cumene)	ug/L	<0.50	1.0	01/12/15 11:13	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	01/12/15 11:13	
Methylene Chloride	ug/L	<2.0	4.0	01/12/15 11:13	
n-Butylbenzene	ug/L	<0.50	1.0	01/12/15 11:13	
n-Propylbenzene	ug/L	<0.50	1.0	01/12/15 11:13	
Naphthalene	ug/L	<2.0	4.0	01/12/15 11:13	
p-Isopropyltoluene	ug/L	<0.50	1.0	01/12/15 11:13	
sec-Butylbenzene	ug/L	<0.50	1.0	01/12/15 11:13	
Styrene	ug/L	<0.069	4.0	01/12/15 11:13	
tert-Butylbenzene	ug/L	<0.50	1.0	01/12/15 11:13	
Tetrachloroethene	ug/L	<0.16	1.0	01/12/15 11:13	
Tetrahydrofuran	ug/L	<2.0	10.0	01/12/15 11:13	
Toluene	ug/L	<0.11	1.0	01/12/15 11:13	
trans-1,2-Dichloroethene	ug/L	<0.23	1.0	01/12/15 11:13	
trans-1,3-Dichloropropene	ug/L	<0.18	4.0	01/12/15 11:13	
Trichloroethene	ug/L	<0.091	0.40	01/12/15 11:13	
Trichlorofluoromethane	ug/L	<0.22	1.0	01/12/15 11:13	
Vinyl chloride	ug/L	<0.10	0.40	01/12/15 11:13	
Xylene (Total)	ug/L	<0.40	3.0	01/12/15 11:13	
1,2-Dichloroethane-d4 (S)	%	102	75-125	01/12/15 11:13	
4-Bromofluorobenzene (S)	%	104	75-125	01/12/15 11:13	
Toluene-d8 (S)	%	104	75-125	01/12/15 11:13	

LABORATORY CONTROL SAMPLE: 1879332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.3	97	75-125	
1,1,1-Trichloroethane	ug/L	20	19.3	96	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	101	75-125	
1,1,2-Trichloroethane	ug/L	20	19.4	97	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.2	96	60-135	
1,1-Dichloroethane	ug/L	20	19.4	97	69-125	
1,1-Dichloroethene	ug/L	20	16.7	83	68-125	
1,1-Dichloropropene	ug/L	20	18.2	91	74-125	
1,2,3-Trichlorobenzene	ug/L	20	21.7	109	69-136	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

LABORATORY CONTROL SAMPLE: 1879332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	ug/L	20	20.0	100	75-125	
1,2,4-Trichlorobenzene	ug/L	20	20.8	104	73-127	
1,2,4-Trimethylbenzene	ug/L	20	20.1	100	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	53.5	107	65-145	
1,2-Dibromoethane (EDB)	ug/L	20	18.5	92	75-125	
1,2-Dichlorobenzene	ug/L	20	18.6	93	75-125	
1,2-Dichloroethane	ug/L	20	19.4	97	73-125	
1,2-Dichloropropane	ug/L	20	18.7	93	75-125	
1,3,5-Trimethylbenzene	ug/L	20	19.9	100	75-125	
1,3-Dichlorobenzene	ug/L	20	19.7	98	74-125	
1,3-Dichloropropane	ug/L	20	19.9	100	75-125	
1,4-Dichlorobenzene	ug/L	20	19.0	95	75-125	
2,2-Dichloropropane	ug/L	20	20.9	105	59-139	
2-Butanone (MEK)	ug/L	100	96.5	96	63-130	
2-Chlorotoluene	ug/L	20	20.7	104	72-125	
2-Hexanone	ug/L	100	101	101	69-133	
4-Chlorotoluene	ug/L	20	20.2	101	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	71-126	
Acetone	ug/L	100	103	103	69-131	
Allyl chloride	ug/L	20	20.1	100	67-125	
Benzene	ug/L	20	18.0	90	42-143	
Bromobenzene	ug/L	20	17.9	90	75-125	
Bromochloromethane	ug/L	20	16.3	81	75-125	
Bromodichloromethane	ug/L	20	20.5	103	75-125	
Bromoform	ug/L	20	20.2	101	70-125	
Bromomethane	ug/L	20	20.7	103	30-150	
Carbon disulfide	ug/L	20	13.5	68	55-132	
Carbon tetrachloride	ug/L	20	20.6	103	75-126	
Chlorobenzene	ug/L	20	18.0	90	75-125	
Chloroethane	ug/L	20	22.2	111	65-134	
Chloroform	ug/L	20	19.7	99	75-125	
Chloromethane	ug/L	20	19.9	100	35-150	
cis-1,2-Dichloroethene	ug/L	20	19.7	99	72-125	
cis-1,3-Dichloropropene	ug/L	20	20.4	102	75-125	
Dibromochloromethane	ug/L	20	20.3	101	75-125	
Dibromomethane	ug/L	20	18.3	92	75-125	
Dichlorodifluoromethane	ug/L	20	7.9	39	50-134	CL,L0
Dichlorofluoromethane	ug/L	20	21.1	106	69-125	
Diethyl ether (Ethyl ether)	ug/L	20	19.0	95	72-125	
Ethylbenzene	ug/L	20	18.7	93	75-125	
Hexachloro-1,3-butadiene	ug/L	20	23.9	119	70-138	
Isopropylbenzene (Cumene)	ug/L	20	22.6	113	75-125	
Methyl-tert-butyl ether	ug/L	20	20.0	100	73-125	
Methylene Chloride	ug/L	20	18.7	93	73-125	
n-Butylbenzene	ug/L	20	21.2	106	72-133	
n-Propylbenzene	ug/L	20	20.0	100	72-126	
Naphthalene	ug/L	20	21.6	108	70-127	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

LABORATORY CONTROL SAMPLE: 1879332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Isopropyltoluene	ug/L	20	21.0	105	72-132	
sec-Butylbenzene	ug/L	20	21.7	108	73-132	
Styrene	ug/L	20	18.6	93	75-125	
tert-Butylbenzene	ug/L	20	21.3	106	73-128	
Tetrachloroethene	ug/L	20	17.7	88	74-125	
Tetrahydrofuran	ug/L	200	189	94	62-133	
Toluene	ug/L	20	18.4	92	74-125	
trans-1,2-Dichloroethene	ug/L	20	16.4	82	69-125	
trans-1,3-Dichloropropene	ug/L	20	21.0	105	75-125	
Trichloroethene	ug/L	20	16.9	85	75-125	
Trichlorofluoromethane	ug/L	20	18.6	93	74-127	
Vinyl chloride	ug/L	20	23.4	117	66-132	
Xylene (Total)	ug/L	60	59.1	99	75-125	
1,2-Dichloroethane-d4 (S)	%			104	75-125	
4-Bromofluorobenzene (S)	%			104	75-125	
Toluene-d8 (S)	%			102	75-125	

MATRIX SPIKE SAMPLE: 1880526

Parameter	Units	10293234001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	20	16.8	84	68-141	
1,1,1-Trichloroethane	ug/L	<0.26	20	16.3	82	52-150	
1,1,2,2-Tetrachloroethane	ug/L	<0.50	20	18.9	95	61-143	
1,1,2-Trichloroethane	ug/L	<0.14	20	16.7	83	65-140	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.50	20	14.8	74	51-150	
1,1-Dichloroethane	ug/L	<0.16	20	15.6	78	49-150	
1,1-Dichloroethene	ug/L	<0.20	20	11.7	58	40-150	
1,1-Dichloropropene	ug/L	<0.50	20	12.8	64	50-150	
1,2,3-Trichlorobenzene	ug/L	<0.50	20	17.8	89	59-148	
1,2,3-Trichloropropane	ug/L	<1.2	20	18.3	91	65-141	
1,2,4-Trichlorobenzene	ug/L	<0.50	20	16.3	82	61-140	
1,2,4-Trimethylbenzene	ug/L	<0.50	20	16.7	83	47-149	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	51.8	104	53-150	
1,2-Dibromoethane (EDB)	ug/L	<0.15	20	14.8	74	65-137	
1,2-Dichlorobenzene	ug/L	<0.16	20	15.9	80	66-133	
1,2-Dichloroethane	ug/L	<0.13	20	15.7	79	54-138	
1,2-Dichloropropane	ug/L	<0.14	20	15.2	76	59-142	
1,3,5-Trimethylbenzene	ug/L	<0.50	20	15.6	78	47-149	
1,3-Dichlorobenzene	ug/L	<0.50	20	15.8	79	66-132	
1,3-Dichloropropane	ug/L	<0.50	20	16.1	80	66-134	
1,4-Dichlorobenzene	ug/L	<0.50	20	16.3	81	65-129	
2,2-Dichloropropane	ug/L	<0.17	20	15.9	80	40-150	
2-Butanone (MEK)	ug/L	<2.5	100	99.8	100	39-150	
2-Chlorotoluene	ug/L	<0.14	20	16.7	83	58-147	
2-Hexanone	ug/L	<2.5	100	97.5	98	62-145	

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

MATRIX SPIKE SAMPLE:		1880526					
Parameter	Units	10293234001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
4-Chlorotoluene	ug/L	<0.083	20	16.6	83	64-138	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	110	110	59-143	
Acetone	ug/L	<10.0	100	91.0	91	52-150	
Allyl chloride	ug/L	<0.45	20	14.7	74	34-150	
Benzene	ug/L	<0.15	20	15.0	75	30-150	
Bromobenzene	ug/L	<0.13	20	14.9	75	66-136	
Bromochloromethane	ug/L	<0.12	20	15.8	79	62-140	
Bromodichloromethane	ug/L	<0.20	20	17.9	89	62-143	
Bromoform	ug/L	<2.0	20	17.6	88	59-136	
Bromomethane	ug/L	<2.0	20	9.8	49	30-150	
Carbon disulfide	ug/L	<0.20	20	2.5	12	35-150	M1
Carbon tetrachloride	ug/L	<0.16	20	17.1	86	51-150	
Chlorobenzene	ug/L	<0.066	20	14.7	74	65-133	
Chloroethane	ug/L	<0.27	20	30.4	152	48-150	M1
Chloroform	ug/L	<0.16	20	18.5	92	54-149	
Chloromethane	ug/L	<0.34	20	27.8	139	30-150	
cis-1,2-Dichloroethene	ug/L	<0.13	20	17.3	86	49-150	
cis-1,3-Dichloropropene	ug/L	<0.13	20	15.2	76	64-130	
Dibromochloromethane	ug/L	<0.50	20	18.3	92	68-138	
Dibromomethane	ug/L	<0.18	20	14.0	70	67-134	
Dichlorodifluoromethane	ug/L	<0.50	20	14.7	73	39-150	CL
Dichlorofluoromethane	ug/L	<0.20	20	24.0	120	51-150	
Diethyl ether (Ethyl ether)	ug/L	<0.14	20	15.8	79	50-145	
Ethylbenzene	ug/L	0.34J	20	14.3	70	55-139	
Hexachloro-1,3-butadiene	ug/L	<0.50	20	16.8	84	49-150	
Isopropylbenzene (Cumene)	ug/L	<0.50	20	18.2	91	61-146	
Methyl-tert-butyl ether	ug/L	1.8	20	19.8	90	50-144	
Methylene Chloride	ug/L	<2.0	20	12.2	61	54-136	
n-Butylbenzene	ug/L	<0.50	20	16.6	83	55-150	
n-Propylbenzene	ug/L	<0.50	20	15.8	79	59-142	
Naphthalene	ug/L	<2.0	20	19.3	96	46-150	
p-Isopropyltoluene	ug/L	<0.50	20	15.9	79	60-149	
sec-Butylbenzene	ug/L	<0.50	20	18.2	91	60-150	
Styrene	ug/L	<0.069	20	15.6	78	68-134	
tert-Butylbenzene	ug/L	<0.50	20	16.9	85	62-146	
Tetrachloroethene	ug/L	<0.16	20	11.2	56	44-150	
Tetrahydrofuran	ug/L	<2.0	200	145	72	59-145	
Toluene	ug/L	<0.11	20	13.5	67	52-148	
trans-1,2-Dichloroethene	ug/L	<0.23	20	11.3	56	45-150	
trans-1,3-Dichloropropene	ug/L	<0.18	20	16.6	83	68-132	
Trichloroethene	ug/L	<0.091	20	11.6	58	52-150	
Trichlorofluoromethane	ug/L	<0.22	20	22.4	112	50-150	
Vinyl chloride	ug/L	<0.10	20	28.3	141	43-150	
Xylene (Total)	ug/L	<0.40	60	47.3	79	54-144	
1,2-Dichloroethane-d4 (S)	%				112	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				101	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

SAMPLE DUPLICATE: 1880527

Parameter	Units	10293234002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50		30	
1,1,1-Trichloroethane	ug/L	<0.26	<0.26		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50		30	
1,1,2-Trichloroethane	ug/L	<0.14	<0.14		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.50	<0.50		30	
1,1-Dichloroethane	ug/L	<0.16	<0.16		30	
1,1-Dichloroethene	ug/L	<0.20	<0.20		30	
1,1-Dichloropropene	ug/L	<0.50	<0.50		30	
1,2,3-Trichlorobenzene	ug/L	<0.50	<0.50		30	
1,2,3-Trichloropropane	ug/L	<1.2	<1.2		30	
1,2,4-Trichlorobenzene	ug/L	<0.50	<0.50		30	
1,2,4-Trimethylbenzene	ug/L	<0.50	<0.50		30	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	<2.0		30	
1,2-Dibromoethane (EDB)	ug/L	<0.15	<0.15		30	
1,2-Dichlorobenzene	ug/L	<0.16	<0.16		30	
1,2-Dichloroethane	ug/L	<0.13	<0.13		30	
1,2-Dichloropropane	ug/L	<0.14	<0.14		30	
1,3,5-Trimethylbenzene	ug/L	<0.50	<0.50		30	
1,3-Dichlorobenzene	ug/L	<0.50	<0.50		30	
1,3-Dichloropropane	ug/L	<0.50	<0.50		30	
1,4-Dichlorobenzene	ug/L	<0.50	<0.50		30	
2,2-Dichloropropane	ug/L	<0.17	<0.17		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Chlorotoluene	ug/L	<0.14	<0.14		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
4-Chlorotoluene	ug/L	<0.083	<0.083		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Allyl chloride	ug/L	<0.45	<0.45		30	
Benzene	ug/L	<0.15	<0.15		30	
Bromobenzene	ug/L	<0.13	<0.13		30	
Bromochloromethane	ug/L	<0.12	<0.12		30	
Bromodichloromethane	ug/L	<0.20	<0.20		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.16	<0.16		30	
Chlorobenzene	ug/L	0.63J	<0.066		30	
Chloroethane	ug/L	<0.27	<0.27		30	
Chloroform	ug/L	<0.16	<0.16		30	
Chloromethane	ug/L	<0.34	<0.34		30	
cis-1,2-Dichloroethene	ug/L	<0.13	<0.13		30	
cis-1,3-Dichloropropene	ug/L	<0.13	<0.13		30	
Dibromochloromethane	ug/L	<0.50	<0.50		30	
Dibromomethane	ug/L	<0.18	<0.18		30	
Dichlorodifluoromethane	ug/L	<0.50	<0.50		30	CL
Dichlorofluoromethane	ug/L	<0.20	<0.20		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

SAMPLE DUPLICATE: 1880527

Parameter	Units	10293234002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diethyl ether (Ethyl ether)	ug/L	<0.14	<0.14		30	
Ethylbenzene	ug/L	0.32J	<0.16		30	
Hexachloro-1,3-butadiene	ug/L	<0.50	<0.50		30	
Isopropylbenzene (Cumene)	ug/L	<0.50	<0.50		30	
Methyl-tert-butyl ether	ug/L	<0.17	<0.17		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Butylbenzene	ug/L	<0.50	<0.50		30	
n-Propylbenzene	ug/L	<0.50	<0.50		30	
Naphthalene	ug/L	<2.0	<2.0		30	
p-Isopropyltoluene	ug/L	<0.50	<0.50		30	
sec-Butylbenzene	ug/L	<0.50	<0.50		30	
Styrene	ug/L	<0.069	<0.069		30	
tert-Butylbenzene	ug/L	<0.50	<0.50		30	
Tetrachloroethene	ug/L	<0.16	<0.16		30	
Tetrahydrofuran	ug/L	<2.0	<2.0		30	
Toluene	ug/L	<0.11	<0.11		30	
trans-1,2-Dichloroethene	ug/L	<0.23	<0.23		30	
trans-1,3-Dichloropropene	ug/L	<0.18	<0.18		30	
Trichloroethene	ug/L	<0.091	<0.091		30	
Trichlorofluoromethane	ug/L	<0.22	<0.22		30	
Vinyl chloride	ug/L	<0.10	<0.10		30	
Xylene (Total)	ug/L	<0.40	<0.40		30	
1,2-Dichloroethane-d4 (S)	%.	107	108	1		
4-Bromofluorobenzene (S)	%.	108	107	1		
Toluene-d8 (S)	%.	104	116	11		

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

QC Batch:	OEXT/27835	Analysis Method:	EPA 8011
QC Batch Method:	EPA 8011	Analysis Description:	GCS 8011 EDB DBCP
Associated Lab Samples:	10293234001, 10293234002, 10293234003		

METHOD BLANK: 1877504 Matrix: Water

Associated Lab Samples: 10293234001, 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0046	0.010	01/07/15 03:15	
4-Bromofluorobenzene (S)	%.	100	30-150	01/07/15 03:15	

LABORATORY CONTROL SAMPLE & LCSD: 1877505

LABORATORY CONTROL SAMPLE & LCSD: 1877505			1877506							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.11	0.10	0.11	96	99	60-140	3	20	
4-Bromofluorobenzene (S)	%.				96	97	30-150			

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QUALITY CONTROL DATA

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

QC Batch: OEXT/27839 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3510 Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10293234001, 10293234002, 10293234003

METHOD BLANK: 1877645 Matrix: Water
Associated Lab Samples: 10293234001, 10293234002, 10293234003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	<0.048	0.40	01/10/15 09:34	
Motor Oil Range	mg/L	0.068J	0.40	01/10/15 09:34	
n-Triacontane (S)	%	78	50-150	01/10/15 09:34	
o-Terphenyl (S)	%	81	50-150	01/10/15 09:34	

LABORATORY CONTROL SAMPLE & LCSD: 1877646

LABORATORY CONTROL SAMPLE & LCSD: 1877646			1877647							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.6	1.6	79	79	50-150	0	20	
Motor Oil Range	mg/L	2	1.6	1.6	79	82	50-150	4	20	
n-Triacontane (S)	%				80	82	50-150			
o-Terphenyl (S)	%				79	79	50-150			

SAMPLE DUPLICATE: 1877648

Parameter	Units	10293234001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.13J	0.15J		30	
Motor Oil Range	mg/L	0.083J	0.10J		30	
n-Triacontane (S)	%	84	80	5		
o-Terphenyl (S)	%	81	77	5		

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QUALIFIERS

Project: 1821-00 Tarr Vancouver
Pace Project No.: 10293234

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.

PQL - Practical Quantitation 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

BATCH QUALIFIERS

Batch: GCSV/14839

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/14857

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Parameter	Matrix	Analytical Method	Preparation Method
6020 MET ICPMS	Water	SW-846 6020A	SW-846 3020A
6020 MET ICPMS, Dissolved	Water	SW-846 6020A	SW-846 3020A
8260 VOC	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1821-00 Tarr Vancouver

Pace Project No.: 10293234

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10293234001	MW-5	EPA 8011	OEXT/27835	EPA 8011	GCSV/14839
10293234002	MW-4	EPA 8011	OEXT/27835	EPA 8011	GCSV/14839
10293234003	MW-1	EPA 8011	OEXT/27835	EPA 8011	GCSV/14839
10293234001	MW-5	EPA 3510	OEXT/27839	NWTPH-Dx	GCSV/14857
10293234002	MW-4	EPA 3510	OEXT/27839	NWTPH-Dx	GCSV/14857
10293234003	MW-1	EPA 3510	OEXT/27839	NWTPH-Dx	GCSV/14857
10293234001	MW-5	NWTPH-Gx	GCV/13188		
10293234002	MW-4	NWTPH-Gx	GCV/13188		
10293234003	MW-1	NWTPH-Gx	GCV/13188		
10293234001	MW-5	EPA 3020	MPRP/51731	EPA 6020	ICPM/22950
10293234002	MW-4	EPA 3020	MPRP/51638	EPA 6020	ICPM/22924
10293234003	MW-1	EPA 3020	MPRP/51638	EPA 6020	ICPM/22924
10293234002	MW-4	EPA 3020	MPRP/51677	EPA 6020	ICPM/22938
10293234001	MW-5	EPA 8260	MSV/30074		
10293234002	MW-4	EPA 8260	MSV/30074		
10293234003	MW-1	EPA 8260	MSV/30074		

REPORT OF LABORATORY ANALYSIS

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

Required Client Information:**Required Project Information:**

Invoice Information:

Company:	Apex Companies LLC	Report To:	John Foxwell	Approved:		1734241
Address:	3015 SW 1st Ave. Kaffeeville, OR	Copy To:	Carmen Owens c.owens@apexcos.com	Reviewed:		
Email To:	jfoxwell@apexcos.com	Purchase Order No.:		Address:		
Phone:	503-224-4764	Project Name:	Tan Vancouver	Pass Quote Reference:		
Requested Due Date/TAT:	Steelhead 7-17	Project Number:	1821-00	Pass Project Manager:		
				Pass Project #:		
				Site Location STATE: WA		
REGULATORY AGENCY ☒ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☒ UST ☐ RCRA ☐ OTHER						

[illegible]

ORIGINAL

Important Note: By signing this form you are accepting Procter's NETA 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: F-MN-L-213-rev.09	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: <u>APEX Companies LLC</u>	Project #: WO# : 10293234
Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Speedee ☐ Other: _____ Tracking Number: <u>5779 5332 7567</u>		

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No	Seals Intact? ☒ Yes ☐ No	Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____	Temp Blank? ☒ Yes ☐ No	
Thermom. Used: ☐ B88A9130516413 ☒ B88A912167504 ☐ B88A9132521491	Type of Ice: ☒ Wet ☐ Blue ☐ None	☐ Samples on Ice, cooling process has begun
Cooler Temp Read (°C): <u>1.2</u>	Cooler Temp Corrected (°C): <u>1.2</u>	Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A
Temp should be above freezing to 6°C	Correction Factor: <u>True</u>	Date and Initials of Person Examining Contents: <u>Amp 1-3-14</u>

			Comments:
Chain of Custody Present?	☒ Yes ☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No	☐ N/A	
Containers Intact?	☒ Yes ☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☒ No	☐ N/A	11.
Sample Labels Match COC?	☒ Yes ☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WA</u>			
All containers needing acid/base preservation have been checked?	☒ Yes ☐ No	☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes ☐ No	☐ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes ☒ No		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	☐ Yes ☒ No	☐ N/A	14.
Trip Blank Present?	☒ Yes ☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☒ Yes ☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): <u>101314-382A</u>			

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: John Foxwell Date/Time: 1/5/15 11:59 Field Data Required? ☐ Yes ☒ No

Comments/Resolution: Do not analyze the Trip Blank, hold.

Project Manager Review: [Signature] Date: 1/5/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

John Foxwell / Joel Mattechuck
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

Report Summary

Tuesday July 14, 2015

Report Number: L775051

Samples Received: 07/03/15

Client Project: 1821-00

Description: Tarr Vancouver

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Jarred Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-1N-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/B10041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Est. 1970

REPORT OF ANALYSIS

John Foxwell / Joel Mattechack
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

Sample ID : MW-2

Collected By : Joel Mattechack
Collection Date : 07/01/15 10:20

ESC Sample # : L775051-01

Site ID :

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Lead	U	1.9	5.0	ug/l		6010C	07/08/15	1
Gasoline Range Organics-NWTPH	U	32.	100	ug/l		NWTPHGX	07/11/15	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	85.4			% Rec.		NWTPHGX	07/11/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260C	07/11/15	1
Acrolein	U	8.9	50.	ug/l		8260C	07/11/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260C	07/11/15	1
Benzene	U	0.33	1.0	ug/l		8260C	07/11/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Bromoform	U	0.47	1.0	ug/l		8260C	07/11/15	1
Bromomethane	U	0.87	5.0	ug/l		8260C	07/11/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
sec-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260C	07/11/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260C	07/11/15	1
Chloroethane	U	0.45	5.0	ug/l		8260C	07/11/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260C	07/11/15	1
Chloroform	U	0.32	5.0	ug/l		8260C	07/11/15	1
Chloromethane	U	0.28	2.5	ug/l		8260C	07/11/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260C	07/11/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260C	07/11/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260C	07/11/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260C	07/11/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260C	07/11/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260C	07/11/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Foxwell / Joel Mattechuck
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

ESC Sample # : L775051-01

Sample ID : MW-2

Site ID :

Collected By : Joel Mattechuck
Collection Date : 07/01/15 10:20

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260C	07/11/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260C	07/11/15	1
Ethylbenzene	U	0.38	1.0	ug/l		8260C	07/11/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260C	07/11/15	1
Isopropylbenzene	U	0.33	1.0	ug/l		8260C	07/11/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260C	07/11/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260C	07/11/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260C	07/11/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260C	07/11/15	1
Naphthalene	U	1.0	5.0	ug/l		8260C	07/11/15	1
n-Propylbenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Styrene	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260C	07/11/15	1
Tetrachloroethene	U	0.37	1.0	ug/l		8260C	07/11/15	1
Toluene	U	0.78	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260C	07/11/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260C	07/11/15	1
1,2,4-Trimethylbenzene	U	0.37	1.0	ug/l		8260C	07/11/15	1
1,2,3-Trimethylbenzene	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,3,5-Trimethylbenzene	U	0.39	1.0	ug/l		8260C	07/11/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260C	07/11/15	1
Xylenes, Total	U	1.1	3.0	ug/l		8260C	07/11/15	1
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260C	07/11/15	1
Dibromofluoromethane	110.			% Rec.		8260C	07/11/15	1
4-Bromofluorobenzene	96.6			% Rec.		8260C	07/11/15	1
Diesel Range Organics (DRO)	U	33.	100	ug/l		NWTPHDX	07/07/15	1
Residual Range Organics (RRO)	U	82.	250	ug/l		NWTPHDX	07/07/15	1
Surrogate Recovery								
o-Terphenyl	129.			% Rec.		NWTPHDX	07/07/15	1
Ethylene Dibromide	U	0.0024	0.010	ug/l		8011	07/09/15	1
1,2-Dibromo-3-Chloropropane	U	0.0043	0.020	ug/l		8011	07/09/15	1

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REPORT OF ANALYSIS

John Foxwell / Joel Mattechek
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

Sample ID : MW-5

Collected By : Joel Mattechek
Collection Date : 07/01/15 09:40

ESC Sample # : L775051-02

Site ID :

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Lead	U	1.9	5.0	ug/l		6010C	07/08/15	1
Gasoline Range Organics-NWTPH	U	32.	100	ug/l		NWTPHGX	07/11/15	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	85.3			% Rec.		NWTPHGX	07/11/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260C	07/11/15	1
Acrolein	U	8.9	50.	ug/l		8260C	07/11/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260C	07/11/15	1
Benzene	U	0.33	1.0	ug/l		8260C	07/11/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Bromoform	U	0.47	1.0	ug/l		8260C	07/11/15	1
Bromomethane	U	0.87	5.0	ug/l		8260C	07/11/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
sec-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260C	07/11/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260C	07/11/15	1
Chloroethane	U	0.45	5.0	ug/l		8260C	07/11/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260C	07/11/15	1
Chloroform	U	0.32	5.0	ug/l		8260C	07/11/15	1
Chloromethane	U	0.28	2.5	ug/l		8260C	07/11/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260C	07/11/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260C	07/11/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260C	07/11/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260C	07/11/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260C	07/11/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260C	07/11/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1

U = ND (Not Detected)

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REPORT OF ANALYSIS

John Foxwell / Joel Mattechuck
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

Sample ID : MW-5

Collected By : Joel Mattechuck
Collection Date : 07/01/15 09:40

ESC Sample # : L775051-02

Site ID :

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260C	07/11/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260C	07/11/15	1
Ethylbenzene	U	0.38	1.0	ug/l		8260C	07/11/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260C	07/11/15	1
Isopropylbenzene	U	0.33	1.0	ug/l		8260C	07/11/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260C	07/11/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260C	07/11/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260C	07/11/15	1
Methyl tert-butyl ether	1.1	0.37	1.0	ug/l		8260C	07/11/15	1
Naphthalene	U	1.0	5.0	ug/l		8260C	07/11/15	1
n-Propylbenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Styrene	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260C	07/11/15	1
Tetrachloroethene	U	0.37	1.0	ug/l		8260C	07/11/15	1
Toluene	U	0.78	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260C	07/11/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260C	07/11/15	1
1,2,4-Trimethylbenzene	U	0.37	1.0	ug/l		8260C	07/11/15	1
1,2,3-Trimethylbenzene	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,3,5-Trimethylbenzene	U	0.39	1.0	ug/l		8260C	07/11/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260C	07/11/15	1
Xylenes, Total	U	1.1	3.0	ug/l		8260C	07/11/15	1
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260C	07/11/15	1
Dibromofluoromethane	111.			% Rec.		8260C	07/11/15	1
4-Bromofluorobenzene	92.4			% Rec.		8260C	07/11/15	1
Diesel Range Organics (DRO)	110	33.	100	ug/l		NWTPHDX	07/07/15	1
Residual Range Organics (RRO)	100	82.	250	ug/l	J	NWTPHDX	07/07/15	1
Surrogate Recovery								
o-Terphenyl	124.			% Rec.		NWTPHDX	07/07/15	1
Ethylene Dibromide	U	0.0024	0.010	ug/l		8011	07/09/15	1
1,2-Dibromo-3-Chloropropane	U	0.0043	0.020	ug/l		8011	07/09/15	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

John Foxwell / Joel Mattechack
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

Sample ID : MW-4

Collected By : Joel Mattechack
Collection Date : 07/01/15 08:50

ESC Sample # : L775051-03

Site ID :

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Lead	2.8	1.9	5.0	ug/l	J	6010C	07/08/15	1
Gasoline Range Organics-NWTPH	U	32.	100	ug/l		NWTPHGX	07/11/15	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	86.4			% Rec.		NWTPHGX	07/11/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260C	07/11/15	1
Acrolein	U	8.9	50.	ug/l		8260C	07/11/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260C	07/11/15	1
Benzene	U	0.33	1.0	ug/l		8260C	07/11/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Bromoform	U	0.47	1.0	ug/l		8260C	07/11/15	1
Bromomethane	U	0.87	5.0	ug/l		8260C	07/11/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
sec-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260C	07/11/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260C	07/11/15	1
Chloroethane	U	0.45	5.0	ug/l		8260C	07/11/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260C	07/11/15	1
Chloroform	U	0.32	5.0	ug/l		8260C	07/11/15	1
Chloromethane	U	0.28	2.5	ug/l		8260C	07/11/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260C	07/11/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260C	07/11/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260C	07/11/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260C	07/11/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260C	07/11/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260C	07/11/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1

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REPORT OF ANALYSIS

John Foxwell / Joel Mattechuck
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

ESC Sample # : L775051-03

Sample ID : MW-4

Site ID :

Collected By : Joel Mattechuck
Collection Date : 07/01/15 08:50

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260C	07/11/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260C	07/11/15	1
Ethylbenzene	U	0.38	1.0	ug/l		8260C	07/11/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260C	07/11/15	1
Isopropylbenzene	U	0.33	1.0	ug/l		8260C	07/11/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260C	07/11/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260C	07/11/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260C	07/11/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260C	07/11/15	1
Naphthalene	U	1.0	5.0	ug/l		8260C	07/11/15	1
n-Propylbenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Styrene	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260C	07/11/15	1
Tetrachloroethene	U	0.37	1.0	ug/l		8260C	07/11/15	1
Toluene	U	0.78	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260C	07/11/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260C	07/11/15	1
1,2,4-Trimethylbenzene	U	0.37	1.0	ug/l		8260C	07/11/15	1
1,2,3-Trimethylbenzene	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,3,5-Trimethylbenzene	U	0.39	1.0	ug/l		8260C	07/11/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260C	07/11/15	1
Xylenes, Total	U	1.1	3.0	ug/l		8260C	07/11/15	1
Surrogate Recovery								
Toluene-d8	105.			% Rec.		8260C	07/11/15	1
Dibromofluoromethane	109.			% Rec.		8260C	07/11/15	1
4-Bromofluorobenzene	96.9			% Rec.		8260C	07/11/15	1
Diesel Range Organics (DRO)	51.	33.	100	ug/l	J	NWTPHDX	07/07/15	1
Residual Range Organics (RRO)	U	82.	250	ug/l		NWTPHDX	07/07/15	1
Surrogate Recovery								
o-Terphenyl	131.			% Rec.		NWTPHDX	07/07/15	1
Ethylene Dibromide	0.029	0.0024	0.010	ug/l		8011	07/09/15	1
1,2-Dibromo-3-Chloropropane	U	0.0043	0.020	ug/l		8011	07/09/15	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Foxwell / Joel Mattechek
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

Sample ID : MW-1

Collected By : Joel Mattechek
Collection Date : 07/01/15 08:00

ESC Sample # : L775051-04

Site ID :

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Lead	U	1.9	5.0	ug/l		6010C	07/08/15	1
Gasoline Range Organics-NWTPH	280	32.	100	ug/l		NWTPHGX	07/11/15	1
Surrogate Recovery								
a,a,a-Trifluorotoluene(FID)	88.2			% Rec.		NWTPHGX	07/11/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260C	07/11/15	1
Acrolein	U	8.9	50.	ug/l		8260C	07/11/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260C	07/11/15	1
Benzene	0.91	0.33	1.0	ug/l	J	8260C	07/11/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Bromoform	U	0.47	1.0	ug/l		8260C	07/11/15	1
Bromomethane	U	0.87	5.0	ug/l		8260C	07/11/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
sec-Butylbenzene	4.0	0.36	1.0	ug/l		8260C	07/11/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260C	07/11/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260C	07/11/15	1
Chloroethane	U	0.45	5.0	ug/l		8260C	07/11/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260C	07/11/15	1
Chloroform	U	0.32	5.0	ug/l		8260C	07/11/15	1
Chloromethane	U	0.28	2.5	ug/l		8260C	07/11/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260C	07/11/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260C	07/11/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260C	07/11/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260C	07/11/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260C	07/11/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260C	07/11/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260C	07/11/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1

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REPORT OF ANALYSIS

John Foxwell / Joel Mattechack
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201-4707

July 14, 2015

Date Received : July 03, 2015
Description : Tarr Vancouver

Sample ID : MW-1

Collected By : Joel Mattechack
Collection Date : 07/01/15 08:00

ESC Sample # : L775051-04

Site ID :

Project # : 1821-00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260C	07/11/15	1
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260C	07/11/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260C	07/11/15	1
Ethylbenzene	5.8	0.38	1.0	ug/l		8260C	07/11/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260C	07/11/15	1
Isopropylbenzene	1.9	0.33	1.0	ug/l		8260C	07/11/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260C	07/11/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260C	07/11/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260C	07/11/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260C	07/11/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260C	07/11/15	1
Naphthalene	1.5	1.0	5.0	ug/l	J	8260C	07/11/15	1
n-Propylbenzene	2.9	0.35	1.0	ug/l		8260C	07/11/15	1
Styrene	U	0.31	1.0	ug/l		8260C	07/11/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260C	07/11/15	1
Tetrachloroethene	U	0.37	1.0	ug/l		8260C	07/11/15	1
Toluene	U	0.78	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260C	07/11/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260C	07/11/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260C	07/11/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260C	07/11/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260C	07/11/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260C	07/11/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260C	07/11/15	1
1,2,4-Trimethylbenzene	16.	0.37	1.0	ug/l		8260C	07/11/15	1
1,2,3-Trimethylbenzene	2.0	0.32	1.0	ug/l		8260C	07/11/15	1
1,3,5-Trimethylbenzene	1.0	0.39	1.0	ug/l		8260C	07/11/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260C	07/11/15	1
Xylenes, Total	6.3	1.1	3.0	ug/l		8260C	07/11/15	1
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260C	07/11/15	1
Dibromofluoromethane	109.			% Rec.		8260C	07/11/15	1
4-Bromofluorobenzene	89.9			% Rec.		8260C	07/11/15	1
Diesel Range Organics (DRO)	660	33.	100	ug/l		NWTPHDX	07/07/15	1
Residual Range Organics (RRO)	250	82.	250	ug/l		NWTPHDX	07/07/15	1
Surrogate Recovery								
o-Terphenyl	136.			% Rec.		NWTPHDX	07/07/15	1
Ethylene Dibromide	U	0.0024	0.010	ug/l		8011	07/09/15	1
1,2-Dibromo-3-Chloropropane	U	0.0043	0.020	ug/l		8011	07/09/15	1

U = ND (Not Detected)

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MDL = Minimum Detection Limit = LOD = TRRP SDL

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L775051-02	WG800386	SAMP	Residual Range Organics (RRO)	R3048247	J
L775051-03	WG800386	SAMP	Diesel Range Organics (DRO)	R3048247	J
	WG800860	SAMP	Lead	R3048198	J
L775051-04	WG802166	SAMP	Benzene	R3049383	J
	WG802166	SAMP	Naphthalene	R3049383	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Quality Assurance Report
Level II

L775051

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Tag I.D. 62-0814289

Est. 1970

July 14, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Lead	< .005	mg/l			WG800860	07/08/15 03:46
Diesel Range Organics (DRO)	< .1	mg/l			WG800386	07/07/15 13:45
Residual Range Organics (RRO)	< .25	mg/l			WG800386	07/07/15 13:45
o-Terphenyl		% Rec.	141.0	50-150	WG800386	07/07/15 13:45
1,2-Dibromo-3-Chloropropane	< .00002	mg/l			WG801378	07/09/15 03:19
Ethylene Dibromide	< .00001	mg/l			WG801378	07/09/15 03:19
1,1,1,2-Tetrachloroethane		% Rec.	100.0	60-140	WG801378	07/09/15 03:19
Gasoline Range Organics-NWTPH	< .1	mg/l			WG801714	07/11/15 05:49
a,a,a-Trifluorotoluene(FID)		% Rec.	85.00	62-128	WG801714	07/11/15 05:49
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,1,1-Trichloroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,1,2-Trichloroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,1,2-Trichlorotrifluoroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,1-Dichloroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,1-Dichloroethene	< .001	mg/l			WG802166	07/11/15 10:18
1,1-Dichloropropene	< .001	mg/l			WG802166	07/11/15 10:18
1,2,3-Trichlorobenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,2,3-Trichloropropane	< .001	mg/l			WG802166	07/11/15 10:18
1,2,3-Trimethylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,2,4-Trichlorobenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,2,4-Trimethylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG802166	07/11/15 10:18
1,2-Dibromoethane	< .001	mg/l			WG802166	07/11/15 10:18
1,2-Dichlorobenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,2-Dichloroethane	< .001	mg/l			WG802166	07/11/15 10:18
1,2-Dichloropropane	< .001	mg/l			WG802166	07/11/15 10:18
1,3,5-Trimethylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,3-Dichlorobenzene	< .001	mg/l			WG802166	07/11/15 10:18
1,3-Dichloropropane	< .001	mg/l			WG802166	07/11/15 10:18
1,4-Dichlorobenzene	< .001	mg/l			WG802166	07/11/15 10:18
2,2-Dichloropropane	< .001	mg/l			WG802166	07/11/15 10:18
2-Butanone (MEK)	< .01	mg/l			WG802166	07/11/15 10:18
2-Chloroethyl vinyl ether	< .05	mg/l			WG802166	07/11/15 10:18
2-Chlorotoluene	< .001	mg/l			WG802166	07/11/15 10:18
4-Chlorotoluene	< .001	mg/l			WG802166	07/11/15 10:18
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG802166	07/11/15 10:18
Acetone	< .05	mg/l			WG802166	07/11/15 10:18
Acrolein	< .025	mg/l			WG802166	07/11/15 10:18
Acrylonitrile	< .01	mg/l			WG802166	07/11/15 10:18
Benzene	< .001	mg/l			WG802166	07/11/15 10:18
Bromobenzene	< .001	mg/l			WG802166	07/11/15 10:18
Bromodichloromethane	< .001	mg/l			WG802166	07/11/15 10:18
Bromoform	< .001	mg/l			WG802166	07/11/15 10:18
Bromomethane	< .005	mg/l			WG802166	07/11/15 10:18
Carbon tetrachloride	< .001	mg/l			WG802166	07/11/15 10:18
Chlorobenzene	< .001	mg/l			WG802166	07/11/15 10:18
Chlorodibromomethane	< .001	mg/l			WG802166	07/11/15 10:18
Chloroethane	< .005	mg/l			WG802166	07/11/15 10:18
Chloroform	< .005	mg/l			WG802166	07/11/15 10:18
Chloromethane	< .0025	mg/l			WG802166	07/11/15 10:18

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Tax I.D. 62-0814289

Est. 1970

July 14, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
cis-1,2-Dichloroethene	< .001	mg/l			WG802166	07/11/15 10:18
cis-1,3-Dichloropropene	< .001	mg/l			WG802166	07/11/15 10:18
Di-isopropyl ether	< .001	mg/l			WG802166	07/11/15 10:18
Dibromomethane	< .001	mg/l			WG802166	07/11/15 10:18
Dichlorodifluoromethane	< .005	mg/l			WG802166	07/11/15 10:18
Ethylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
Hexachloro-1,3-butadiene	< .001	mg/l			WG802166	07/11/15 10:18
Isopropylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
Methyl tert-butyl ether	< .001	mg/l			WG802166	07/11/15 10:18
Methylene Chloride	< .005	mg/l			WG802166	07/11/15 10:18
n-Butylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
n-Propylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
Naphthalene	< .005	mg/l			WG802166	07/11/15 10:18
p-Isopropyltoluene	< .001	mg/l			WG802166	07/11/15 10:18
sec-Butylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
Styrene	< .001	mg/l			WG802166	07/11/15 10:18
tert-Butylbenzene	< .001	mg/l			WG802166	07/11/15 10:18
Tetrachloroethene	< .001	mg/l			WG802166	07/11/15 10:18
Toluene	< .005	mg/l			WG802166	07/11/15 10:18
trans-1,2-Dichloroethene	< .001	mg/l			WG802166	07/11/15 10:18
trans-1,3-Dichloropropene	< .001	mg/l			WG802166	07/11/15 10:18
Trichloroethene	< .001	mg/l			WG802166	07/11/15 10:18
Trichlorofluoromethane	< .005	mg/l			WG802166	07/11/15 10:18
Vinyl chloride	< .001	mg/l			WG802166	07/11/15 10:18
Xylenes, Total	< .003	mg/l			WG802166	07/11/15 10:18
4-Bromofluorobenzene		% Rec.	97.40	80.1-120	WG802166	07/11/15 10:18
Dibromofluoromethane		% Rec.	107.0	79-121	WG802166	07/11/15 10:18
Toluene-d8		% Rec.	104.0	90-115	WG802166	07/11/15 10:18

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
1,2-Dibromo-3-Chloropropane	mg/l	0.0	0.0	0.0	20	L775051-04	WG801378
Ethylene Dibromide	mg/l	0.0	0.0	0.0	20	L775051-04	WG801378

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Lead	mg/l	1	1.08	108.	80-120	WG800860
Diesel Range Organics (DRO)	mg/l	.75	0.950	127.	50-150	WG800386
Residual Range Organics (RRO)	mg/l	.75	0.945	126.	50-150	WG800386
o-Terphenyl				134.0	50-150	WG800386
1,2-Dibromo-3-Chloropropane	mg/l	.00025	0.000235	94.2	60-140	WG801378
Ethylene Dibromide	mg/l	.00025	0.000229	91.5	60-140	WG801378
1,1,1,2-Tetrachloroethane				99.80	60-140	WG801378
Gasoline Range Organics-NWTPH	mg/l	5.5	4.14	75.3	66-123	WG801714
a,a,a-Trifluorotoluene(FID)				96.00	62-128	WG801714
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0233	93.0	78.5-125	WG802166
1,1,1-Trichloroethane	mg/l	.025	0.0242	96.9	71.1-129	WG802166
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0245	98.0	79.3-123	WG802166

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Est. 1970

Quality Assurance Report
Level II

L775051

July 14, 2015

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,1,2-Trichloroethane	mg/l	.025	0.0235	93.9	81.6-120	WG802166
1,1,2-Trichlorotrifluoroethane	mg/l	.025	0.0277	111.	62-141	WG802166
1,1-Dichloroethane	mg/l	.025	0.0261	104.	71.7-127	WG802166
1,1-Dichloroethene	mg/l	.025	0.0284	114.	59.9-137	WG802166
1,1-Dichloropropene	mg/l	.025	0.0260	104.	72.5-127	WG802166
1,2,3-Trichlorobenzene	mg/l	.025	0.0253	101.	75.7-134	WG802166
1,2,3-Trichloropropane	mg/l	.025	0.0261	104.	74.9-124	WG802166
1,2,3-Trimethylbenzene	mg/l	.025	0.0244	97.5	79.9-118	WG802166
1,2,4-Trichlorobenzene	mg/l	.025	0.0256	103.	76.1-136	WG802166
1,2,4-Trimethylbenzene	mg/l	.025	0.0236	94.5	79-122	WG802166
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0246	98.5	64.8-131	WG802166
1,2-Dibromoethane	mg/l	.025	0.0242	96.8	79.8-122	WG802166
1,2-Dichlorobenzene	mg/l	.025	0.0252	101.	84.7-118	WG802166
1,2-Dichloroethane	mg/l	.025	0.0256	102.	79.8-122	WG802166
1,2-Dichloropropane	mg/l	.025	0.0249	99.6	77.4-125	WG802166
1,3,5-Trimethylbenzene	mg/l	.025	0.0244	97.7	81-123	WG802166
1,3-Dichlorobenzene	mg/l	.025	0.0244	97.4	77.6-127	WG802166
1,3-Dichloropropane	mg/l	.025	0.0237	94.9	80.6-115	WG802166
1,4-Dichlorobenzene	mg/l	.025	0.0245	97.9	82.2-114	WG802166
2,2-Dichloropropane	mg/l	.025	0.0235	93.9	61.3-134	WG802166
2-Butanone (MEK)	mg/l	.125	0.147	118.	46.4-155	WG802166
2-Chloroethyl vinyl ether	mg/l	.125	0.128	102.	23.4-162	WG802166
2-Chlorotoluene	mg/l	.025	0.0244	97.8	76.4-125	WG802166
4-Chlorotoluene	mg/l	.025	0.0238	95.4	81.5-121	WG802166
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.146	117.	63.3-138	WG802166
Acetone	mg/l	.125	0.143	115.	28.7-175	WG802166
Acrolein	mg/l	.125	0.145	116.	40.4-172	WG802166
Acrylonitrile	mg/l	.125	0.140	112.	58.2-145	WG802166
Benzene	mg/l	.025	0.0258	103.	73-122	WG802166
Bromobenzene	mg/l	.025	0.0242	96.7	81.5-115	WG802166
Bromodichloromethane	mg/l	.025	0.0233	93.1	75.5-121	WG802166
Bromoform	mg/l	.025	0.0249	99.7	71.5-131	WG802166
Bromomethane	mg/l	.025	0.0283	113.	22.4-187	WG802166
Carbon tetrachloride	mg/l	.025	0.0250	100.	70.9-129	WG802166
Chlorobenzene	mg/l	.025	0.0239	95.4	79.7-122	WG802166
Chlorodibromomethane	mg/l	.025	0.0243	97.4	78.2-124	WG802166
Chloroethane	mg/l	.025	0.0271	108.	41.2-153	WG802166
Chloroform	mg/l	.025	0.0255	102.	73.2-125	WG802166
Chloromethane	mg/l	.025	0.0240	95.9	55.8-134	WG802166
cis-1,2-Dichloroethene	mg/l	.025	0.0242	96.7	77.3-122	WG802166
cis-1,3-Dichloropropene	mg/l	.025	0.0239	95.5	77.7-124	WG802166
Di-isopropyl ether	mg/l	.025	0.0262	105.	65.1-135	WG802166
Dibromomethane	mg/l	.025	0.0250	100.	78.8-119	WG802166
Dichlorodifluoromethane	mg/l	.025	0.0217	87.0	56-134	WG802166
Ethylbenzene	mg/l	.025	0.0240	95.9	80.9-121	WG802166
Hexachloro-1,3-butadiene	mg/l	.025	0.0241	96.6	73.7-133	WG802166
Isopropylbenzene	mg/l	.025	0.0237	94.9	81.6-124	WG802166
Methyl tert-butyl ether	mg/l	.025	0.0251	100.	70.1-125	WG802166
Methylene Chloride	mg/l	.025	0.0241	96.4	69.5-120	WG802166
n-Butylbenzene	mg/l	.025	0.0263	105.	75.9-134	WG802166
n-Propylbenzene	mg/l	.025	0.0250	99.9	81.9-122	WG802166
Naphthalene	mg/l	.025	0.0256	102.	69.7-134	WG802166
p-Isopropyltoluene	mg/l	.025	0.0244	97.7	77.6-129	WG802166
sec-Butylbenzene	mg/l	.025	0.0244	97.4	80.6-126	WG802166
Styrene	mg/l	.025	0.0234	93.7	79.9-124	WG802166
tert-Butylbenzene	mg/l	.025	0.0239	95.5	79.3-127	WG802166
Tetrachloroethene	mg/l	.025	0.0225	90.2	73.5-130	WG802166
Toluene	mg/l	.025	0.0242	96.6	77.9-116	WG802166
trans-1,2-Dichloroethene	mg/l	.025	0.0245	98.0	72.6-125	WG802166

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July 14, 2015

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
trans-1,3-Dichloropropene	mg/l	.025	0.0246	98.5	73.5-127	WG802166
Trichloroethene	mg/l	.025	0.0246	98.2	79.5-121	WG802166
Trichlorofluoromethane	mg/l	.025	0.0290	116.	49.1-157	WG802166
Vinyl chloride	mg/l	.025	0.0265	106.	61.5-134	WG802166
Xylenes, Total	mg/l	.075	0.0706	94.1	79.2-122	WG802166
4-Bromofluorobenzene				96.70	80.1-120	WG802166
Dibromofluoromethane				106.0	79-121	WG802166
Toluene-d8				103.0	90-115	WG802166

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Lead	mg/l	1.09	1.08	109.	80-120	1.00	20	WG800860
Diesel Range Organics (DRO)	mg/l	0.966	0.950	129.	50-150	1.63	20	WG800386
Residual Range Organics (RRO)	mg/l	0.885	0.945	118.	50-150	6.64	20	WG800386
o-Terphenyl				130.0	50-150			WG800386
1,2-Dibromo-3-Chloropropane	mg/l	0.000231	0.000235	92.0	60-140	1.85	20	WG801378
Ethylene Dibromide	mg/l	0.000229	0.000229	92.0	60-140	0.0300	20	WG801378
1,1,1,2-Tetrachloroethane				102.0	60-140			WG801378
Gasoline Range Organics-NWTPH	mg/l	4.76	4.14	86.0	66-123	13.9	20	WG801714
a,a,a-Trifluorotoluene(FID)				98.30	62-128			WG801714
1,1,1,2-Tetrachloroethane	mg/l	0.0230	0.0233	92.0	78.5-125	0.980	20	WG802166
1,1,1-Trichloroethane	mg/l	0.0237	0.0242	95.0	71.1-129	2.13	20	WG802166
1,1,2,2-Tetrachloroethane	mg/l	0.0245	0.0245	98.0	79.3-123	0.0400	20	WG802166
1,1,2-Trichloroethane	mg/l	0.0234	0.0235	94.0	81.6-120	0.180	20	WG802166
1,1,2-Trichlorotrifluoroethane	mg/l	0.0274	0.0277	110.	62-141	0.950	20	WG802166
1,1-Dichloroethane	mg/l	0.0258	0.0261	103.	71.7-127	1.04	20	WG802166
1,1-Dichloroethene	mg/l	0.0281	0.0284	112.	59.9-137	1.10	20	WG802166
1,1-Dichloropropene	mg/l	0.0255	0.0260	102.	72.5-127	1.87	20	WG802166
1,2,3-Trichlorobenzene	mg/l	0.0244	0.0253	98.0	75.7-134	3.46	20	WG802166
1,2,3-Trichloropropane	mg/l	0.0258	0.0261	103.	74.9-124	1.05	20	WG802166
1,2,3-Trimethylbenzene	mg/l	0.0242	0.0244	97.0	79.9-118	0.780	20	WG802166
1,2,4-Trichlorobenzene	mg/l	0.0253	0.0256	101.	76.1-136	1.46	20	WG802166
1,2,4-Trimethylbenzene	mg/l	0.0235	0.0236	94.0	79-122	0.510	20	WG802166
1,2-Dibromo-3-Chloropropane	mg/l	0.0248	0.0246	99.0	64.8-131	0.700	20	WG802166
1,2-Dibromoethane	mg/l	0.0246	0.0242	98.0	79.8-122	1.79	20	WG802166
1,2-Dichlorobenzene	mg/l	0.0247	0.0252	99.0	84.7-118	1.95	20	WG802166
1,2-Dichloroethane	mg/l	0.0258	0.0256	103.	79.8-122	0.580	20	WG802166
1,2-Dichloropropane	mg/l	0.0247	0.0249	99.0	77.4-125	0.680	20	WG802166
1,3,5-Trimethylbenzene	mg/l	0.0243	0.0244	97.0	81-123	0.590	20	WG802166
1,3-Dichlorobenzene	mg/l	0.0240	0.0244	96.0	77.6-127	1.30	20	WG802166
1,3-Dichloropropane	mg/l	0.0236	0.0237	94.0	80.6-115	0.510	20	WG802166
1,4-Dichlorobenzene	mg/l	0.0241	0.0245	96.0	82.2-114	1.53	20	WG802166
2,2-Dichloropropane	mg/l	0.0231	0.0235	92.0	61.3-134	1.50	20	WG802166
2-Butanone (MEK)	mg/l	0.145	0.147	116.	46.4-155	1.48	20	WG802166
2-Chloroethyl vinyl ether	mg/l	0.134	0.128	107.	23.4-162	4.62	23.5	WG802166
2-Chlorotoluene	mg/l	0.0242	0.0244	97.0	76.4-125	0.840	20	WG802166
4-Chlorotoluene	mg/l	0.0241	0.0238	96.0	81.5-121	1.09	20	WG802166
4-Methyl-2-pentanone (MIBK)	mg/l	0.144	0.146	115.	63.3-138	1.37	20	WG802166
Acetone	mg/l	0.139	0.143	111.	28.7-175	2.85	20.9	WG802166
Acrolein	mg/l	0.133	0.145	107.	40.4-172	8.52	20	WG802166

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Acrylonitrile	mg/l	0.137	0.140	110.	58.2-145	2.26	20	WG802166
Benzene	mg/l	0.0255	0.0258	102.	73-122	1.03	20	WG802166
Bromobenzene	mg/l	0.0241	0.0242	96.0	81.5-115	0.360	20	WG802166
Bromodichloromethane	mg/l	0.0234	0.0233	93.0	75.5-121	0.340	20	WG802166
Bromoform	mg/l	0.0254	0.0249	101.	71.5-131	1.70	20	WG802166
Bromomethane	mg/l	0.0275	0.0283	110.	22.4-187	3.04	20	WG802166
Carbon tetrachloride	mg/l	0.0248	0.0250	99.0	70.9-129	1.08	20	WG802166
Chlorobenzene	mg/l	0.0239	0.0239	96.0	79.7-122	0.370	20	WG802166
Chlorodibromomethane	mg/l	0.0247	0.0243	99.0	78.2-124	1.28	20	WG802166
Chloroethane	mg/l	0.0264	0.0271	106.	41.2-153	2.44	20	WG802166
Chloroform	mg/l	0.0251	0.0255	100.	73.2-125	1.23	20	WG802166
Chloromethane	mg/l	0.0233	0.0240	93.0	55.8-134	2.89	20	WG802166
cis-1,2-Dichloroethene	mg/l	0.0240	0.0242	96.0	77.3-122	0.780	20	WG802166
cis-1,3-Dichloropropene	mg/l	0.0240	0.0239	96.0	77.7-124	0.350	20	WG802166
Di-isopropyl ether	mg/l	0.0261	0.0262	104.	65.1-135	0.660	20	WG802166
Dibromomethane	mg/l	0.0244	0.0250	97.0	78.8-119	2.75	20	WG802166
Dichlorodifluoromethane	mg/l	0.0215	0.0217	86.0	56-134	1.11	20	WG802166
Ethylbenzene	mg/l	0.0238	0.0240	95.0	80.9-121	0.890	20	WG802166
Hexachloro-1,3-butadiene	mg/l	0.0233	0.0241	93.0	73.7-133	3.71	20	WG802166
Isopropylbenzene	mg/l	0.0235	0.0237	94.0	81.6-124	0.900	20	WG802166
Methyl tert-butyl ether	mg/l	0.0246	0.0251	98.0	70.1-125	1.71	20	WG802166
Methylene Chloride	mg/l	0.0245	0.0241	98.0	69.5-120	1.74	20	WG802166
n-Butylbenzene	mg/l	0.0256	0.0263	102.	75.9-134	2.60	20	WG802166
n-Propylbenzene	mg/l	0.0247	0.0250	99.0	81.9-122	1.21	20	WG802166
Naphthalene	mg/l	0.0252	0.0256	101.	69.7-134	1.53	20	WG802166
p-Isopropyltoluene	mg/l	0.0241	0.0244	96.0	77.6-129	1.15	20	WG802166
sec-Butylbenzene	mg/l	0.0242	0.0244	97.0	80.6-126	0.580	20	WG802166
Styrene	mg/l	0.0241	0.0234	96.0	79.9-124	2.79	20	WG802166
tert-Butylbenzene	mg/l	0.0236	0.0239	94.0	79.3-127	1.04	20	WG802166
Tetrachloroethene	mg/l	0.0223	0.0225	89.0	73.5-130	1.05	20	WG802166
Toluene	mg/l	0.0243	0.0242	97.0	77.9-116	0.430	20	WG802166
trans-1,2-Dichloroethene	mg/l	0.0239	0.0245	96.0	72.6-125	2.50	20	WG802166
trans-1,3-Dichloropropene	mg/l	0.0245	0.0246	98.0	73.5-127	0.590	20	WG802166
Trichloroethene	mg/l	0.0242	0.0246	97.0	79.5-121	1.61	20	WG802166
Trichlorofluoromethane	mg/l	0.0283	0.0290	113.	49.1-157	2.27	20	WG802166
Vinyl chloride	mg/l	0.0259	0.0265	104.	61.5-134	2.15	20	WG802166
Xylenes, Total	mg/l	0.0707	0.0706	94.0	79.2-122	0.250	20	WG802166
4-Bromofluorobenzene				98.20	80.1-120			WG802166
Dibromofluoromethane				107.0	79-121			WG802166
Toluene-d8				103.0	90-115			WG802166

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Lead	mg/l	1.09	-0.00103	1	110.	75-125	L775051-04	WG800860
1,2-Dibromo-3-Chloropropane	mg/l	0.000100	0.0	.0001	100.	60-140	L775051-03	WG801378
Ethylene Dibromide	mg/l	0.000127	0.0000287	.0001	98.0	60-140	L775051-03	WG801378
1,1,1,2-Tetrachloroethane					103.0	60-140		WG801378
Gasoline Range Organics-NWTPH	mg/l	4.38	0.0465	5.5	79.0	47.5-136	L773552-01	WG801714
a,a,a-Trifluorotoluene(FID)					85.00	62-128		WG801714

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Lead	mg/l	1.05	1.09	105.	75-125	3.00	20	L775051-04	WG800860

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Gasoline Range Organics-NWTPH	mg/l	4.76	4.38	85.6	47.5-136	8.16	20	L773552-01	WG801714
a,a,a-Trifluorotoluene(FID)				85.80	62-128				WG801714

Serial Dilution

Batch number /Run number / Sample number cross reference

WG800860: R3048198: L775051-01 02 03 04
WG800386: R3048247: L775051-01 02 03 04
WG801378: R3048597: L775051-01 02 03 04
WG801714: R3049027: L775051-01 02 03 04
WG802166: R3049383: L775051-01 02 03 04

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Apex Companies, LLC
John Foxwell / Joel Matthecheck
3015 SW First Avenue

Portland, OR 97201-4707

Quality Assurance Report
Level II

L775051

12065 Lebanon Rd.
Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

July 14, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Apex Companies, LLC- Portland, OR

Sample Delivery Group: L793918
Samples Received: 10/10/2015
Project Number: 1821-00
Description: Tarr Vancouver

Report To: John Foxwell / Joel Mattechek
3015 SW First Avenue
Portland, OR 97201-4707

Entire Report Reviewed By:



Jarred Willis
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-1 L793918-01 GW

			Collected by JM / JM	Collected date/time 10/08/15 10:15	Received date/time 10/10/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
EDB / DBCP by Method 8011	WG821826	1	10/14/15 06:53	10/14/15 17:50	TD
Metals (ICP) by Method 6010C	WG821543	1	10/14/15 20:35	10/15/15 17:19	WBD
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX	WG821923	1	10/12/15 21:41	10/14/15 11:25	JNS
Volatile Organic Compounds (GC) by Method NWTPHGX	WG821161	1	10/15/15 09:18	10/15/15 09:18	KLO
Volatile Organic Compounds (GC/MS) by Method 8260C	WG822246	1	10/16/15 18:47	10/16/15 18:47	BRA

¹ Cp

² Tc

³ Ss

⁴ Cn

MW-5 L793918-02 GW

			Collected by JM / JM	Collected date/time 10/08/15 11:50	Received date/time 10/10/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
EDB / DBCP by Method 8011	WG821826	1	10/14/15 06:53	10/14/15 18:01	TD
Metals (ICP) by Method 6010C	WG821543	1	10/14/15 20:35	10/15/15 17:22	WBD
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX	WG821923	1	10/12/15 21:41	10/14/15 11:43	JNS
Volatile Organic Compounds (GC) by Method NWTPHGX	WG821161	1	10/15/15 09:40	10/15/15 09:40	KLO
Volatile Organic Compounds (GC/MS) by Method 8260C	WG822246	1	10/16/15 19:05	10/16/15 19:05	BRA

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

MW-4 L793918-03 GW

			Collected by JM / JM	Collected date/time 10/08/15 11:10	Received date/time 10/10/15 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
EDB / DBCP by Method 8011	WG821826	1	10/14/15 06:53	10/14/15 18:12	TD
Metals (ICP) by Method 6010C	WG821543	1	10/14/15 20:35	10/15/15 17:25	WBD
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX	WG821923	1	10/12/15 21:41	10/14/15 12:02	JNS
Volatile Organic Compounds (GC) by Method NWTPHGX	WG821161	1	10/15/15 02:39	10/15/15 02:39	KLO
Volatile Organic Compounds (GC/MS) by Method 8260C	WG822246	1	10/16/15 19:23	10/16/15 19:23	BRA

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jarred Willis
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Lead	4.67	J	1.90	5.00	1	10/15/2015 17:19	WG821543

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	U		31.6	100	1	10/15/2015 09:18	WG821161
(S) a,a,a-Trifluorotoluene(FID)	86.6			62.0-128		10/15/2015 09:18	WG821161

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	10/16/2015 18:47	WG822246
Acrolein	U		8.87	50.0	1	10/16/2015 18:47	WG822246
Acrylonitrile	U		1.87	10.0	1	10/16/2015 18:47	WG822246
Benzene	U		0.331	1.00	1	10/16/2015 18:47	WG822246
Bromobenzene	U		0.352	1.00	1	10/16/2015 18:47	WG822246
Bromodichloromethane	U		0.380	1.00	1	10/16/2015 18:47	WG822246
Bromoform	U		0.469	1.00	1	10/16/2015 18:47	WG822246
Bromomethane	U		0.866	5.00	1	10/16/2015 18:47	WG822246
n-Butylbenzene	U		0.361	1.00	1	10/16/2015 18:47	WG822246
sec-Butylbenzene	5.87		0.365	1.00	1	10/16/2015 18:47	WG822246
tert-Butylbenzene	U		0.399	1.00	1	10/16/2015 18:47	WG822246
Carbon tetrachloride	U		0.379	1.00	1	10/16/2015 18:47	WG822246
Chlorobenzene	U		0.348	1.00	1	10/16/2015 18:47	WG822246
Chlorodibromomethane	U		0.327	1.00	1	10/16/2015 18:47	WG822246
Chloroethane	U		0.453	5.00	1	10/16/2015 18:47	WG822246
2-Chloroethyl vinyl ether	U		3.01	50.0	1	10/16/2015 18:47	WG822246
Chloroform	U		0.324	5.00	1	10/16/2015 18:47	WG822246
Chloromethane	U		0.276	2.50	1	10/16/2015 18:47	WG822246
2-Chlorotoluene	U		0.375	1.00	1	10/16/2015 18:47	WG822246
4-Chlorotoluene	U		0.351	1.00	1	10/16/2015 18:47	WG822246
1,2-Dibromo-3-Chloropropane	U		1.33	5.00	1	10/16/2015 18:47	WG822246
1,2-Dibromoethane	U		0.381	1.00	1	10/16/2015 18:47	WG822246
Dibromomethane	U		0.346	1.00	1	10/16/2015 18:47	WG822246
1,2-Dichlorobenzene	U		0.349	1.00	1	10/16/2015 18:47	WG822246
1,3-Dichlorobenzene	U		0.220	1.00	1	10/16/2015 18:47	WG822246
1,4-Dichlorobenzene	U		0.274	1.00	1	10/16/2015 18:47	WG822246
Dichlorodifluoromethane	U		0.551	5.00	1	10/16/2015 18:47	WG822246
1,1-Dichloroethane	U		0.259	1.00	1	10/16/2015 18:47	WG822246
1,2-Dichloroethane	U		0.361	1.00	1	10/16/2015 18:47	WG822246
1,1-Dichloroethene	U		0.398	1.00	1	10/16/2015 18:47	WG822246
cis-1,2-Dichloroethene	U		0.260	1.00	1	10/16/2015 18:47	WG822246
trans-1,2-Dichloroethene	U		0.396	1.00	1	10/16/2015 18:47	WG822246
1,2-Dichloropropane	U		0.306	1.00	1	10/16/2015 18:47	WG822246
1,1-Dichloropropene	U		0.352	1.00	1	10/16/2015 18:47	WG822246
1,3-Dichloropropane	U		0.366	1.00	1	10/16/2015 18:47	WG822246
cis-1,3-Dichloropropene	U		0.418	1.00	1	10/16/2015 18:47	WG822246
trans-1,3-Dichloropropene	U		0.419	1.00	1	10/16/2015 18:47	WG822246
2,2-Dichloropropane	U		0.321	1.00	1	10/16/2015 18:47	WG822246
Di-isopropyl ether	U		0.320	1.00	1	10/16/2015 18:47	WG822246
Ethylbenzene	U		0.384	1.00	1	10/16/2015 18:47	WG822246
Hexachloro-1,3-butadiene	U		0.256	1.00	1	10/16/2015 18:47	WG822246
Isopropylbenzene	0.708	J	0.326	1.00	1	10/16/2015 18:47	WG822246
p-Isopropyltoluene	U		0.350	1.00	1	10/16/2015 18:47	WG822246



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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
2-Butanone (MEK)	U		3.93	10.0	1	10/16/2015 18:47	WG822246
Methylene Chloride	U		1.00	5.00	1	10/16/2015 18:47	WG822246
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	10/16/2015 18:47	WG822246
Methyl tert-butyl ether	U		0.367	1.00	1	10/16/2015 18:47	WG822246
Naphthalene	U		1.00	5.00	1	10/16/2015 18:47	WG822246
n-Propylbenzene	1.01		0.349	1.00	1	10/16/2015 18:47	WG822246
Styrene	U		0.307	1.00	1	10/16/2015 18:47	WG822246
1,1,1,2-Tetrachloroethane	U		0.385	1.00	1	10/16/2015 18:47	WG822246
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	10/16/2015 18:47	WG822246
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00	1	10/16/2015 18:47	WG822246
Tetrachloroethene	U		0.372	1.00	1	10/16/2015 18:47	WG822246
Toluene	U		0.780	5.00	1	10/16/2015 18:47	WG822246
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/16/2015 18:47	WG822246
1,2,4-Trichlorobenzene	U		0.355	1.00	1	10/16/2015 18:47	WG822246
1,1,1-Trichloroethane	U		0.319	1.00	1	10/16/2015 18:47	WG822246
1,1,2-Trichloroethane	U		0.383	1.00	1	10/16/2015 18:47	WG822246
Trichloroethene	U		0.398	1.00	1	10/16/2015 18:47	WG822246
Trichlorofluoromethane	U		1.20	5.00	1	10/16/2015 18:47	WG822246
1,2,3-Trichloropropane	U		0.807	2.50	1	10/16/2015 18:47	WG822246
1,2,4-Trimethylbenzene	1.61		0.373	1.00	1	10/16/2015 18:47	WG822246
1,2,3-Trimethylbenzene	U		0.321	1.00	1	10/16/2015 18:47	WG822246
1,3,5-Trimethylbenzene	U		0.387	1.00	1	10/16/2015 18:47	WG822246
Vinyl chloride	U		0.259	1.00	1	10/16/2015 18:47	WG822246
Xylenes, Total	U		1.06	3.00	1	10/16/2015 18:47	WG822246
(S) Toluene-d8	105			90.0-115		10/16/2015 18:47	WG822246
(S) Dibromofluoromethane	96.6			79.0-121		10/16/2015 18:47	WG822246
(S) 4-Bromofluorobenzene	107			80.1-120		10/16/2015 18:47	WG822246

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00240	0.0100	1	10/14/2015 17:50	WG821826
1,2-Dibromo-3-Chloropropane	U		0.00430	0.0200	1	10/14/2015 17:50	WG821826

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	638		33.0	100	1	10/14/2015 11:25	WG821923
Residual Range Organics (RRO)	371		82.5	250	1	10/14/2015 11:25	WG821923
(S) o-Terphenyl	111			50.0-150		10/14/2015 11:25	WG821923



Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Lead	18.0		1.90	5.00	1	10/15/2015 17:22	WG821543

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	U		31.6	100	1	10/15/2015 09:40	WG821161
(S) a,a,a-Trifluorotoluene(FID) 92.5				62.0-128		10/15/2015 09:40	WG821161

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	10/16/2015 19:05	WG822246
Acrolein	U		8.87	50.0	1	10/16/2015 19:05	WG822246
Acrylonitrile	U		1.87	10.0	1	10/16/2015 19:05	WG822246
Benzene	U		0.331	1.00	1	10/16/2015 19:05	WG822246
Bromobenzene	U		0.352	1.00	1	10/16/2015 19:05	WG822246
Bromodichloromethane	U		0.380	1.00	1	10/16/2015 19:05	WG822246
Bromoform	U		0.469	1.00	1	10/16/2015 19:05	WG822246
Bromomethane	U		0.866	5.00	1	10/16/2015 19:05	WG822246
n-Butylbenzene	U		0.361	1.00	1	10/16/2015 19:05	WG822246
sec-Butylbenzene	U		0.365	1.00	1	10/16/2015 19:05	WG822246
tert-Butylbenzene	U		0.399	1.00	1	10/16/2015 19:05	WG822246
Carbon tetrachloride	U		0.379	1.00	1	10/16/2015 19:05	WG822246
Chlorobenzene	U		0.348	1.00	1	10/16/2015 19:05	WG822246
Chlorodibromomethane	U		0.327	1.00	1	10/16/2015 19:05	WG822246
Chloroethane	U		0.453	5.00	1	10/16/2015 19:05	WG822246
2-Chloroethyl vinyl ether	U		3.01	50.0	1	10/16/2015 19:05	WG822246
Chloroform	U		0.324	5.00	1	10/16/2015 19:05	WG822246
Chloromethane	U		0.276	2.50	1	10/16/2015 19:05	WG822246
2-Chlorotoluene	U		0.375	1.00	1	10/16/2015 19:05	WG822246
4-Chlorotoluene	U		0.351	1.00	1	10/16/2015 19:05	WG822246
1,2-Dibromo-3-Chloropropane	U		1.33	5.00	1	10/16/2015 19:05	WG822246
1,2-Dibromoethane	U		0.381	1.00	1	10/16/2015 19:05	WG822246
Dibromomethane	U		0.346	1.00	1	10/16/2015 19:05	WG822246
1,2-Dichlorobenzene	U		0.349	1.00	1	10/16/2015 19:05	WG822246
1,3-Dichlorobenzene	U		0.220	1.00	1	10/16/2015 19:05	WG822246
1,4-Dichlorobenzene	U		0.274	1.00	1	10/16/2015 19:05	WG822246
Dichlorodifluoromethane	U		0.551	5.00	1	10/16/2015 19:05	WG822246
1,1-Dichloroethane	U		0.259	1.00	1	10/16/2015 19:05	WG822246
1,2-Dichloroethane	U		0.361	1.00	1	10/16/2015 19:05	WG822246
1,1-Dichloroethene	U		0.398	1.00	1	10/16/2015 19:05	WG822246
cis-1,2-Dichloroethene	U		0.260	1.00	1	10/16/2015 19:05	WG822246
trans-1,2-Dichloroethene	U		0.396	1.00	1	10/16/2015 19:05	WG822246
1,2-Dichloropropane	U		0.306	1.00	1	10/16/2015 19:05	WG822246
1,1-Dichloropropene	U		0.352	1.00	1	10/16/2015 19:05	WG822246
1,3-Dichloropropane	U		0.366	1.00	1	10/16/2015 19:05	WG822246
cis-1,3-Dichloropropene	U		0.418	1.00	1	10/16/2015 19:05	WG822246
trans-1,3-Dichloropropene	U		0.419	1.00	1	10/16/2015 19:05	WG822246
2,2-Dichloropropane	U		0.321	1.00	1	10/16/2015 19:05	WG822246
Di-isopropyl ether	U		0.320	1.00	1	10/16/2015 19:05	WG822246
Ethylbenzene	U		0.384	1.00	1	10/16/2015 19:05	WG822246
Hexachloro-1,3-butadiene	U		0.256	1.00	1	10/16/2015 19:05	WG822246
Isopropylbenzene	U		0.326	1.00	1	10/16/2015 19:05	WG822246
p-Isopropyltoluene	U		0.350	1.00	1	10/16/2015 19:05	WG822246



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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
2-Butanone (MEK)	U		3.93	10.0	1	10/16/2015 19:05	WG822246
Methylene Chloride	U		1.00	5.00	1	10/16/2015 19:05	WG822246
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	10/16/2015 19:05	WG822246
Methyl tert-butyl ether	U		0.367	1.00	1	10/16/2015 19:05	WG822246
Naphthalene	U		1.00	5.00	1	10/16/2015 19:05	WG822246
n-Propylbenzene	U		0.349	1.00	1	10/16/2015 19:05	WG822246
Styrene	U		0.307	1.00	1	10/16/2015 19:05	WG822246
1,1,1,2-Tetrachloroethane	U		0.385	1.00	1	10/16/2015 19:05	WG822246
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	10/16/2015 19:05	WG822246
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00	1	10/16/2015 19:05	WG822246
Tetrachloroethene	U		0.372	1.00	1	10/16/2015 19:05	WG822246
Toluene	U		0.780	5.00	1	10/16/2015 19:05	WG822246
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/16/2015 19:05	WG822246
1,2,4-Trichlorobenzene	U		0.355	1.00	1	10/16/2015 19:05	WG822246
1,1,1-Trichloroethane	U		0.319	1.00	1	10/16/2015 19:05	WG822246
1,1,2-Trichloroethane	U		0.383	1.00	1	10/16/2015 19:05	WG822246
Trichloroethene	U		0.398	1.00	1	10/16/2015 19:05	WG822246
Trichlorofluoromethane	U		1.20	5.00	1	10/16/2015 19:05	WG822246
1,2,3-Trichloropropane	U		0.807	2.50	1	10/16/2015 19:05	WG822246
1,2,4-Trimethylbenzene	U		0.373	1.00	1	10/16/2015 19:05	WG822246
1,2,3-Trimethylbenzene	U		0.321	1.00	1	10/16/2015 19:05	WG822246
1,3,5-Trimethylbenzene	U		0.387	1.00	1	10/16/2015 19:05	WG822246
Vinyl chloride	U		0.259	1.00	1	10/16/2015 19:05	WG822246
Xylenes, Total	U		1.06	3.00	1	10/16/2015 19:05	WG822246
(S) Toluene-d8	104			90.0-115		10/16/2015 19:05	WG822246
(S) Dibromofluoromethane	97.7			79.0-121		10/16/2015 19:05	WG822246
(S) 4-Bromofluorobenzene	110			80.1-120		10/16/2015 19:05	WG822246

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00240	0.0100	1	10/14/2015 18:01	WG821826
1,2-Dibromo-3-Chloropropane	U		0.00430	0.0200	1	10/14/2015 18:01	WG821826

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	66.8	<u>J</u>	33.0	100	1	10/14/2015 11:43	WG821923
Residual Range Organics (RRO)	U		82.5	250	1	10/14/2015 11:43	WG821923
(S) o-Terphenyl	95.2			50.0-150		10/14/2015 11:43	WG821923



Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Lead	6.67		1.90	5.00	1	10/15/2015 17:25	WG821543

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	U		31.6	100	1	10/15/2015 02:39	WG821161
(S) a,a,a-Trifluorotoluene(FID) 93.0				62.0-128		10/15/2015 02:39	WG821161

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	10/16/2015 19:23	WG822246
Acrolein	U		8.87	50.0	1	10/16/2015 19:23	WG822246
Acrylonitrile	U		1.87	10.0	1	10/16/2015 19:23	WG822246
Benzene	U		0.331	1.00	1	10/16/2015 19:23	WG822246
Bromobenzene	U		0.352	1.00	1	10/16/2015 19:23	WG822246
Bromodichloromethane	U		0.380	1.00	1	10/16/2015 19:23	WG822246
Bromoform	U		0.469	1.00	1	10/16/2015 19:23	WG822246
Bromomethane	U		0.866	5.00	1	10/16/2015 19:23	WG822246
n-Butylbenzene	U		0.361	1.00	1	10/16/2015 19:23	WG822246
sec-Butylbenzene	U		0.365	1.00	1	10/16/2015 19:23	WG822246
tert-Butylbenzene	U		0.399	1.00	1	10/16/2015 19:23	WG822246
Carbon tetrachloride	U		0.379	1.00	1	10/16/2015 19:23	WG822246
Chlorobenzene	U		0.348	1.00	1	10/16/2015 19:23	WG822246
Chlorodibromomethane	U		0.327	1.00	1	10/16/2015 19:23	WG822246
Chloroethane	U		0.453	5.00	1	10/16/2015 19:23	WG822246
2-Chloroethyl vinyl ether	U		3.01	50.0	1	10/16/2015 19:23	WG822246
Chloroform	U		0.324	5.00	1	10/16/2015 19:23	WG822246
Chloromethane	U		0.276	2.50	1	10/16/2015 19:23	WG822246
2-Chlorotoluene	U		0.375	1.00	1	10/16/2015 19:23	WG822246
4-Chlorotoluene	U		0.351	1.00	1	10/16/2015 19:23	WG822246
1,2-Dibromo-3-Chloropropane	U		1.33	5.00	1	10/16/2015 19:23	WG822246
1,2-Dibromoethane	U		0.381	1.00	1	10/16/2015 19:23	WG822246
Dibromomethane	U		0.346	1.00	1	10/16/2015 19:23	WG822246
1,2-Dichlorobenzene	U		0.349	1.00	1	10/16/2015 19:23	WG822246
1,3-Dichlorobenzene	U		0.220	1.00	1	10/16/2015 19:23	WG822246
1,4-Dichlorobenzene	U		0.274	1.00	1	10/16/2015 19:23	WG822246
Dichlorodifluoromethane	U		0.551	5.00	1	10/16/2015 19:23	WG822246
1,1-Dichloroethane	U		0.259	1.00	1	10/16/2015 19:23	WG822246
1,2-Dichloroethane	U		0.361	1.00	1	10/16/2015 19:23	WG822246
1,1-Dichloroethene	U		0.398	1.00	1	10/16/2015 19:23	WG822246
cis-1,2-Dichloroethene	U		0.260	1.00	1	10/16/2015 19:23	WG822246
trans-1,2-Dichloroethene	U		0.396	1.00	1	10/16/2015 19:23	WG822246
1,2-Dichloropropane	U		0.306	1.00	1	10/16/2015 19:23	WG822246
1,1-Dichloropropene	U		0.352	1.00	1	10/16/2015 19:23	WG822246
1,3-Dichloropropane	U		0.366	1.00	1	10/16/2015 19:23	WG822246
cis-1,3-Dichloropropene	U		0.418	1.00	1	10/16/2015 19:23	WG822246
trans-1,3-Dichloropropene	U		0.419	1.00	1	10/16/2015 19:23	WG822246
2,2-Dichloropropane	U		0.321	1.00	1	10/16/2015 19:23	WG822246
Di-isopropyl ether	U		0.320	1.00	1	10/16/2015 19:23	WG822246
Ethylbenzene	U		0.384	1.00	1	10/16/2015 19:23	WG822246
Hexachloro-1,3-butadiene	U		0.256	1.00	1	10/16/2015 19:23	WG822246
Isopropylbenzene	U		0.326	1.00	1	10/16/2015 19:23	WG822246
p-Isopropyltoluene	U		0.350	1.00	1	10/16/2015 19:23	WG822246



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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
2-Butanone (MEK)	U		3.93	10.0	1	10/16/2015 19:23	WG822246
Methylene Chloride	U		1.00	5.00	1	10/16/2015 19:23	WG822246
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	10/16/2015 19:23	WG822246
Methyl tert-butyl ether	U		0.367	1.00	1	10/16/2015 19:23	WG822246
Naphthalene	U		1.00	5.00	1	10/16/2015 19:23	WG822246
n-Propylbenzene	U		0.349	1.00	1	10/16/2015 19:23	WG822246
Styrene	U		0.307	1.00	1	10/16/2015 19:23	WG822246
1,1,1,2-Tetrachloroethane	U		0.385	1.00	1	10/16/2015 19:23	WG822246
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	10/16/2015 19:23	WG822246
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00	1	10/16/2015 19:23	WG822246
Tetrachloroethene	U		0.372	1.00	1	10/16/2015 19:23	WG822246
Toluene	U		0.780	5.00	1	10/16/2015 19:23	WG822246
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/16/2015 19:23	WG822246
1,2,4-Trichlorobenzene	U		0.355	1.00	1	10/16/2015 19:23	WG822246
1,1,1-Trichloroethane	U		0.319	1.00	1	10/16/2015 19:23	WG822246
1,1,2-Trichloroethane	U		0.383	1.00	1	10/16/2015 19:23	WG822246
Trichloroethene	U		0.398	1.00	1	10/16/2015 19:23	WG822246
Trichlorofluoromethane	U		1.20	5.00	1	10/16/2015 19:23	WG822246
1,2,3-Trichloropropane	U		0.807	2.50	1	10/16/2015 19:23	WG822246
1,2,4-Trimethylbenzene	U		0.373	1.00	1	10/16/2015 19:23	WG822246
1,2,3-Trimethylbenzene	U		0.321	1.00	1	10/16/2015 19:23	WG822246
1,3,5-Trimethylbenzene	U		0.387	1.00	1	10/16/2015 19:23	WG822246
Vinyl chloride	U		0.259	1.00	1	10/16/2015 19:23	WG822246
Xylenes, Total	U		1.06	3.00	1	10/16/2015 19:23	WG822246
(S) Toluene-d8	105			90.0-115		10/16/2015 19:23	WG822246
(S) Dibromofluoromethane	97.0			79.0-121		10/16/2015 19:23	WG822246
(S) 4-Bromofluorobenzene	106			80.1-120		10/16/2015 19:23	WG822246

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00240	0.0100	1	10/14/2015 18:12	WG821826
1,2-Dibromo-3-Chloropropane	U		0.00430	0.0200	1	10/14/2015 18:12	WG821826

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	167		33.0	100	1	10/14/2015 12:02	WG821923
Residual Range Organics (RRO)	119	J	82.5	250	1	10/14/2015 12:02	WG821923
(S) o-Terphenyl	103			50.0-150		10/14/2015 12:02	WG821923



Method Blank (MB)

(MB) 10/15/15 16:06

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Lead	U		0.0019	0.00500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 10/15/15 16:09 • (LCSD) 10/15/15 16:12

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Lead	1.00	1.04	1.01	104	101	80-120			2	20

L793892-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 10/15/15 16:15 • (MS) 10/15/15 16:21 • (MSD) 10/15/15 16:24

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Lead	1.00	0.00420	1.04	1.05	104	104	1	75-125			0	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) 10/15/15 01:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPHG C6 - C12	U		0.0316	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.0			62.0-128

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 10/15/15 00:03 • (LCSD) 10/15/15 00:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C6 - C12	5.50	5.91	5.89	108	107	66.0-123			0.350	20
(S) a,a,a-Trifluorotoluene(FID)				102	103	62.0-128				

L793918-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 10/15/15 02:39 • (MS) 10/15/15 01:32 • (MSD) 10/15/15 01:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C6 - C12	5.50	ND	4.80	4.82	87.3	87.6	1	47.5-136			0.300	20
(S) a,a,a-Trifluorotoluene(FID)					100	100		62.0-128				

Method Blank (MB)

(MB) 10/16/15 12:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	0.0500
Acrolein	U		0.00887	0.0500
Acrylonitrile	U		0.00187	0.0100
Benzene	U		0.000331	0.00100
Bromobenzene	U		0.000352	0.00100
Bromodichloromethane	U		0.000380	0.00100
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
2-Chloroethyl vinyl ether	U		0.00301	0.0500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
2-Chlorotoluene	U		0.000375	0.00100
4-Chlorotoluene	U		0.000351	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00133	0.00500
1,2-Dibromoethane	U		0.000381	0.00100
Dibromomethane	U		0.000346	0.00100
1,2-Dichlorobenzene	U		0.000349	0.00100
1,3-Dichlorobenzene	U		0.000220	0.00100
1,4-Dichlorobenzene	U		0.000274	0.00100
Dichlorodifluoromethane	U		0.000551	0.00500
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
1,1-Dichloropropene	U		0.000352	0.00100
1,3-Dichloropropane	U		0.000366	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) 10/16/15 12:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
trans-1,3-Dichloropropene	U		0.000419	0.00100
2,2-Dichloropropane	U		0.000321	0.00100
Di-isopropyl ether	U		0.000320	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,1,2-Tetrachloroethane	U		0.000385	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000780	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000303	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
Trichlorofluoromethane	U		0.00120	0.00500
1,2,3-Trichloropropane	U		0.000807	0.00250
1,2,3-Trimethylbenzene	U		0.000321	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	107			90.0-115
(S) Dibromofluoromethane	99.1			79.0-121
(S) 4-Bromofluorobenzene	106			80.1-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 10/16/15 11:06 • (LCSD) 10/16/15 11:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.178	0.191	142	152	28.7-175			6.93	20.9
Acrolein	0.125	0.133	0.134	106	107	40.4-172			0.590	20
Acrylonitrile	0.125	0.121	0.126	97.1	101	58.2-145			3.55	20
Benzene	0.0250	0.0243	0.0231	97.2	92.5	73.0-122			4.97	20
Bromobenzene	0.0250	0.0257	0.0250	103	99.9	81.5-115			2.66	20
Bromodichloromethane	0.0250	0.0285	0.0259	114	104	75.5-121			9.55	20
Bromoform	0.0250	0.0267	0.0253	107	101	71.5-131			5.54	20
Bromomethane	0.0250	0.0277	0.0261	111	104	22.4-187			5.86	20
n-Butylbenzene	0.0250	0.0281	0.0281	112	112	75.9-134			0.110	20
sec-Butylbenzene	0.0250	0.0277	0.0266	111	106	80.6-126			4.35	20
tert-Butylbenzene	0.0250	0.0283	0.0264	113	105	79.3-127			7.27	20
Carbon tetrachloride	0.0250	0.0273	0.0263	109	105	70.9-129			3.55	20
Chlorobenzene	0.0250	0.0268	0.0252	107	101	79.7-122			6.13	20
Chlorodibromomethane	0.0250	0.0276	0.0263	110	105	78.2-124			4.86	20
Chloroethane	0.0250	0.0288	0.0274	115	110	41.2-153			5.07	20
2-Chloroethyl vinyl ether	0.125	0.146	0.141	117	113	23.4-162			3.59	23.5
Chloroform	0.0250	0.0263	0.0257	105	103	73.2-125			2.30	20
Chloromethane	0.0250	0.0231	0.0228	92.4	91.2	55.8-134			1.37	20
2-Chlorotoluene	0.0250	0.0264	0.0252	106	101	76.4-125			4.71	20
4-Chlorotoluene	0.0250	0.0274	0.0249	110	99.7	81.5-121			9.45	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0232	0.0259	92.7	104	64.8-131			11.2	20
1,2-Dibromoethane	0.0250	0.0257	0.0248	103	99.0	79.8-122			3.85	20
Dibromomethane	0.0250	0.0267	0.0251	107	101	78.8-119			6.05	20
1,2-Dichlorobenzene	0.0250	0.0250	0.0264	100	105	84.7-118			5.25	20
1,3-Dichlorobenzene	0.0250	0.0271	0.0253	108	101	77.6-127			6.94	20
1,4-Dichlorobenzene	0.0250	0.0247	0.0237	98.8	95.0	82.2-114			3.99	20
Dichlorodifluoromethane	0.0250	0.0272	0.0257	109	103	56.0-134			5.66	20
1,1-Dichloroethane	0.0250	0.0258	0.0251	103	100	71.7-127			2.92	20
1,2-Dichloroethane	0.0250	0.0272	0.0261	109	105	79.8-122			3.83	20
1,1-Dichloroethene	0.0250	0.0310	0.0295	124	118	59.9-137			5.03	20
cis-1,2-Dichloroethene	0.0250	0.0250	0.0243	99.8	97.3	77.3-122			2.51	20
trans-1,2-Dichloroethene	0.0250	0.0253	0.0250	101	100	72.6-125			1.25	20
1,2-Dichloropropane	0.0250	0.0267	0.0247	107	98.9	77.4-125			7.57	20
1,1-Dichloropropene	0.0250	0.0263	0.0255	105	102	72.5-127			3.03	20
1,3-Dichloropropane	0.0250	0.0255	0.0245	102	97.9	80.6-115			3.99	20
cis-1,3-Dichloropropene	0.0250	0.0274	0.0261	110	104	77.7-124			4.88	20

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 10/16/15 11:06 • (LCSD) 10/16/15 11:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
trans-1,3-Dichloropropene	0.0250	0.0289	0.0265	116	106	73.5-127			8.52	20
2,2-Dichloropropane	0.0250	0.0272	0.0262	109	105	61.3-134			3.78	20
Di-isopropyl ether	0.0250	0.0260	0.0247	104	98.9	65.1-135			5.15	20
Ethylbenzene	0.0250	0.0276	0.0257	110	103	80.9-121			7.00	20
Hexachloro-1,3-butadiene	0.0250	0.0265	0.0261	106	104	73.7-133			1.73	20
Isopropylbenzene	0.0250	0.0283	0.0257	113	103	81.6-124			9.81	20
p-Isopropyltoluene	0.0250	0.0285	0.0263	114	105	77.6-129			8.01	20
2-Butanone (MEK)	0.125	0.137	0.141	109	113	46.4-155			3.22	20
Methylene Chloride	0.0250	0.0248	0.0241	99.1	96.3	69.5-120			2.80	20
4-Methyl-2-pentanone (MIBK)	0.125	0.130	0.126	104	101	63.3-138			3.57	20
Methyl tert-butyl ether	0.0250	0.0265	0.0253	106	101	70.1-125			4.52	20
Naphthalene	0.0250	0.0241	0.0259	96.4	103	69.7-134			7.07	20
n-Propylbenzene	0.0250	0.0273	0.0264	109	105	81.9-122			3.69	20
Styrene	0.0250	0.0282	0.0266	113	106	79.9-124			5.71	20
1,1,1,2-Tetrachloroethane	0.0250	0.0279	0.0257	112	103	78.5-125			7.97	20
1,1,2,2-Tetrachloroethane	0.0250	0.0255	0.0244	102	97.7	79.3-123			4.31	20
Tetrachloroethene	0.0250	0.0273	0.0259	109	103	73.5-130			5.36	20
Toluene	0.0250	0.0254	0.0241	102	96.3	77.9-116			5.45	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0290	0.0284	116	114	62.0-141			1.99	20
1,2,3-Trichlorobenzene	0.0250	0.0255	0.0250	102	100	75.7-134			1.98	20
1,2,4-Trichlorobenzene	0.0250	0.0264	0.0268	106	107	76.1-136			1.59	20
1,1,1-Trichloroethane	0.0250	0.0273	0.0271	109	108	71.1-129			0.840	20
1,1,2-Trichloroethane	0.0250	0.0263	0.0254	105	101	81.6-120			3.54	20
Trichloroethene	0.0250	0.0269	0.0259	108	104	79.5-121			3.86	20
Trichlorofluoromethane	0.0250	0.0291	0.0276	116	110	49.1-157			5.19	20
1,2,3-Trichloropropane	0.0250	0.0267	0.0261	107	104	74.9-124			2.28	20
1,2,3-Trimethylbenzene	0.0250	0.0255	0.0254	102	102	79.9-118			0.410	20
1,2,4-Trimethylbenzene	0.0250	0.0280	0.0257	112	103	79.0-122			8.40	20
1,3,5-Trimethylbenzene	0.0250	0.0276	0.0267	110	107	81.0-123			3.49	20
Vinyl chloride	0.0250	0.0292	0.0279	117	112	61.5-134			4.28	20
Xylenes, Total	0.0750	0.0812	0.0771	108	103	79.2-122			5.15	20
(S) Toluene-d8				108	102	90.0-115				
(S) Dibromofluoromethane				96.3	99.0	79.0-121				
(S) 4-Bromofluorobenzene				102	102	80.1-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L793892-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 10/16/15 13:36 • (MS) 10/16/15 13:55 • (MSD) 10/16/15 14:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.00228	0.0769	0.0776	59.7	60.2	1	25.0-156			0.850	21.5
Acrolein	0.125	ND	0.142	0.140	113	112	1	34.0-194			1.42	21.5
Acrylonitrile	0.125	ND	0.116	0.122	92.8	97.4	1	55.9-161			4.83	20
Benzene	0.0250	ND	0.0180	0.0205	71.9	81.8	1	58.6-133			13.0	20
Bromobenzene	0.0250	ND	0.0213	0.0246	85.1	98.4	1	70.6-125			14.5	20
Bromodichloromethane	0.0250	ND	0.0237	0.0262	94.8	105	1	69.2-127			10.2	20
Bromoform	0.0250	ND	0.0240	0.0266	96.1	106	1	66.3-140			10.3	20
Bromomethane	0.0250	ND	0.0183	0.0200	73.3	79.8	1	16.6-183			8.46	20.5
n-Butylbenzene	0.0250	ND	0.0223	0.0263	89.2	105	1	64.8-145			16.5	20
sec-Butylbenzene	0.0250	ND	0.0226	0.0270	90.3	108	1	66.8-139			17.8	20
tert-Butylbenzene	0.0250	ND	0.0225	0.0264	90.2	106	1	67.1-138			15.9	20
Carbon tetrachloride	0.0250	ND	0.0212	0.0243	84.9	97.0	1	60.6-139			13.3	20
Chlorobenzene	0.0250	ND	0.0218	0.0244	87.2	97.7	1	70.1-130			11.3	20
Chlorodibromomethane	0.0250	ND	0.0237	0.0264	94.6	106	1	71.6-132			11.0	20
Chloroethane	0.0250	ND	0.0192	0.0221	76.8	88.5	1	33.3-155			14.2	20
2-Chloroethyl vinyl ether	0.125	ND	0.00106	0.000675	0.848	0.540	1	5.00-149	J6	J3 J6	44.4	40
Chloroform	0.0250	ND	0.0214	0.0251	85.7	100	1	66.1-133			15.8	20
Chloromethane	0.0250	ND	0.0135	0.0154	53.9	61.6	1	40.7-139			13.4	20
2-Chlorotoluene	0.0250	ND	0.0220	0.0250	88.0	100	1	66.9-134			12.9	20
4-Chlorotoluene	0.0250	ND	0.0229	0.0255	91.5	102	1	66.8-134			10.7	20
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0240	0.0262	96.1	105	1	63.9-142			8.64	20.2
1,2-Dibromoethane	0.0250	ND	0.0218	0.0242	87.1	96.8	1	73.8-131			10.6	20
Dibromomethane	0.0250	ND	0.0220	0.0250	88.2	100	1	72.8-127			12.6	20
1,2-Dichlorobenzene	0.0250	ND	0.0212	0.0248	85.0	99.3	1	77.4-127			15.6	20
1,3-Dichlorobenzene	0.0250	ND	0.0230	0.0259	92.1	103	1	67.9-136			11.6	20
1,4-Dichlorobenzene	0.0250	ND	0.0208	0.0227	83.1	90.8	1	74.4-123			8.84	20
Dichlorodifluoromethane	0.0250	0.00132	0.0184	0.0208	68.2	77.7	1	42.2-146			12.2	20
1,1-Dichloroethane	0.0250	0.000305	0.0205	0.0229	80.8	90.4	1	64.0-134			11.0	20
1,2-Dichloroethane	0.0250	ND	0.0235	0.0250	94.1	100	1	60.7-132			6.29	20
1,1-Dichloroethene	0.0250	ND	0.0216	0.0245	86.6	98.2	1	48.8-144			12.5	20
cis-1,2-Dichloroethene	0.0250	ND	0.0192	0.0222	76.6	88.9	1	60.6-136			14.9	20
trans-1,2-Dichloroethene	0.0250	ND	0.0183	0.0199	73.1	79.7	1	61.0-132			8.75	20
1,2-Dichloropropane	0.0250	ND	0.0209	0.0235	83.8	94.0	1	69.7-130			11.5	20
1,1-Dichloropropene	0.0250	ND	0.0188	0.0224	75.2	89.7	1	61.5-136			17.6	20
1,3-Dichloropropane	0.0250	ND	0.0207	0.0239	82.7	95.6	1	74.3-123			14.5	20
cis-1,3-Dichloropropene	0.0250	ND	0.0216	0.0244	86.3	97.5	1	71.1-129			12.2	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L793892-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 10/16/15 13:36 • (MS) 10/16/15 13:55 • (MSD) 10/16/15 14:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
trans-1,3-Dichloropropene	0.0250	ND	0.0233	0.0266	93.3	106	1	66.3-136			13.0	20
2,2-Dichloropropane	0.0250	ND	0.0227	0.0255	90.8	102	1	54.9-142			11.8	20
Di-isopropyl ether	0.0250	ND	0.0205	0.0225	81.9	89.9	1	59.9-140			9.36	20
Ethylbenzene	0.0250	ND	0.0218	0.0244	87.0	97.6	1	62.7-136			11.5	20
Hexachloro-1,3-butadiene	0.0250	ND	0.0223	0.0254	89.3	102	1	61.1-144			12.9	20.1
Isopropylbenzene	0.0250	ND	0.0218	0.0250	87.1	99.9	1	67.4-136			13.7	20
p-Isopropyltoluene	0.0250	ND	0.0239	0.0264	95.5	106	1	62.8-143			10.1	20
2-Butanone (MEK)	0.125	ND	0.0891	0.0905	71.3	72.4	1	45.0-156			1.51	20.8
Methylene Chloride	0.0250	0.000550	0.0192	0.0208	74.8	81.0	1	61.5-125			7.78	20
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.119	0.127	95.0	102	1	60.7-150			6.97	20
Methyl tert-butyl ether	0.0250	ND	0.0224	0.0239	89.5	95.5	1	61.4-136			6.49	20
Naphthalene	0.0250	ND	0.0224	0.0239	89.7	95.7	1	61.8-143			6.44	20
n-Propylbenzene	0.0250	ND	0.0218	0.0254	87.4	101	1	63.2-139			14.9	20
Styrene	0.0250	ND	0.0215	0.0252	86.2	101	1	68.2-133			15.6	20
1,1,1,2-Tetrachloroethane	0.0250	ND	0.0229	0.0262	91.5	105	1	70.5-132			13.5	20
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0241	0.0261	96.6	104	1	64.9-145			7.82	20
Tetrachloroethene	0.0250	ND	0.0207	0.0243	82.8	97.1	1	57.4-141			15.9	20
Toluene	0.0250	ND	0.0197	0.0225	78.9	90.0	1	67.8-124			13.2	20
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0221	0.0257	88.2	103	1	53.7-150			15.2	20
1,2,3-Trichlorobenzene	0.0250	ND	0.0216	0.0240	86.6	95.9	1	65.7-143			10.2	20
1,2,4-Trichlorobenzene	0.0250	ND	0.0228	0.0255	91.4	102	1	67.0-146			11.2	20
1,1,1-Trichloroethane	0.0250	ND	0.0219	0.0250	87.8	99.9	1	62.8-138			12.9	20
1,1,2-Trichloroethane	0.0250	ND	0.0227	0.0255	90.9	102	1	74.1-130			11.7	20
Trichloroethene	0.0250	ND	0.0205	0.0233	82.0	93.3	1	48.9-148			12.9	20
Trichlorofluoromethane	0.0250	0.000396	0.0221	0.0251	86.7	98.8	1	39.9-165			12.8	20
1,2,3-Trichloropropane	0.0250	ND	0.0254	0.0278	102	111	1	71.5-134			8.91	20
1,2,3-Trimethylbenzene	0.0250	ND	0.0209	0.0232	83.6	92.7	1	62.7-133			10.4	20
1,2,4-Trimethylbenzene	0.0250	ND	0.0225	0.0250	90.1	100	1	60.5-137			10.5	20
1,3,5-Trimethylbenzene	0.0250	ND	0.0223	0.0260	89.2	104	1	67.9-134			15.4	20
Vinyl chloride	0.0250	ND	0.0179	0.0208	71.7	83.3	1	44.3-143			15.0	20
Xylenes, Total	0.0750	ND	0.0614	0.0715	81.9	95.3	1	65.6-133			15.1	20
(S) Toluene-d8					104	105		90.0-115				
(S) Dibromofluoromethane					97.9	97.6		79.0-121				
(S) 4-Bromofluorobenzene					104	105		80.1-120				

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Sc

Method Blank (MB)

(MB) 10/14/15 16:55

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Ethylene Dibromide	U		0.00000240	0.0000100
1,2-Dibromo-3-Chloropropane	U		0.00000430	0.0000200

L794018-09 Original Sample (OS) • Duplicate (DUP)

(OS) 10/14/15 17:39 • (DUP) 10/14/15 17:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Ethylene Dibromide	ND	0.000	1	0.000		20
1,2-Dibromo-3-Chloropropane	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 10/14/15 19:18 • (LCSD) 10/14/15 20:57

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Ethylene Dibromide	0.000250	0.000244	0.000244	97.5	97.7	60.0-140			0.210	20
1,2-Dibromo-3-Chloropropane	0.000250	0.000229	0.000248	91.4	99.2	60.0-140			8.15	20

L794018-10 Original Sample (OS) • Matrix Spike (MS)

(OS) 10/14/15 17:17 • (MS) 10/14/15 17:06

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Ethylene Dibromide	0.000100	ND	0.000110	110	1	60.0-140	
1,2-Dibromo-3-Chloropropane	0.000100	ND	0.000104	104	1	60.0-140	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) 10/14/15 10:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Diesel Range Organics (DRO)	U		0.0333	0.100
Residual Range Organics (RRO)	U		0.0833	0.250
(S) o-Terphenyl	102			50.0-150

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 10/14/15 10:47 • (LCSD) 10/14/15 11:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	0.750	0.807	0.788	108	105	50.0-150			2.48	20
Residual Range Organics (RRO)	0.750	0.901	0.872	120	116	50.0-150			3.27	20
(S) o-Terphenyl				102	102	50.0-150				

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

State Accreditations

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Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

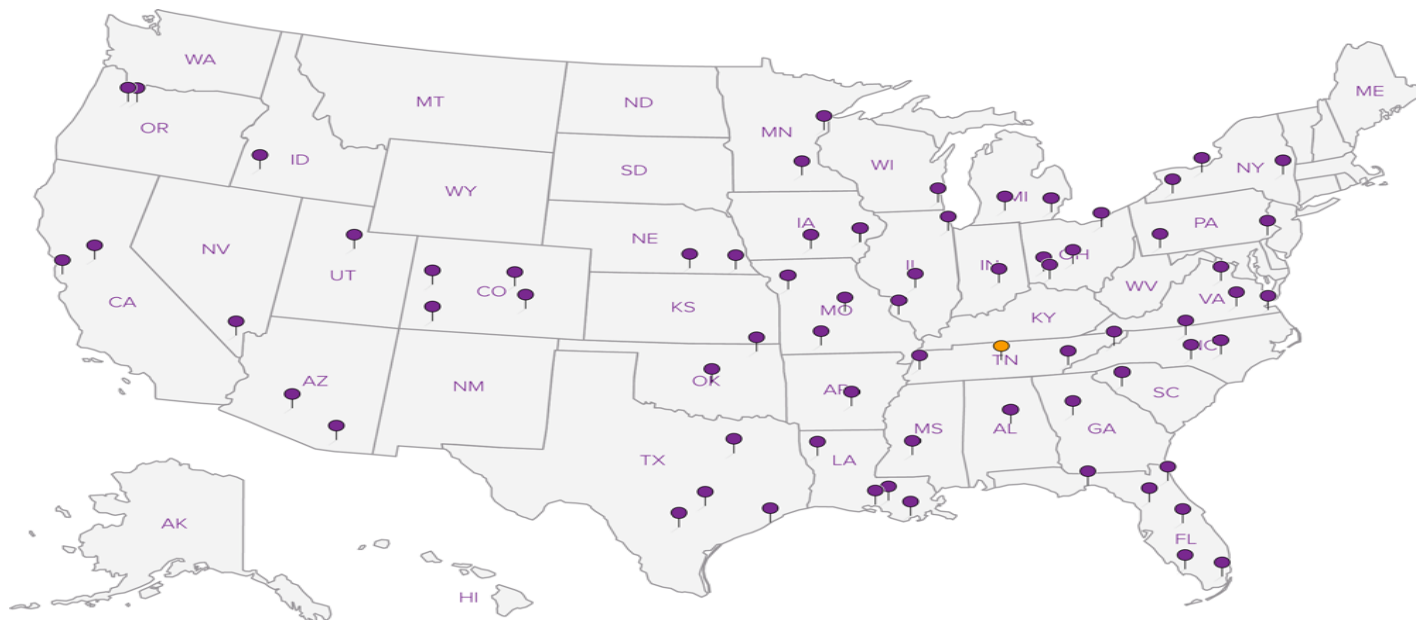
¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
Canada	1461.01	DOD	1461.01
EPA–Crypto	TN00003	USDA	S-67674

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Client Name:	Apex Companies LLC
Address:	3015 SW First Ave
City/State/Zip:	Portland, OR 97201

Analytical Lab: ESC

Report To: jfoxwell@apexcso.com

Page: 1 of 1

Sampler Name: Joel M. & Jake M.

Not
Jw
3.7

Andy Vann

ESC Lab Sciences
Non-Conformance Form

Login #L793918	Client: ASHCREPOR	Date:10/10/15	Evaluated by:Matt S
----------------	-------------------	---------------	---------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	If Broken Container:
Parameter(s) past holding time	☒ Login Clarification Needed	
Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Court Sample was frozen
Insufficient sample volume.	Received additional samples not listed on coc.	
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by:
Broken container:	Chain of Custody is missing	Date/Time:
Sufficient sample remains		Temp./Cont. Rec./pH:
		Carrier:
		Tracking#

Login Comments: received unpreserved sample for each ID. Please advise

Client informed by:	Call	Email	X	Voice Mail	Date: 10/12/15	Time: 1245
TSR Initials: JCR	Client Contact: John Foxwell					

Login Instructions:

Place additional sample volume on HOLD.

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Wednesday, September 14, 2016

John Foxwell
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

RE: Tarr Vancouver November 2015 / 1821-00

Enclosed are the results of analyses for work order A5L0481, which was received by the laboratory on 12/11/2015 at 3:30:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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Report is complete only if Fremont Analytical EPH/VPH data is included. Page 1 of 29

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09/14/2016

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver November 2015**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A5L0481-01	Water	12/11/15 10:38	12/11/15 15:30

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120537			
Diesel	0.225	---	0.0777	mg/L	1	12/18/15 01:59	NWTPH-Dx	F-11, F-20
Oil	ND	---	0.155	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>	"	"	"	

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120632			
Gasoline Range Organics	0.522	---	0.100	mg/L	1	12/20/15 23:43	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 103 %</i>		<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>Limits: 50-150 %</i>	"	"	"	

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Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120632			
Acetone	ND	---	20.0	ug/L	1	12/20/15 23:43	EPA 8260B	
Benzene	ND	---	0.200	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	1.52	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	1.00	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120632			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	3.06	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	1.04	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	2.32	---	2.00	"	"	"	"	
n-Propylbenzene	1.98	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	30.6	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	6.04	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	11.1	---	1.00	"	"	"	"	
o-Xylene	3.21	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>102 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 5120537 - EPA 3510C (Fuels/Acid Ext.)							Water						
Blank (5120537-BLK1)				Prepared: 12/17/15 10:08		Analyzed: 12/18/15 00:52							
NWTPH-Dx													
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---		
Oil	ND	---	0.145	"	"	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 80 %		Limits: 50-150 %		Dilution: 1x							
LCS (5120537-BS1)				Prepared: 12/17/15 10:08		Analyzed: 12/18/15 01:15							
NWTPH-Dx													
Diesel	0.467	---	0.0800	mg/L	1	0.500	---	93	52-120%	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 91 %		Limits: 50-150 %		Dilution: 1x							
LCS Dup (5120537-BSD1)				Prepared: 12/17/15 10:08		Analyzed: 12/18/15 01:37							Q-19
NWTPH-Dx													
Diesel	0.469	---	0.0800	mg/L	1	0.500	---	94	52-120%	0.3	20%		
Surr: o-Terphenyl (Surr)		Recovery: 88 %		Limits: 50-150 %		Dilution: 1x							

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09/14/2016

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver November 2015**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)				Prepared: 12/20/15 12:30 Analyzed: 12/20/15 16:18								
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 101 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		102 %		50-150 %		"						
LCS (5120632-BS2)						Prepared: 12/20/15 12:30 Analyzed: 12/20/15 15:52						
NWTPH-Gx (MS)												
Gasoline Range Organics	0.471	---	0.100	mg/L	1	0.500	---	94	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 111 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						

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Page 8 of 14

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)						Prepared: 12/20/15 12:30 Analyzed: 12/20/15 16:18						
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	

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Project: Tarr Vancouver November 2015
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Project Manager: John Foxwell

Reported:
09/14/16 10:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)						Prepared: 12/20/15 12:30 Analyzed: 12/20/15 16:18						
cis-1,2-Dichloroethene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
09/14/16 10:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)						Prepared: 12/20/15 12:30 Analyzed: 12/20/15 16:18						
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>80-120 %</i>		<i>"</i>						
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>80-120 %</i>		<i>"</i>						

Apex Laboratories

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



Darrell Auvil For Darwin Thomas, Business Development Director

Page 11 of 14

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5120537							
A5L0481-01	Water	NWTPH-Dx	12/11/15 10:38	12/17/15 10:08	1030mL/2mL	1000mL/2mL	0.97

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5120632							
A5L0481-01	Water	NWTPH-Gx (MS)	12/11/15 10:38	12/20/15 14:28	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5120632							
A5L0481-01	Water	EPA 8260B	12/11/15 10:38	12/20/15 14:28	5mL/5mL	5mL/5mL	1.00

Apex Laboratories



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Darrell Auvil For Darwin Thomas, Business Development Director

Page 12 of 14

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver November 2015**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

Notes and Definitions

Qualifiers:

- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-20 Result for Diesel is Estimated due to overlap from the Gasoline Range.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Darrell Auvil For Darwin Thomas, Business Development Director

Page 13 of 14

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver November 2015**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/14/16 10:47

COC 1 of 1

Lab # **A510481**

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Apex Companies, LLC		Project Mgr: John Foxwell		Project Name: Tarr Vancouver		Project # 1821-00	
Address: 3015 SW 1st Ave, Portland, OR		Phone: 503-312-0676		Fax: 503-312-0676		Email: jfoxwell@apexlabs.com	
Sampled by: Jabe Murrey							
Site Location: WA							
Other: OR							
SAMPLE ID MW-1							
LAB ID # 1944510386wB							
DATE 9/14/16							
TIME 10:38 AM							
# OF CONTAINERS 8							
MATRIX W							
TAT Requested (circle) 1 Day							
SPECIAL INSTRUCTIONS: * Normal Turnaround							
* See Analytical Services Quotation							
RELINQUISHED BY: Jabe Murrey							
Signature: Jabe Murrey							
Date: 9/14/16							
Printed Name: Jabe Murrey							
Company: Apex Companies, LLC							
RECEIVED BY: Jabe Murrey							
Signature: Jabe Murrey							
Date: 9/14/16							
Printed Name: Jabe Murrey							
Company: Apex Labs							

Apex Laboratories

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

Darrell Auvil



3600 Fremont Ave. N.

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

info@fremontanalytical.com

Apex Laboratories

Darwin Thomas
12232 S.W. Garden Place
Tigard, OR 97223

RE: A5L0481

Lab ID: 1512150

January 12, 2016

Attention Darwin Thomas:

Fremont Analytical, Inc. received 1 sample(s) on 12/16/2015 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President



Date: 01/12/2016

CLIENT: Apex Laboratories
Project: A5L0481
Lab Order: 1512150

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1512150-001	MW-1	12/11/2015 10:38 AM	12/16/2015 2:20 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Apex Laboratories**Project:** A5L0481

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

WO#: 1512150

Date Reported: 1/12/2016

Client: Apex Laboratories

Collection Date: 12/11/2015 10:38:00 AM

Project: A5L0481

Lab ID: 1512150-001

Matrix: Water

Client Sample ID: MW-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 12659		Analyst: EC
Aliphatic Hydrocarbon (C10-C12)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C12-C16)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C16-C21)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C21-C34)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C8-C10)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aromatic Hydrocarbon (C10-C12)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C16-C21)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C21-C34)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Surr: 1-Chlorooctadecane	25.4	60-140	S	%Rec	1	12/30/2015 7:41:00 AM
Surr: o-Terphenyl	53.0	60-140	S	%Rec	1	12/30/2015 6:39:00 PM

NOTES:

S - Outlying surrogate recoveries observed.

* - Flagged value is not within established control limits.

Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: R26668		Analyst: BC
Aliphatic Hydrocarbon (C5-C6)	30.9	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aliphatic Hydrocarbon (C6-C8)	51.7	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aliphatic Hydrocarbon (C8-C10)	53.6	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aliphatic Hydrocarbon (C10-C12)	39.1	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aromatic Hydrocarbon (C8-C10)	44.7	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aromatic Hydrocarbon (C10-C12)	68.6	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aromatic Hydrocarbon (C12-C13)	41.8	10.0		µg/L	1	12/21/2015 5:17:51 PM
Benzene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
Toluene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
Ethylbenzene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
m,p-Xylene	12.2	5.00		µg/L	1	12/21/2015 5:17:51 PM
o-Xylene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
Naphthalene	21.1	5.00		µg/L	1	12/21/2015 5:17:51 PM
Methyl tert-butyl ether (MTBE)	10.3	5.00		µg/L	1	12/21/2015 5:17:51 PM
Surr: 1,4-Difluorobenzene	108	65-140		%Rec	1	12/21/2015 5:17:51 PM
Surr: BFB	114	65-140		%Rec	1	12/21/2015 5:17:51 PM



Analytical Report

WO#: 1512150

Date Reported: 1/12/2016

Client: Apex Laboratories

Collection Date: 12/11/2015 10:38:00 AM

Project: A5L0481

Lab ID: 1512150-001

Matrix: Water

Client Sample ID: MW-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 12699

Analyst: EC

Aliphatic Hydrocarbon (C10-C12)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C12-C16)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C16-C21)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C21-C34)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C8-C10)	ND	80.2	*H	µg/L	1	1/7/2016 6:53:00 PM
Aromatic Hydrocarbon (C10-C12)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C16-C21)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C21-C34)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Surr: 1-Chlorooctadecane	48.3	60-140	SH	%Rec	1	1/7/2016 6:53:00 PM
Surr: o-Terphenyl	60.4	60-140	H	%Rec	1	1/9/2016 3:45:00 PM

NOTES:

S - Outlying surrogate recovery observed.

* - Flagged value is not within established control limits.



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	MB-12659	SampType:	MBLK	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	MBLKW	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506297		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	80.0		0	0				*
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		0	0				*
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		0	0				*
Aliphatic Hydrocarbon (C21-C34)	ND	80.0		0	0				*
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0				*
Surr: 1-Chlorooctadecane	17.1		80.00		21.4	60	140		S

NOTES:

S - Outlying surrogate recovery observed.

* - Flagged value is not within established control limits.

Sample ID	LCS-12659	SampType:	LCS	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506296		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	Qual
Aliphatic Hydrocarbon (C10-C12)	74.61	80.0	200.0	0	37.3	70	130		S
Aliphatic Hydrocarbon (C12-C16)	93.4	80.0	200.0	0	46.7	70	130		S
Aliphatic Hydrocarbon (C16-C21)	111	80.0	200.0	0	55.4	70	130		S
Aliphatic Hydrocarbon (C21-C34)	108	80.0	200.0	0	54.0	70	130		S
Aliphatic Hydrocarbon (C8-C10)	132	80.0	400.0	0	32.9	70	130		S
Surr: 1-Chlorooctadecane	32.9		80.00		41.1	60	140		S

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.

S - Outlying surrogate recovery observed.

Sample ID	LCSD-12659	SampType:	LCSD	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW02	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506295		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	Qual
Aliphatic Hydrocarbon (C10-C12)	80.0	80.0	200.0	0	40.0	70	130	74.61	S
Aliphatic Hydrocarbon (C12-C16)	96.4	80.0	200.0	0	48.2	70	130	93.43	S
Aliphatic Hydrocarbon (C16-C21)	116	80.0	200.0	0	57.8	70	130	110.9	S
Aliphatic Hydrocarbon (C21-C34)	112	80.0	200.0	0	55.9	70	130	107.9	S



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	LCSD-12659	SampType:	LCSD	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW02	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506295		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aliphatic Hydrocarbon (C8-C10)	142	80.0	400.0	0	35.6	70	130	131.6	7.90	20	S
Surr: 1-Chlorooctadecane	41.0		80.00		51.2	60	140		0		S

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.
 S - Outlying surrogate recovery observed.

Sample ID	MB-12659	SampType:	MBLK	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	MBLKW	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506559		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C12-C16)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C16-C21)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C21-C34)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0						*
Surr: o-Terphenyl	46.3		80.00		57.9	60	140				S

NOTES:

S - Outlying surrogate recovery observed.
 * - Flagged value is not within established control limits.

Sample ID	LCS-12659	SampType:	LCS	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506558		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	87.0	80.0	200.0	0	43.5	70	130				S
Aromatic Hydrocarbon (C12-C16)	94.3	80.0	200.0	0	47.2	70	130				S
Aromatic Hydrocarbon (C16-C21)	123	80.0	200.0	0	61.5	70	130				S
Aromatic Hydrocarbon (C21-C34)	120	80.0	200.0	0	60.1	70	130				S
Aromatic Hydrocarbon (C8-C10)	85.0	80.0	200.0	0	42.5	70	130				S
Surr: o-Terphenyl	40.9		80.00		51.1	60	140				S



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	LCS-12659	SampType:	LCS	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW	Batch ID:	12659			Analysis Date:	12/30/2015	SeqNo:	506558
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.
S - Outlying surrogate recovery observed.

Sample ID	LCSD-12659	SampType:	LCSD	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW02	Batch ID:	12659			Analysis Date:	12/30/2015	SeqNo:	506557
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aromatic Hydrocarbon (C10-C12)	91.3	80.0	200.0	0	45.6	70	130	86.95	4.86 20 S
Aromatic Hydrocarbon (C12-C16)	106	80.0	200.0	0	53.0	70	130	94.35	11.6 20 S
Aromatic Hydrocarbon (C16-C21)	111	80.0	200.0	0	55.7	70	130	123.1	9.88 20 S
Aromatic Hydrocarbon (C21-C34)	130	80.0	200.0	0	64.8	70	130	120.2	7.57 20 S
Aromatic Hydrocarbon (C8-C10)	86.4	80.0	200.0	0	43.2	70	130	85.05	1.54 20 S
Surr: o-Terphenyl	44.2		80.00		55.2	60	140		0 S

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.
S - Outlying surrogate recovery observed.

Sample ID	MB-12699	SampType:	MBLK	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	MBLKW	Batch ID:	12699			Analysis Date:	1/7/2016	SeqNo:	507871
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aliphatic Hydrocarbon (C10-C12)	ND	80.0		0	0				
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		0	0				
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		0	0				
Aliphatic Hydrocarbon (C21-C34)	ND	80.0		0	0				
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0				
Surr: 1-Chlorooctadecane	69.8		80.00		87.3	60	140		

NOTES:

* - Flagged value is not within established control limits.



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	LCS-12699	SampType:	LCS	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW	Batch ID:	12699	Analysis Date:	1/7/2016	SeqNo:	507869		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aliphatic Hydrocarbon (C10-C12)	167	80.0	200.0	0	83.5	70	130		
Aliphatic Hydrocarbon (C12-C16)	189	80.0	200.0	0	94.3	70	130		
Aliphatic Hydrocarbon (C16-C21)	157	80.0	200.0	0	78.5	70	130		
Aliphatic Hydrocarbon (C21-C34)	146	80.0	200.0	0	73.1	70	130		
Aliphatic Hydrocarbon (C8-C10)	271	80.0	400.0	0	67.7	70	130		S
Surr: 1-Chlorooctadecane	64.7		80.00		80.9	60	140		

NOTES:

S - Outlying spike recovery observed (EPH: Aliphatic Hydrocarbon (C8-C10); low bias). Samples will be qualified with a *.

Sample ID	LCSD-12699	SampType:	LCSD	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW02	Batch ID:	12699	Analysis Date:	1/7/2016	SeqNo:	507870		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aliphatic Hydrocarbon (C10-C12)	134	80.0	200.0	0	67.2	70	130	167.0	21.7 20 S
Aliphatic Hydrocarbon (C12-C16)	146	80.0	200.0	0	73.1	70	130	188.5	25.3 20
Aliphatic Hydrocarbon (C16-C21)	116	80.0	200.0	0	58.0	70	130	156.9	30.1 20 S
Aliphatic Hydrocarbon (C21-C34)	114	80.0	200.0	0	56.8	70	130	146.3	25.2 20 S
Aliphatic Hydrocarbon (C8-C10)	223	80.0	400.0	0	55.8	70	130	270.7	19.3 20 S
Surr: 1-Chlorooctadecane	44.9		80.00		56.1	60	140	0	0 S

NOTES:

S - Outlying spike recovery observed (EPH: Aliphatic Hydrocarbon (C8-C10); low bias). Samples will be qualified with a *.

S - Outlying spike recoveries observed. A duplicate analysis was performed and recovered within range.

S - Outlying surrogate recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID	MB-12699	SampType:	MBLK	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	MBLKW	Batch ID:	12699	Analysis Date:	1/9/2016	SeqNo:	508303		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aromatic Hydrocarbon (C10-C12)	ND	80.0		0	0				* *
Aromatic Hydrocarbon (C12-C16)	ND	80.0		0	0				* *
Aromatic Hydrocarbon (C16-C21)	ND	80.0		0	0				* *
Aromatic Hydrocarbon (C21-C34)	ND	80.0		0	0				* *



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	MB-12699	SampType:	MBLK	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	MBLKW	Batch ID:	12699			Analysis Date:	1/9/2016	SeqNo:	508303
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0				*
Surr: o-Terphenyl	56.8		80.00		71.0	60	140		

NOTES:

* - Flagged value is not within established control limits.

Sample ID	LCSD-12699	SampType:	LCSD	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW02	Batch ID:	12699			Analysis Date:	1/9/2016	SeqNo:	508302
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	117	80.0	200.0	0	58.7	70	130	119.7	1.91	20	S
Aromatic Hydrocarbon (C12-C16)	120	80.0	200.0	0	59.9	70	130	133.6	10.8	20	S
Aromatic Hydrocarbon (C16-C21)	130	80.0	200.0	0	65.0	70	130	139.8	7.29	20	S
Aromatic Hydrocarbon (C21-C34)	134	80.0	200.0	0	66.8	70	130	125.0	6.62	20	S
Aromatic Hydrocarbon (C8-C10)	118	80.0	200.0	0	58.8	70	130	116.0	1.45	20	S
Surr: o-Terphenyl	45.4		80.00		56.8	60	140		0		S

NOTES:

S - Outlying surrogate recovery observed. A duplicate analysis was performed and recovered within range.

S - Outlying spike recoveries observed (low bias). A duplicate analysis was performed with similar results, samples will be qualified with a *.

Sample ID	LCS-12699	SampType:	LCS	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW	Batch ID:	12699			Analysis Date:	1/11/2016	SeqNo:	508446
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	120	80.0	200.0	0	59.9	70	130				S
Aromatic Hydrocarbon (C12-C16)	134	80.0	200.0	0	66.8	70	130				S
Aromatic Hydrocarbon (C16-C21)	140	80.0	200.0	0	69.9	70	130				S
Aromatic Hydrocarbon (C21-C34)	125	80.0	200.0	0	62.5	70	130				S
Aromatic Hydrocarbon (C8-C10)	116	80.0	200.0	0	58.0	70	130				S
Surr: o-Terphenyl	53.3		80.00		66.6	60	140				

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWWPH

Sample ID	LCS-R26668	SampType: LCS	Units: µg/L				Prep Date: 12/21/2015		RunNo: 26668		
Client ID:	LCSW	Batch ID: R26668					Analysis Date: 12/21/2015		SeqNo: 502799		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	605	10.0	600.0	0	101	70	130				
Aliphatic Hydrocarbon (C6-C8)	226	10.0	200.0	0	113	70	130				
Aliphatic Hydrocarbon (C8-C10)	224	10.0	200.0	0	112	70	130				
Aliphatic Hydrocarbon (C10-C12)	223	10.0	200.0	0	111	70	130				
Aromatic Hydrocarbon (C8-C10)	794	10.0	800.0	0	99.3	70	130				
Aromatic Hydrocarbon (C10-C12)	158	10.0	200.0	0	78.9	70	130				
Aromatic Hydrocarbon (C12-C13)	152	10.0	200.0	0	76.1	70	130				
Benzene	190	5.00	200.0	0	94.8	70	130				
Toluene	189	5.00	200.0	0	94.7	70	130				
Ethylbenzene	187	5.00	200.0	0	93.7	70	130				
m,p-Xylene	373	5.00	400.0	0	93.1	70	130				
o-Xylene	186	5.00	200.0	0	93.0	70	130				
Naphthalene	149	5.00	200.0	0	74.3	70	130				
Methyl tert-butyl ether (MTBE)	154	5.00	200.0	0	76.8	70	130				
Surr: 1,4-Difluorobenzene	53.4		50.00		107	65	140				
Surr: BFB	60.2		50.00		120	65	140				

Sample ID	MB-R26668	SampType: MBLK	Units: µg/L		Prep Date: 12/21/2015	RunNo: 26668					
Client ID:	MBLKW	Batch ID: R26668			Analysis Date: 12/21/2015	SeqNo: 502801					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C6-C8)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C8-C10)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C10-C12)	ND	10.0		0	0						
Aromatic Hydrocarbon (C8-C10)	ND	10.0		0	0						
Aromatic Hydrocarbon (C10-C12)	ND	10.0		0	0						
Aromatic Hydrocarbon (C12-C13)	ND	10.0		0	0						
Benzene	ND	5.00		0	0						
Toluene	ND	5.00		0	0						
Ethylbenzene	ND	5.00		0	0						



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID	MB-R26668	SampType:	MBLK	Units:	µg/L	Prep Date:	12/21/2015	RunNo:	26668
Client ID:	MBLKW	Batch ID:	R26668	Analysis Date:	12/21/2015	SeqNo:	502801		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
m,p-Xylene	ND	5.00		0	0				
o-Xylene	ND	5.00		0	0				
Naphthalene	ND	5.00		0	0				
Methyl tert-butyl ether (MTBE)	ND	5.00		0	0				
Surr: 1,4-Difluorobenzene	51.1		50.00		102	65	140		
Surr: BFB	54.1		50.00		108	65	140		

Sample ID	LCSD-R26668	SampType:	LCSD	Units:	µg/L	Prep Date:	12/22/2015	RunNo:	26668
Client ID:	LCSW02	Batch ID:	R26668	Analysis Date:	12/22/2015	SeqNo:	502800		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aliphatic Hydrocarbon (C5-C6)	509	10.0	600.0	0	84.8	70	130	605.3	17.3 20
Aliphatic Hydrocarbon (C6-C8)	170	10.0	200.0	0	85.2	70	130	226.1	28.1 20 R
Aliphatic Hydrocarbon (C8-C10)	232	10.0	200.0	0	116	70	130	224.0	3.60 20
Aliphatic Hydrocarbon (C10-C12)	179	10.0	200.0	0	89.5	70	130	222.9	21.9 20 R
Aromatic Hydrocarbon (C8-C10)	727	10.0	800.0	0	90.9	70	130	794.4	8.85 20
Aromatic Hydrocarbon (C10-C12)	159	10.0	200.0	0	79.7	70	130	157.7	1.03 20
Aromatic Hydrocarbon (C12-C13)	163	10.0	200.0	0	81.6	70	130	152.1	7.01 20
Benzene	180	5.00	200.0	0	90.0	70	130	189.7	5.20 20
Toluene	179	5.00	200.0	0	89.3	70	130	189.4	5.84 20
Ethylbenzene	176	5.00	200.0	0	88.1	70	130	187.4	6.09 20
m,p-Xylene	351	5.00	400.0	0	87.7	70	130	372.6	6.01 20
o-Xylene	176	5.00	200.0	0	87.9	70	130	185.9	5.65 20
Naphthalene	136	5.00	200.0	0	68.0	70	130	148.6	8.79 20 S
Methyl tert-butyl ether (MTBE)	154	5.00	200.0	0	77.2	70	130	153.7	0.505 20
Surr: 1,4-Difluorobenzene	47.4		50.00		94.8	65	140		0
Surr: BFB	58.3		50.00		117	65	140		0

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed and recovered within range.

R - High RPD observed, spike recoveries are within range.

Client Name: **APEX**
 Logged by: **Erica Silva**

 Work Order Number: **1512150**
 Date Received: **12/16/2015 2:20:00 PM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? UPS

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes ☐ No ☒ Not Required ☐
6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C * Yes ☒ No ☐ NA ☐
8. Sample(s) in proper container(s)? Yes ☒ No ☐
9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
10. Are samples properly preserved? Yes ☒ No ☐
11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
12. Is there headspace in the VOA vials? Yes ☐ No ☒ NA ☐
13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
14. Does paperwork match bottle labels? Yes ☒ No ☐
15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
16. Is it clear what analyses were requested? Yes ☒ No ☐
17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp $^{\circ}\text{C}$
Cooler	1.8
Sample	2.2
Temp Blank	4.3

* Note: DoD/ELAP and TNI require items to be received at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$

SUBCONTRACT ORDER

Apex Laboratories

A5L0481

1512150

12/16/15 LAD

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Fremont Analytical
3600 Fremont Avenue N.
Seattle, WA 98103
Phone: (206) 352-3790
Fax: (206) 352-7178

Sample Name: MW-1

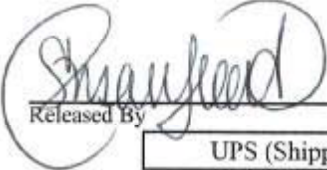
Water

Sampled: 12/11/15 10:38

(A5L0481-01)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	12/22/15 17:00	12/25/15 10:38	
NWTPH-VPH (Sub)	12/22/15 17:00	12/25/15 10:38	
<i>Containers Supplied:</i>			
(D)40 mL VOA - HCL			
(E)40 mL VOA - HCL			
(F)40 mL VOA - HCL			
(I)1 L Amber Glass - HCL			
(J)1 L Amber Glass - HCL			

Standard

Released By 
UPS (Shipper)

12/15/15

Date

Received By 
12/16/15 1420

UPS (Shipper)

Date

Released By

Date

Received By

Date

Tuesday, February 7, 2017

John Foxwell
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

RE: Tarr Vancouver November 2015 / 1821-00

Enclosed are the results of analyses for work order A5L0481, which was received by the laboratory on 12/11/2015 at 3:30:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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

Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
02/07/17 11:27

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A5L0481-01	Water	12/11/15 10:38	12/11/15 15:30

Apex Laboratories



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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver November 2015**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
02/07/17 11:27

ANALYTICAL CASE NARRATIVE

Work Order: A5L0481

Amended Report Revision 1:

Additional Quality Control (QC) Data Reported-

This report supersedes all previous reports.

The final report has been amended to include all QC data, the original report only reported client associated QC data.

Darrell Auvil
Project Manager
2/6/2017



Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120537			
Diesel	0.225	---	0.0777	mg/L	1	12/18/15 01:59	NWTPH-Dx	F-11, F-20
Oil	ND	---	0.155	"	"	"	"	
Surrogate: o-Terphenyl (Surr)		Recovery: 82 %		Limits: 50-150 %	"	"	"	

Apex Laboratories



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

Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120632			
Gasoline Range Organics	0.522	---	0.100	mg/L	1	12/20/15 23:43	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 103 %	Limits: 50-150 %	"	"	"	
1,4-Difluorobenzene (Sur)			101 %	Limits: 50-150 %	"	"	"	

Apex Laboratories



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

Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120632			
Acetone	ND	---	20.0	ug/L	1	12/20/15 23:43	EPA 8260B	
Benzene	ND	---	0.200	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	1.52	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	1.00	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	

Apex Laboratories

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



Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A5L0481-01)			Matrix: Water		Batch: 5120632			
Ethylbenzene	3.06	---	0.500	ug/L	1	"	EPA 8260B	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	1.04	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	2.32	---	2.00	"	"	"	"	
n-Propylbenzene	1.98	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	30.6	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	6.04	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	11.1	---	1.00	"	"	"	"	
o-Xylene	3.21	---	0.500	"	"	"	"	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 102 %		Limits: 80-120 %		"	"	"
Toluene-d8 (Surr)		96 %		Limits: 80-120 %		"	"	"
4-Bromofluorobenzene (Surr)		98 %		Limits: 80-120 %		"	"	"

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120537 - EPA 3510C (Fuels/Acid Ext.)							Water					
Blank (5120537-BLK1)				Prepared: 12/17/15 10:08		Analyzed: 12/18/15 00:52						
NWTPH-Dx												
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.145	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 80 %		Limits: 50-150 %		Dilution: 1x						
LCS (5120537-BS1)				Prepared: 12/17/15 10:08		Analyzed: 12/18/15 01:15						
NWTPH-Dx												
Diesel	0.467	---	0.0800	mg/L	1	0.500	---	93	52-120%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 91 %		Limits: 50-150 %		Dilution: 1x						
LCS Dup (5120537-BSD1)				Prepared: 12/17/15 10:08		Analyzed: 12/18/15 01:37						
NWTPH-Dx												
Diesel	0.469	---	0.0800	mg/L	1	0.500	---	94	52-120%	0.3	20%	
Surr: o-Terphenyl (Surr)		Recovery: 88 %		Limits: 50-150 %		Dilution: 1x						

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02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)						Prepared: 12/20/15 12:30		Analyzed: 12/20/15 16:18				
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 101 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		102 %		50-150 %		"						
LCS (5120632-BS2)						Prepared: 12/20/15 12:30		Analyzed: 12/20/15 15:52				
NWTPH-Gx (MS)												
Gasoline Range Organics	0.471	---	0.100	mg/L	1	0.500	---	94	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 111 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						
Duplicate (5120632-DUP1)						Prepared: 12/20/15 14:27		Analyzed: 12/20/15 20:04				
QC Source Sample: Other (A5L0542-02)												
NWTPH-Gx (MS)												
Gasoline Range Organics	0.888	---	0.500	mg/L	5	---	0.800	---	---	10	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 101 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		102 %		50-150 %		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)			Prepared: 12/20/15 12:30 Analyzed: 12/20/15 16:18									
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Blank (5120632-BLK1)						Prepared: 12/20/15 12:30 Analyzed: 12/20/15 16:18						
EPA 8260B												
1,1-Dichloropropene	ND	---	1.00	ug/L	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 103 % Limits: 80-120 % Dilution: 1x
 Toluene-d8 (Surr) 97 % 80-120 % "
 4-Bromofluorobenzene (Surr) 101 % 80-120 % "

Duplicate (5120632-DUP1)

Prepared: 12/20/15 14:27 Analyzed: 12/20/15 20:04

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Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B							Water					
Duplicate (5120632-DUP1)				Prepared: 12/20/15 14:27 Analyzed: 12/20/15 20:04								
QC Source Sample: Other (A5L0542-02)												
EPA 8260B												
Acetone	ND	---	100	ug/L	5	---	ND	---	---	---	30%	
Benzene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Bromobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Bromoform	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Bromomethane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	50.0	"	"	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
Chloroform	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	5.00	"	"	---	ND	---	---	---	30%	

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Project Manager: John FoxwellReported:
02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Duplicate (5120632-DUP1)						Prepared: 12/20/15 14:27 Analyzed: 12/20/15 20:04						
QC Source Sample: Other (A5L0542-02)												
EPA 8260B												
2,2-Dichloropropane	ND	---	5.00	ug/L	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	25.0	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	---	25.0	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	10.0	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Styrene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Toluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	10.0	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	10.0	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	10.0	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	2.50	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			Recovery: 103 %		Limits: 80-120 %		Dilution: 1x					
Toluene-d8 (Surr)			98 %		80-120 %		"					

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Project Manager: John FoxwellReported:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Duplicate (5120632-DUP1)						Prepared: 12/20/15 14:27 Analyzed: 12/20/15 20:04						
QC Source Sample: Other (ASL0542-02)												
EPA 8260B												
Surr: 4-Bromofluorobenzene (Surr)		Recovery: 102 %		Limits: 80-120 %		Dilution: 1x						
Matrix Spike (5120632-MS1)						Prepared: 12/20/15 14:27 Analyzed: 12/21/15 00:08						
QC Source Sample: Other (ASL0387-01)												
EPA 8260B												
Acetone	42.3	---	20.0	ug/L	1	40.0	ND	106	70-130%	---	---	Q-01
Benzene	23.0	---	0.200	"	"	20.0	ND	115	"	---	---	
Bromobenzene	22.2	---	0.500	"	"	"	ND	111	"	---	---	
Bromochloromethane	25.0	---	1.00	"	"	"	ND	125	"	---	---	
Bromodichloromethane	23.9	---	1.00	"	"	"	ND	120	"	---	---	
Bromoform	23.0	---	1.00	"	"	"	ND	115	"	---	---	
Bromomethane	28.6	---	5.00	"	"	"	ND	143	"	---	---	
2-Butanone (MEK)	76.4	---	10.0	"	"	40.0	44.8	79	"	---	---	
n-Butylbenzene	22.3	---	1.00	"	"	20.0	ND	111	"	---	---	
sec-Butylbenzene	22.6	---	1.00	"	"	"	ND	113	"	---	---	
tert-Butylbenzene	21.8	---	1.00	"	"	"	ND	109	"	---	---	
Carbon tetrachloride	25.9	---	1.00	"	"	"	ND	129	"	---	---	
Chlorobenzene	23.2	---	0.500	"	"	"	ND	116	"	---	---	
Chloroethane	21.2	---	5.00	"	"	"	ND	106	"	---	---	
Chloroform	22.8	---	1.00	"	"	"	ND	114	"	---	---	
Chloromethane	21.4	---	5.00	"	"	"	ND	107	"	---	---	
2-Chlorotoluene	22.0	---	1.00	"	"	"	ND	110	"	---	---	
4-Chlorotoluene	21.3	---	1.00	"	"	"	ND	107	"	---	---	
1,2-Dibromo-3-chloropropane	23.9	---	5.00	"	"	"	ND	119	"	---	---	
Dibromochloromethane	24.4	---	1.00	"	"	"	ND	122	"	---	---	
1,2-Dibromoethane (EDB)	23.0	---	0.500	"	"	"	ND	115	"	---	---	
Dibromomethane	25.7	---	1.00	"	"	"	ND	128	"	---	---	
1,2-Dichlorobenzene	22.9	---	0.500	"	"	"	ND	114	"	---	---	
1,3-Dichlorobenzene	23.2	---	0.500	"	"	"	ND	116	"	---	---	
1,4-Dichlorobenzene	22.7	---	0.500	"	"	"	ND	113	"	---	---	
Dichlorodifluoromethane	21.3	---	1.00	"	"	"	ND	107	"	---	---	
1,1-Dichloroethane	23.1	---	0.500	"	"	"	ND	116	"	---	---	
1,2-Dichloroethane (EDC)	22.6	---	0.500	"	"	"	ND	113	"	---	---	

Apex Laboratories

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Matrix Spike (5120632-MS1)						Prepared: 12/20/15 14:27 Analyzed: 12/21/15 00:08						
QC Source Sample: Other (ASL0387-01)												
EPA 8260B												
1,1-Dichloroethene	23.5	---	0.500	ug/L	"	"	ND	118	"	---	---	Q-41
cis-1,2-Dichloroethene	21.7	---	0.500	"	"	"	ND	109	"	---	---	
trans-1,2-Dichloroethene	22.9	---	0.500	"	"	"	ND	115	"	---	---	
1,2-Dichloropropane	22.4	---	0.500	"	"	"	ND	112	"	---	---	
1,3-Dichloropropane	21.2	---	1.00	"	"	"	ND	106	"	---	---	
2,2-Dichloropropane	28.0	---	1.00	"	"	"	ND	140	"	---	---	
1,1-Dichloropropene	23.7	---	1.00	"	"	"	ND	119	"	---	---	
cis-1,3-Dichloropropene	21.5	---	1.00	"	"	"	ND	108	"	---	---	
trans-1,3-Dichloropropene	23.0	---	1.00	"	"	"	ND	115	"	---	---	
Ethylbenzene	22.8	---	0.500	"	"	"	0.385	112	"	---	---	
Hexachlorobutadiene	24.0	---	5.00	"	"	"	ND	120	"	---	---	
2-Hexanone	37.0	---	10.0	"	"	40.0	ND	92	"	---	---	
Isopropylbenzene	23.7	---	1.00	"	"	20.0	ND	119	"	---	---	
4-Isopropyltoluene	23.2	---	1.00	"	"	"	ND	116	"	---	---	
4-Methyl-2-pentanone (MiBK)	36.8	---	10.0	"	"	40.0	ND	92	"	---	---	
Methyl tert-butyl ether (MTBE)	20.9	---	1.00	"	"	20.0	ND	105	"	---	---	
Methylene chloride	33.6	---	5.00	"	"	"	8.50	125	"	---	---	
Naphthalene	21.2	---	2.00	"	"	"	ND	106	"	---	---	
n-Propylbenzene	21.9	---	0.500	"	"	"	ND	109	"	---	---	
Styrene	22.3	---	1.00	"	"	"	ND	111	"	---	---	
1,1,1,2-Tetrachloroethane	23.8	---	0.500	"	"	"	ND	119	"	---	---	
1,1,2,2-Tetrachloroethane	22.4	---	0.500	"	"	"	ND	112	"	---	---	
Tetrachloroethene (PCE)	27.7	---	0.500	"	"	"	3.20	122	"	---	---	
Toluene	22.3	---	1.00	"	"	"	ND	111	"	---	---	
1,2,3-Trichlorobenzene	22.8	---	2.00	"	"	"	ND	114	"	---	---	
1,2,4-Trichlorobenzene	22.3	---	2.00	"	"	"	ND	111	"	---	---	
1,1,1-Trichloroethane	24.2	---	0.500	"	"	"	ND	121	"	---	---	
1,1,2-Trichloroethane	22.7	---	0.500	"	"	"	ND	113	"	---	---	
Trichloroethene (TCE)	23.8	---	0.500	"	"	"	ND	119	"	---	---	
Trichlorofluoromethane	24.7	---	2.00	"	"	"	ND	124	"	---	---	
1,2,3-Trichloropropane	21.5	---	1.00	"	"	"	ND	107	"	---	---	
1,2,4-Trimethylbenzene	22.7	---	1.00	"	"	"	ND	113	"	---	---	
1,3,5-Trimethylbenzene	22.3	---	1.00	"	"	"	ND	111	"	---	---	

Apex Laboratories

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5120632 - EPA 5030B						Water						
Matrix Spike (5120632-MS1)						Prepared: 12/20/15 14:27		Analyzed: 12/21/15 00:08				
QC Source Sample: Other (ASL0387-01)												
EPA 8260B												
Vinyl chloride	24.4	---	0.500	ug/L	"	"	ND	122	"	---	---	
m,p-Xylene	47.4	---	1.00	"	"	40.0	1.68	114	"	---	---	
o-Xylene	23.3	---	0.500	"	"	20.0	0.747	113	"	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 101 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		96 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		98 %		80-120 %		"						

Apex Laboratories



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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015

Project Number: 1821-00

Project Manager: John Foxwell

Reported:
02/07/17 11:27

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5120537							
A5L0481-01	Water	NWTPH-Dx	12/11/15 10:38	12/17/15 10:08	1030mL/2mL	1000mL/2mL	0.97

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5120632							
A5L0481-01	Water	NWTPH-Gx (MS)	12/11/15 10:38	12/20/15 14:28	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5120632							
A5L0481-01	Water	EPA 8260B	12/11/15 10:38	12/20/15 14:28	5mL/5mL	5mL/5mL	1.00

Apex Laboratories



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

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
02/07/17 11:27

Notes and Definitions

Qualifiers:

- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-20 Result for Diesel is Estimated due to overlap from the Gasoline Range.
- Q-01 Spike recovery and/or RPD is outside acceptance limits.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS
- QC Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver November 2015

Project Number: 1821-00
Project Manager: John FoxwellReported:
02/07/17 11:27

COC 1 of 1

Lab # A510481

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Apex Companies, LLC		Project Mgr: John Foxwell		Project Name: Tarr Vancouver		Project # 1821-00	
Address: 3015 SW 1st Ave, Portland, OR		Phone: 503-312-0676		Fax:		Email: jfoxwell@apex-labs.com	
Sampled by: Jake Mursey		DATE: 12/11/16		TIME: 10:38 AM		LAB ID # MW-1	
Site Location: WA		DATE: 12/11/16		TIME: 10:38 AM		LAB ID # MW-1	
Other: _____		DATE: 12/11/16		TIME: 10:38 AM		LAB ID # MW-1	
SAMPLE ID		DATE		TIME		MATRIX	
1		12/11/16		10:38 AM		MW-1	
2		12/11/16		10:38 AM		MW-1	
3		12/11/16		10:38 AM		MW-1	
4		12/11/16		10:38 AM		MW-1	
5		12/11/16		10:38 AM		MW-1	
6		12/11/16		10:38 AM		MW-1	
7		12/11/16		10:38 AM		MW-1	
8		12/11/16		10:38 AM		MW-1	
9		12/11/16		10:38 AM		MW-1	
10		12/11/16		10:38 AM		MW-1	
ANALYSIS REQUEST		RCRA Metals (8)		TCLP Metals (8)		Al, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Hg, Mn, Mo, Ni, K, Se, Ag, Na, Ti, V, Zn	
600 TTO		8082 PCBs		8270 SVOC		8260 BTEX	
8270 SIM PAHs		8260 RBDM VOCs		8260 VOC		NWTPH-GX	
NWTPH-DX		NWTPH-HCID		NWTPH-DX		NWTPH-GX	
# OF CONTAINERS		MATRIX		TIME		DATE	
1		MW-1		10:38 AM		12/11/16	
2		MW-1		10:38 AM		12/11/16	
3		MW-1		10:38 AM		12/11/16	
4		MW-1		10:38 AM		12/11/16	
5		MW-1		10:38 AM		12/11/16	
6		MW-1		10:38 AM		12/11/16	
7		MW-1		10:38 AM		12/11/16	
8		MW-1		10:38 AM		12/11/16	
9		MW-1		10:38 AM		12/11/16	
10		MW-1		10:38 AM		12/11/16	
SPECIAL INSTRUCTIONS:		* Normal Turnaround		* See Analytical Services Quotation			
Normal Turn Around Time (TAT) = 7-10 Business Days		YES/NO		1 Day 2 Day 3 Day 4 DAY 5 DAY Other:			
TAT Requested (circle)		1 Day		2 Day 3 Day 4 DAY 5 DAY Other:			
SAMPLES ARE HELD FOR 30 DAYS		RECEIVED BY:		RECEIVED BY:			
Signature: Jake Mursey		Date: 12/11/16		Signature:		Date:	
Printed Name: Jake Mursey		Time: 15:30		Printed Name:		Time:	
Company: Apex Companies, LLC		Company: Apex Labs		Company:		Company:	

Apex Laboratories

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3600 Fremont Ave. N.

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

info@fremontanalytical.com

Apex Laboratories

Darwin Thomas
12232 S.W. Garden Place
Tigard, OR 97223

RE: A5L0481

Lab ID: 1512150

January 12, 2016

Attention Darwin Thomas:

Fremont Analytical, Inc. received 1 sample(s) on 12/16/2015 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President



Date: 01/12/2016

CLIENT: Apex Laboratories
Project: A5L0481
Lab Order: 1512150

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1512150-001	MW-1	12/11/2015 10:38 AM	12/16/2015 2:20 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Apex Laboratories**Project:** A5L0481

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

WO#: 1512150

Date Reported: 1/12/2016

Client: Apex Laboratories

Collection Date: 12/11/2015 10:38:00 AM

Project: A5L0481

Lab ID: 1512150-001

Matrix: Water

Client Sample ID: MW-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 12659	Analyst: EC	
Aliphatic Hydrocarbon (C10-C12)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C12-C16)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C16-C21)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C21-C34)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aliphatic Hydrocarbon (C8-C10)	ND	79.8	*	µg/L	1	12/30/2015 7:41:00 AM
Aromatic Hydrocarbon (C10-C12)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C16-C21)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C21-C34)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	79.8	*	µg/L	1	12/30/2015 6:39:00 PM
Surr: 1-Chlorooctadecane	25.4	60-140	S	%Rec	1	12/30/2015 7:41:00 AM
Surr: o-Terphenyl	53.0	60-140	S	%Rec	1	12/30/2015 6:39:00 PM

NOTES:

S - Outlying surrogate recoveries observed.

* - Flagged value is not within established control limits.

Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: R26668	Analyst: BC	
Aliphatic Hydrocarbon (C5-C6)	30.9	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aliphatic Hydrocarbon (C6-C8)	51.7	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aliphatic Hydrocarbon (C8-C10)	53.6	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aliphatic Hydrocarbon (C10-C12)	39.1	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aromatic Hydrocarbon (C8-C10)	44.7	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aromatic Hydrocarbon (C10-C12)	68.6	10.0		µg/L	1	12/21/2015 5:17:51 PM
Aromatic Hydrocarbon (C12-C13)	41.8	10.0		µg/L	1	12/21/2015 5:17:51 PM
Benzene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
Toluene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
Ethylbenzene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
m,p-Xylene	12.2	5.00		µg/L	1	12/21/2015 5:17:51 PM
o-Xylene	ND	5.00		µg/L	1	12/21/2015 5:17:51 PM
Naphthalene	21.1	5.00		µg/L	1	12/21/2015 5:17:51 PM
Methyl tert-butyl ether (MTBE)	10.3	5.00		µg/L	1	12/21/2015 5:17:51 PM
Surr: 1,4-Difluorobenzene	108	65-140		%Rec	1	12/21/2015 5:17:51 PM
Surr: BFB	114	65-140		%Rec	1	12/21/2015 5:17:51 PM



Analytical Report

WO#: 1512150

Date Reported: 1/12/2016

Client: Apex Laboratories

Collection Date: 12/11/2015 10:38:00 AM

Project: A5L0481

Lab ID: 1512150-001

Matrix: Water

Client Sample ID: MW-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 12699

Analyst: EC

Aliphatic Hydrocarbon (C10-C12)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C12-C16)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C16-C21)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C21-C34)	ND	80.2	H	µg/L	1	1/7/2016 6:53:00 PM
Aliphatic Hydrocarbon (C8-C10)	ND	80.2	*H	µg/L	1	1/7/2016 6:53:00 PM
Aromatic Hydrocarbon (C10-C12)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C16-C21)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C21-C34)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	80.2	*H	µg/L	1	1/9/2016 3:45:00 PM
Surr: 1-Chlorooctadecane	48.3	60-140	SH	%Rec	1	1/7/2016 6:53:00 PM
Surr: o-Terphenyl	60.4	60-140	H	%Rec	1	1/9/2016 3:45:00 PM

NOTES:

S - Outlying surrogate recovery observed.

* - Flagged value is not within established control limits.



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	MB-12659	SampType:	MBLK	Units: µg/L		Prep Date: 12/23/2015		RunNo:	26835		
Client ID:	MBLKW	Batch ID:	12659			Analysis Date: 12/30/2015		SeqNo:	506297		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	80.0		0	0						*
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		0	0						*
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		0	0						*
Aliphatic Hydrocarbon (C21-C34)	ND	80.0		0	0						*
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0						*
Surr: 1-Chlorooctadecane	17.1		80.00		21.4	60	140				S

NOTES:

S - Outlying surrogate recovery observed.

* - Flagged value is not within established control limits.

Sample ID		LCS-12659		SampType: LCS		Units: µg/L		Prep Date: 12/23/2015		RunNo: 26835	
Client ID:		LCSW		Batch ID: 12659				Analysis Date: 12/30/2015		SeqNo: 506296	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	74.61	80.0	200.0	0	37.3	70	130				S
Aliphatic Hydrocarbon (C12-C16)	93.4	80.0	200.0	0	46.7	70	130				S
Aliphatic Hydrocarbon (C16-C21)	111	80.0	200.0	0	55.4	70	130				S
Aliphatic Hydrocarbon (C21-C34)	108	80.0	200.0	0	54.0	70	130				S
Aliphatic Hydrocarbon (C8-C10)	132	80.0	400.0	0	32.9	70	130				S
Surr: 1-Chlorooctadecane	32.9		80.00		41.1	60	140				S

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.

S - Outlying surrogate recovery observed.

Sample ID	LCSD-12659	SampType:	LCSD	Units: µg/L		Prep Date:	12/23/2015	RunNo:	26835		
Client ID:	LCSW02	Batch ID:	12659			Analysis Date:	12/30/2015	SeqNo:	506295		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	80.0	80.0	200.0	0	40.0	70	130	74.61	7.01	20	S
Aliphatic Hydrocarbon (C12-C16)	96.4	80.0	200.0	0	48.2	70	130	93.43	3.14	20	S
Aliphatic Hydrocarbon (C16-C21)	116	80.0	200.0	0	57.8	70	130	110.9	4.15	20	S
Aliphatic Hydrocarbon (C21-C34)	112	80.0	200.0	0	55.9	70	130	107.9	3.46	20	S



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	LCSD-12659	SampType:	LCSD	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCW02	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506295		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aliphatic Hydrocarbon (C8-C10)	142	80.0	400.0	0	35.6	70	130	131.6	7.90	20	S
Surr: 1-Chlorooctadecane	41.0		80.00		51.2	60	140		0		S

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.
 S - Outlying surrogate recovery observed.

Sample ID	MB-12659	SampType:	MBLK	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	MBLKW	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506559		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C12-C16)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C16-C21)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C21-C34)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0						*
Surr: o-Terphenyl	46.3		80.00		57.9	60	140				S

NOTES:

S - Outlying surrogate recovery observed.
 * - Flagged value is not within established control limits.

Sample ID	LCSD-12659	SampType:	LCSD	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCW	Batch ID:	12659	Analysis Date:	12/30/2015	SeqNo:	506558		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	87.0	80.0	200.0	0	43.5	70	130				S
Aromatic Hydrocarbon (C12-C16)	94.3	80.0	200.0	0	47.2	70	130				S
Aromatic Hydrocarbon (C16-C21)	123	80.0	200.0	0	61.5	70	130				S
Aromatic Hydrocarbon (C21-C34)	120	80.0	200.0	0	60.1	70	130				S
Aromatic Hydrocarbon (C8-C10)	85.0	80.0	200.0	0	42.5	70	130				S
Surr: o-Terphenyl	40.9		80.00		51.1	60	140				S



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	LCS-12659	SampType:	LCS	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW	Batch ID:	12659			Analysis Date:	12/30/2015	SeqNo:	506558
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.
S - Outlying surrogate recovery observed.

Sample ID	LCSD-12659	SampType:	LCSD	Units:	µg/L	Prep Date:	12/23/2015	RunNo:	26835
Client ID:	LCSW02	Batch ID:	12659			Analysis Date:	12/30/2015	SeqNo:	506557
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	91.3	80.0	200.0	0	45.6	70	130	86.95	4.86	20	S
Aromatic Hydrocarbon (C12-C16)	106	80.0	200.0	0	53.0	70	130	94.35	11.6	20	S
Aromatic Hydrocarbon (C16-C21)	111	80.0	200.0	0	55.7	70	130	123.1	9.88	20	S
Aromatic Hydrocarbon (C21-C34)	130	80.0	200.0	0	64.8	70	130	120.2	7.57	20	S
Aromatic Hydrocarbon (C8-C10)	86.4	80.0	200.0	0	43.2	70	130	85.05	1.54	20	S
Surr: o-Terphenyl	44.2		80.00		55.2	60	140		0		S

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.
S - Outlying surrogate recovery observed.

Sample ID	MB-12699	SampType:	MBLK	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	MBLKW	Batch ID:	12699			Analysis Date:	1/7/2016	SeqNo:	507871
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aliphatic Hydrocarbon (C10-C12)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C21-C34)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0						*
Surr: 1-Chlorooctadecane	69.8		80.00		87.3	60	140				

NOTES:

* - Flagged value is not within established control limits.



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	LCS-12699	SampType:	LCS	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW	Batch ID:	12699	Analysis Date:	1/7/2016	SeqNo:	507869		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aliphatic Hydrocarbon (C10-C12)	167	80.0	200.0	0	83.5	70	130		
Aliphatic Hydrocarbon (C12-C16)	189	80.0	200.0	0	94.3	70	130		
Aliphatic Hydrocarbon (C16-C21)	157	80.0	200.0	0	78.5	70	130		
Aliphatic Hydrocarbon (C21-C34)	146	80.0	200.0	0	73.1	70	130		
Aliphatic Hydrocarbon (C8-C10)	271	80.0	400.0	0	67.7	70	130		S
Surr: 1-Chlorooctadecane	64.7		80.00		80.9	60	140		

NOTES:

S - Outlying spike recovery observed (EPH: Aliphatic Hydrocarbon (C8-C10); low bias). Samples will be qualified with a *.

Sample ID	LCSD-12699	SampType:	LCSD	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW02	Batch ID:	12699	Analysis Date:	1/7/2016	SeqNo:	507870		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aliphatic Hydrocarbon (C10-C12)	134	80.0	200.0	0	67.2	70	130	167.0	21.7 20 S
Aliphatic Hydrocarbon (C12-C16)	146	80.0	200.0	0	73.1	70	130	188.5	25.3 20
Aliphatic Hydrocarbon (C16-C21)	116	80.0	200.0	0	58.0	70	130	156.9	30.1 20 S
Aliphatic Hydrocarbon (C21-C34)	114	80.0	200.0	0	56.8	70	130	146.3	25.2 20 S
Aliphatic Hydrocarbon (C8-C10)	223	80.0	400.0	0	55.8	70	130	270.7	19.3 20 S
Surr: 1-Chlorooctadecane	44.9		80.00		56.1	60	140	0	0 S

NOTES:

S - Outlying spike recovery observed (EPH: Aliphatic Hydrocarbon (C8-C10); low bias). Samples will be qualified with a *.

S - Outlying spike recoveries observed. A duplicate analysis was performed and recovered within range.

S - Outlying surrogate recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID	MB-12699	SampType:	MBLK	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	MBLKW	Batch ID:	12699	Analysis Date:	1/9/2016	SeqNo:	508303		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aromatic Hydrocarbon (C10-C12)	ND	80.0		0	0				* *
Aromatic Hydrocarbon (C12-C16)	ND	80.0		0	0				* *
Aromatic Hydrocarbon (C16-C21)	ND	80.0		0	0				* *
Aromatic Hydrocarbon (C21-C34)	ND	80.0		0	0				* *



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID	MB-12699	SampType:	MBLK	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	MBLKW	Batch ID:	12699			Analysis Date:	1/9/2016	SeqNo:	508303
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C8-C10)	ND	0
Surr: o-Terphenyl	56.8	71.0 60 140

NOTES:

* - Flagged value is not within established control limits.

Sample ID	LCSD-12699	SampType:	LCSD	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW02	Batch ID:	12699			Analysis Date:	1/9/2016	SeqNo:	508302
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	117	80.0
Aromatic Hydrocarbon (C12-C16)	120	80.0
Aromatic Hydrocarbon (C16-C21)	130	80.0
Aromatic Hydrocarbon (C21-C34)	134	80.0
Aromatic Hydrocarbon (C8-C10)	118	80.0
Surr: o-Terphenyl	45.4	

NOTES:

S - Outlying surrogate recovery observed. A duplicate analysis was performed and recovered within range.

S - Outlying spike recoveries observed (low bias). A duplicate analysis was performed with similar results, samples will be qualified with a *.

Sample ID	LCS-12699	SampType:	LCS	Units:	µg/L	Prep Date:	1/4/2016	RunNo:	26927
Client ID:	LCSW	Batch ID:	12699			Analysis Date:	1/11/2016	SeqNo:	508446
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Aromatic Hydrocarbon (C10-C12)	120	80.0
Aromatic Hydrocarbon (C12-C16)	134	80.0
Aromatic Hydrocarbon (C16-C21)	140	80.0
Aromatic Hydrocarbon (C21-C34)	125	80.0
Aromatic Hydrocarbon (C8-C10)	116	80.0
Surr: o-Terphenyl	53.3	

NOTES:

S - Outlying spike recoveries observed (low bias). Samples will be qualified with a *.



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWWPH

Sample ID		LCS-R26668		SampType: LCS		Units: µg/L		Prep Date: 12/21/2015		RunNo: 26668	
Client ID:		LCSW		Batch ID: R26668				Analysis Date: 12/21/2015		SeqNo: 502799	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	605	10.0	600.0	0	101	70	130				
Aliphatic Hydrocarbon (C6-C8)	226	10.0	200.0	0	113	70	130				
Aliphatic Hydrocarbon (C8-C10)	224	10.0	200.0	0	112	70	130				
Aliphatic Hydrocarbon (C10-C12)	223	10.0	200.0	0	111	70	130				
Aromatic Hydrocarbon (C8-C10)	794	10.0	800.0	0	99.3	70	130				
Aromatic Hydrocarbon (C10-C12)	158	10.0	200.0	0	78.9	70	130				
Aromatic Hydrocarbon (C12-C13)	152	10.0	200.0	0	76.1	70	130				
Benzene	190	5.00	200.0	0	94.8	70	130				
Toluene	189	5.00	200.0	0	94.7	70	130				
Ethylbenzene	187	5.00	200.0	0	93.7	70	130				
m,p-Xylene	373	5.00	400.0	0	93.1	70	130				
o-Xylene	186	5.00	200.0	0	93.0	70	130				
Naphthalene	149	5.00	200.0	0	74.3	70	130				
Methyl tert-butyl ether (MTBE)	154	5.00	200.0	0	76.8	70	130				
Surr: 1,4-Difluorobenzene	53.4		50.00		107	65	140				
Surr: BFB	60.2		50.00		120	65	140				

Sample ID	MB-R26668	SampType: MBLK	Units: µg/L		Prep Date: 12/21/2015		RunNo: 26668				
Client ID:	MBLKW	Batch ID: R26668			Analysis Date: 12/21/2015		SeqNo: 502801				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C6-C8)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C8-C10)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C10-C12)	ND	10.0		0	0						
Aromatic Hydrocarbon (C8-C10)	ND	10.0		0	0						
Aromatic Hydrocarbon (C10-C12)	ND	10.0		0	0						
Aromatic Hydrocarbon (C12-C13)	ND	10.0		0	0						
Benzene	ND	5.00		0	0						
Toluene	ND	5.00		0	0						
Ethylbenzene	ND	5.00		0	0						



Date: 1/12/2016

Work Order: 1512150

CLIENT: Apex Laboratories

Project: A5L0481

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID	MB-R26668	SampType:	MBLK	Units: µg/L		Prep Date:	12/21/2015	RunNo:	26668			
Client ID:	MBLKW	Batch ID:	R26668			Analysis Date:	12/21/2015	SeqNo:	502801			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene		ND	5.00		0	0						
o-Xylene		ND	5.00		0	0						
Naphthalene		ND	5.00		0	0						
Methyl tert-butyl ether (MTBE)		ND	5.00		0	0						
Surr: 1,4-Difluorobenzene		51.1		50.00		102	65	140				
Surr: BFB		54.1		50.00		108	65	140				

Sample ID		LCSD-R26668		SampType: LCSD		Units: µg/L		Prep Date: 12/22/2015		RunNo: 26668	
Client ID:		LCSW02		Batch ID: R26668				Analysis Date: 12/22/2015		SeqNo: 502800	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	509	10.0	600.0	0	84.8	70	130	605.3	17.3	20	
Aliphatic Hydrocarbon (C6-C8)	170	10.0	200.0	0	85.2	70	130	226.1	28.1	20	R
Aliphatic Hydrocarbon (C8-C10)	232	10.0	200.0	0	116	70	130	224.0	3.60	20	
Aliphatic Hydrocarbon (C10-C12)	179	10.0	200.0	0	89.5	70	130	222.9	21.9	20	R
Aromatic Hydrocarbon (C8-C10)	727	10.0	800.0	0	90.9	70	130	794.4	8.85	20	
Aromatic Hydrocarbon (C10-C12)	159	10.0	200.0	0	79.7	70	130	157.7	1.03	20	
Aromatic Hydrocarbon (C12-C13)	163	10.0	200.0	0	81.6	70	130	152.1	7.01	20	
Benzene	180	5.00	200.0	0	90.0	70	130	189.7	5.20	20	
Toluene	179	5.00	200.0	0	89.3	70	130	189.4	5.84	20	
Ethylbenzene	176	5.00	200.0	0	88.1	70	130	187.4	6.09	20	
m,p-Xylene	351	5.00	400.0	0	87.7	70	130	372.6	6.01	20	
o-Xylene	176	5.00	200.0	0	87.9	70	130	185.9	5.65	20	
Naphthalene	136	5.00	200.0	0	68.0	70	130	148.6	8.79	20	S
Methyl tert-butyl ether (MTBE)	154	5.00	200.0	0	77.2	70	130	153.7	0.505	20	
Surr: 1,4-Difluorobenzene	47.4		50.00		94.8	65	140		0		
Surr: BFB	58.3		50.00		117	65	140		0		

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed and recovered within range.

R - High RPD observed, spike recoveries are within range.

Sample Log-In Check List

Client Name: **APEX**
 Logged by: **Erica Silva**

Work Order Number: **1512150**
 Date Received: **12/16/2015 2:20:00 PM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
 2. How was the sample delivered? UPS

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
 4. Shipping container/cooler in good condition? Yes ☒ No ☐
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☒ Not Required ☐
 6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
 7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C * Yes ☒ No ☐ NA ☐
 8. Sample(s) in proper container(s)? Yes ☒ No ☐
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
 10. Are samples properly preserved? Yes ☒ No ☐
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
 12. Is there headspace in the VOA vials? Yes ☐ No ☒ NA ☐
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
 14. Does paperwork match bottle labels? Yes ☒ No ☐
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
 16. Is it clear what analyses were requested? Yes ☒ No ☐
 17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	1.8
Sample	2.2
Temp Blank	4.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT ORDER

Apex Laboratories

A5L0481

1512150

12/16/15 LAD

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Fremont Analytical
3600 Fremont Avenue N.
Seattle, WA 98103
Phone: (206) 352-3790
Fax: (206) 352-7178

Sample Name: MW-1

Water

Sampled: 12/11/15 10:38

(A5L0481-01)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	12/22/15 17:00	12/25/15 10:38	
NWTPH-VPH (Sub)	12/22/15 17:00	12/25/15 10:38	
<i>Containers Supplied:</i>			
(D)40 mL VOA - HCL			
(E)40 mL VOA - HCL			
(F)40 mL VOA - HCL			
(I)1 L Amber Glass - HCL			
(J)1 L Amber Glass - HCL			

Standard

Released By

UPS (Shipper)

Date

12/15/15

Received By

Received By

Date

UPS (Shipper)

Date

12/16/15 1420

Date

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Monday, August 22, 2016

John Foxwell
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

RE: Tarr Vancouver / 1821-00

Enclosed are the results of analyses for work order A6G0067, which was received by the laboratory on 7/1/2016 at 1:13:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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

Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
08/22/16 11:49

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A6G0067-01	Water	06/30/16 13:08	07/01/16 13:13
MW-4	A6G0067-02	Water	06/30/16 14:10	07/01/16 13:13
MW-5	A6G0067-03	Water	06/30/16 15:05	07/01/16 13:13

Apex Laboratories



Darrell Auvil, Project Manager

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

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6G0067-01)			Matrix: Water		Batch: 6070152			
Diesel	ND	---	0.238	mg/L	1	07/08/16 08:00	NWTPH-Dx/SG	
Oil	ND	---	0.476	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW-4 (A6G0067-02)			Matrix: Water		Batch: 6070152			
Diesel	ND	---	0.238	mg/L	1	07/08/16 08:20	NWTPH-Dx/SG	
Oil	ND	---	0.476	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 94 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW-5 (A6G0067-03)			Matrix: Water		Batch: 6070152			
Diesel	ND	---	0.238	mg/L	1	07/08/16 08:40	NWTPH-Dx/SG	
Oil	ND	---	0.476	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Darrell Auvil, Project Manager

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6G0067-01)			Matrix: Water		Batch: 6070056			
Gasoline Range Organics	0.342	---	0.100	mg/L	1	07/05/16 14:06	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 97 %	Limits: 50-150 %	"	"	"	
1,4-Difluorobenzene (Sur)			94 %	Limits: 50-150 %	"	"	"	
MW-4 (A6G0067-02)			Matrix: Water		Batch: 6070056			
Gasoline Range Organics	ND	---	0.100	mg/L	1	07/05/16 14:33	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 107 %	Limits: 50-150 %	"	"	"	
1,4-Difluorobenzene (Sur)			95 %	Limits: 50-150 %	"	"	"	
MW-5 (A6G0067-03)			Matrix: Water		Batch: 6070056			
Gasoline Range Organics	ND	---	0.100	mg/L	1	07/05/16 15:01	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 91 %	Limits: 50-150 %	"	"	"	
1,4-Difluorobenzene (Sur)			89 %	Limits: 50-150 %	"	"	"	

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Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

BTEX+N Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6G0067-01)			Matrix: Water		Batch: 6070056			
Benzene	ND	---	0.200	ug/L	1	07/05/16 14:06	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	1.54	---	0.500	"	"	"	"	
Xylenes, total	2.83	---	1.50	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
MW-4 (A6G0067-02)			Matrix: Water		Batch: 6070056			
Benzene	ND	---	0.200	ug/L	1	07/05/16 14:33	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>104 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
MW-5 (A6G0067-03)			Matrix: Water		Batch: 6070056			
Benzene	ND	---	0.200	ug/L	1	07/05/16 15:01	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver
Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6G0067-01)			Matrix: Water		Batch: 6070399			
1,2-Dibromoethane (EDB)	ND	---	0.0200	ug/L	1	07/14/16 17:39	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)			Recovery: 92 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			104 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			82 %	Limits: 70-130 %	"	"	"	
MW-4 (A6G0067-02)			Matrix: Water		Batch: 6070399			
1,2-Dibromoethane (EDB)	ND	---	0.0200	ug/L	1	07/14/16 18:25	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)			Recovery: 104 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			102 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			104 %	Limits: 70-130 %	"	"	"	
MW-5 (A6G0067-03)			Matrix: Water		Batch: 6070399			
1,2-Dibromoethane (EDB)	ND	---	0.0200	ug/L	1	07/14/16 18:52	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)			Recovery: 98 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			101 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			99 %	Limits: 70-130 %	"	"	"	

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Darrell Auvil, Project Manager

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-5 (A6G0067-03)			Matrix: Water					
Batch: 6080330								
Lead	0.778	---	0.200	ug/L	1	08/10/16 17:59	EPA 6020A	

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Apex Companies, LLC
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Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell**Reported:**
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6G0067-01)			Matrix: Water					
Batch: 6070376								
Lead	ND	---	0.200	ug/L	1	07/15/16 14:34	EPA 6020A (Diss)	FILT1
MW-4 (A6G0067-02)			Matrix: Water					
Batch: 6070376								
Lead	1.47	---	0.200	ug/L	1	07/15/16 14:37	EPA 6020A (Diss)	FILT1
MW-5 (A6G0067-03)			Matrix: Water					
Batch: 6070376								
Lead	ND	---	0.200	ug/L	1	07/15/16 14:43	EPA 6020A (Diss)	FILT1

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Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
08/22/16 11:49

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6G0067-01)			Matrix: Water					
Batch: 6070466								
Lead	ND	---	0.0500	mg/L	5	07/19/16 16:47	1311/6020A	
MW-4 (A6G0067-02)			Matrix: Water					
Batch: 6070466								
Lead	ND	---	0.0500	mg/L	5	07/19/16 16:50	1311/6020A	
MW-5 (A6G0067-03)			Matrix: Water					
Batch: 6070466								
Lead	ND	---	0.0500	mg/L	5	07/19/16 16:53	1311/6020A	

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3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 6070152 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid							Water						
Blank (6070152-BLK1)				Prepared: 07/07/16 09:39		Analyzed: 07/08/16 04:42							
NWTPH-Dx/SG													
Diesel	ND	---	0.227	mg/L	1	---	---	---	---	---	---		
Oil	ND	---	0.455	"	"	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x							
LCS (6070152-BS1)				Prepared: 07/07/16 09:39		Analyzed: 07/08/16 05:01							
NWTPH-Dx/SG													
Diesel	1.14	---	0.250	mg/L	1	1.25	---	91	58-115%	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x							
LCS Dup (6070152-BSD1)				Prepared: 07/07/16 09:39		Analyzed: 07/08/16 05:21							Q-19
NWTPH-Dx/SG													
Diesel	1.16	---	0.250	mg/L	1	1.25	---	93	58-115%	2	20%		
Surr: o-Terphenyl (Surr)		Recovery: 104 %		Limits: 50-150 %		Dilution: 1x							

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Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070056 - EPA 5030B						Water						
Blank (6070056-BLK1)				Prepared: 07/05/16 07:09 Analyzed: 07/05/16 12:43								
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		93 %		50-150 %		"						
LCS (6070056-BS2)						Prepared: 07/05/16 07:09 Analyzed: 07/05/16 12:15						
NWTPH-Gx (MS)												
Gasoline Range Organics	0.443	---	0.100	mg/L	1	0.500	---	89	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 90 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		93 %		50-150 %		"						

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Darrell Auvil, Project Manager

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Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX+N Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070056 - EPA 5030B						Water						
Blank (6070056-BLK1)				Prepared: 07/05/16 07:09 Analyzed: 07/05/16 12:43								
EPA 8260B												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 102 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		99 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		111 %		80-120 %		"						

LCS (6070056-BS1)				Prepared: 07/05/16 07:09 Analyzed: 07/05/16 11:47							
EPA 8260B											
Benzene	19.1	---	0.200	ug/L	1	20.0	---	95	70-130%	---	---
Toluene	18.9	---	1.00	"	"	"	---	94	"	---	---
Ethylbenzene	19.9	---	0.500	"	"	"	---	99	"	---	---
Xylenes, total	61.3	---	1.50	"	"	60.0	---	102	"	---	---
Naphthalene	22.5	---	2.00	"	"	20.0	---	112	"	---	---
Surr: 1,4-Difluorobenzene (Surr)			Recovery: 99 %		Limits: 80-120 %		Dilution: 1x				
Toluene-d8 (Surr)			97 %		80-120 %		"				
4-Bromofluorobenzene (Surr)			107 %		80-120 %		"				

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Reported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070399 - EPA 5030B						Water						
Blank (6070399-BLK1)						Prepared: 07/14/16 13:01		Analyzed: 07/14/16 17:12				
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 95 %		Limits: 70-130 %		Dilution: 1x						
Toluene-d8 (Surr)		104 %		70-130 %		"						
4-Bromofluorobenzene (Surr)		104 %		70-130 %		"						
LCS (6070399-BS1)						Prepared: 07/14/16 13:01		Analyzed: 07/14/16 15:17				
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.274	---	0.0200	ug/L	1	0.200	---	137	77-121%	---	---	Q-41
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 100 %		Limits: 70-130 %		Dilution: 1x						
Toluene-d8 (Surr)		99 %		70-130 %		"						
4-Bromofluorobenzene (Surr)		107 %		70-130 %		"						
LCS Dup (6070399-BSD1)						Prepared: 07/14/16 13:01		Analyzed: 07/14/16 16:01				
EPA 8260C SIM												
1,2-Dibromoethane (EDB)	0.239	---	0.0200	ug/L	1	0.200	---	119	77-121%	14	30%	Q-41
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 102 %		Limits: 70-130 %		Dilution: 1x						
Toluene-d8 (Surr)		99 %		70-130 %		"						
4-Bromofluorobenzene (Surr)		102 %		70-130 %		"						

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Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6080330 - EPA 3015A							Water					
Blank (6080330-BLK1)					Prepared: 08/10/16 13:05		Analyzed: 08/10/16 17:12					
EPA 6020A												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
LCS (6080330-BS1)					Prepared: 08/10/16 13:05		Analyzed: 08/10/16 17:23					
EPA 6020A												
Lead	58.4	---	0.200	ug/L	1	55.6	---	105	80-120%	---	---	

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Darrell Auvil, Project Manager

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Project Number: 1821-00
Project Manager: John FoxwellReported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070376 - Matrix Matched Direct Inject							Water					
Blank (6070376-BLK1)					Prepared: 07/13/16 16:44		Analyzed: 07/15/16 14:25					
EPA 6020A (Diss)												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	FILT3
LCS (6070376-BS1)					Prepared: 07/13/16 16:44		Analyzed: 07/15/16 14:28					
EPA 6020A (Diss)												
Lead	57.1	---	0.200	ug/L	1	55.6	---	103	80-120%	---	---	
Duplicate (6070376-DUP1)					Prepared: 07/13/16 16:44		Analyzed: 07/15/16 14:40					
QC Source Sample: MW-4 (A6G0067-02)												
EPA 6020A (Diss)												
Lead	1.50	---	0.200	ug/L	1	---	1.47	---	---	2	20%	
Matrix Spike (6070376-MS1)					Prepared: 07/13/16 16:44		Analyzed: 07/15/16 14:54					
QC Source Sample: MW-5 (A6G0067-03)												
EPA 6020A (Diss)												
Lead	56.0	---	0.200	ug/L	1	55.6	ND	101	75-125%	---	---	



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Project Manager: John FoxwellReported:
08/22/16 11:49

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070466 - EPA 1311/3015							Water					
Blank (6070466-BLK1)				Prepared: 07/15/16 12:55			Analyzed: 07/19/16 16:41					
1311/6020A												
Lead	ND	---	0.0500	mg/L	5	---	---	---	---	---	---	
LCS (6070466-BS1)				Prepared: 07/15/16 12:55			Analyzed: 07/19/16 16:44					
1311/6020A												
Lead	2.67	---	0.0500	mg/L	5	2.50	---	107	80-120%	---	---	
Matrix Spike (6070466-MS1)				Prepared: 07/15/16 12:55			Analyzed: 07/19/16 16:56					
QC Source Sample: MW-5 (A6G0067-03)												
1311/6020A												
Lead	2.61	---	0.0500	mg/L	5	2.50	ND	104	50-150%	---	---	

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Darrell Auvil, Project Manager

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
08/22/16 11:49

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070152							
A6G0067-01	Water	NWTPH-Dx/SG	06/30/16 13:08	07/07/16 16:00	1050mL/5mL	1000mL/5mL	0.95
A6G0067-02	Water	NWTPH-Dx/SG	06/30/16 14:10	07/07/16 16:00	1050mL/5mL	1000mL/5mL	0.95
A6G0067-03	Water	NWTPH-Dx/SG	06/30/16 15:05	07/07/16 16:00	1050mL/5mL	1000mL/5mL	0.95

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070056							
A6G0067-01	Water	NWTPH-Gx (MS)	06/30/16 13:08	07/05/16 10:04	5mL/5mL	5mL/5mL	1.00
A6G0067-02	Water	NWTPH-Gx (MS)	06/30/16 14:10	07/05/16 10:04	5mL/5mL	5mL/5mL	1.00
A6G0067-03	Water	NWTPH-Gx (MS)	06/30/16 15:05	07/05/16 10:04	5mL/5mL	5mL/5mL	1.00

BTEX+N Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070056							
A6G0067-01	Water	EPA 8260B	06/30/16 13:08	07/05/16 10:04	5mL/5mL	5mL/5mL	1.00
A6G0067-02	Water	EPA 8260B	06/30/16 14:10	07/05/16 10:04	5mL/5mL	5mL/5mL	1.00
A6G0067-03	Water	EPA 8260B	06/30/16 15:05	07/05/16 10:04	5mL/5mL	5mL/5mL	1.00

1,2-Dibromoethane (EDB) by EPA 8260C SIM

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070399							
A6G0067-01	Water	EPA 8260C SIM	06/30/16 13:08	07/14/16 09:24	5mL/5mL	5mL/5mL	1.00
A6G0067-02	Water	EPA 8260C SIM	06/30/16 14:10	07/14/16 09:24	5mL/5mL	5mL/5mL	1.00
A6G0067-03	Water	EPA 8260C SIM	06/30/16 15:05	07/14/16 09:24	5mL/5mL	5mL/5mL	1.00

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6080330							

Apex Laboratories

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



Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell**Reported:**
08/22/16 11:49

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6G0067-03	Water	EPA 6020A	06/30/16 15:05	08/10/16 13:05	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 6020 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070376							
A6G0067-01	Water	EPA 6020A (Diss)	06/30/16 13:08	07/13/16 16:44	45mL/50mL	45mL/50mL	1.00
A6G0067-02	Water	EPA 6020A (Diss)	06/30/16 14:10	07/13/16 16:44	45mL/50mL	45mL/50mL	1.00
A6G0067-03	Water	EPA 6020A (Diss)	06/30/16 15:05	07/13/16 16:44	45mL/50mL	45mL/50mL	1.00

TCLP Metals by EPA 6020 (ICPMS)

Prep: EPA 1311/3015

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070466							
A6G0067-01	Water	1311/6020A	06/30/16 13:08	07/15/16 12:55	5mL/50mL	5mL/50mL	1.00
A6G0067-02	Water	1311/6020A	06/30/16 14:10	07/15/16 12:55	5mL/50mL	5mL/50mL	1.00
A6G0067-03	Water	1311/6020A	06/30/16 15:05	07/15/16 12:55	5mL/50mL	5mL/50mL	1.00

Lab Filtration

Prep: Lab Filtration

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6070048							
A6G0067-01	Water	NA	06/30/16 13:08	07/01/16 18:40	150mL/150mL		NA
A6G0067-02	Water	NA	06/30/16 14:10	07/01/16 18:42	150mL/150mL		NA
A6G0067-03	Water	NA	06/30/16 15:05	07/01/16 18:44	150mL/150mL		NA

Apex Laboratories



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Darrell Auvil, Project Manager

Apex Companies, LLC

3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**

Project Number: 1821-00

Project Manager: John Foxwell

Reported:

08/22/16 11:49

Notes and Definitions

Qualifiers:

- FILT1 Sample was lab filtered and acid preserved prior to analysis. See sample preparation section of report for date and time of filtration.
- FILT3 This is a laboratory filtration blank, associated with filtration batch 6070048. See Prep page of report for associated samples.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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



Darrell Auvil, Project Manager

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, September 29, 2016

John Foxwell
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

RE: Tarr Vancouver GWM / 1821-00

Enclosed are the results of analyses for work order A610738, which was received by the laboratory on 9/22/2016 at 2:48:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



Darrell Auvil, Project Manager

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

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver GWM**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/29/16 17:34

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A6I0738-01	Water	09/21/16 11:15	09/22/16 14:48

Apex Laboratories



Darrell Auvil, Project Manager

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

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver GWM**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/29/16 17:34

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A610738-01)			Matrix: Water		Batch: 6090979			
Diesel	0.276	---	0.0762	mg/L	1	09/27/16 23:10	NWTPH-Dx	F-11, F-20
Oil	ND	---	0.152	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



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Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver GWM**
Project Number: 1821-00
Project Manager: John FoxwellReported:
09/29/16 17:34

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090979 - EPA 3510C (Fuels/Acid Ext.)							Water					
Blank (6090979-BLK1)					Prepared: 09/27/16 11:11		Analyzed: 09/27/16 21:42					
NWTPH-Dx												
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.145	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 73 %		Limits: 50-150 %		Dilution: 1x						
LCS (6090979-BS1)					Prepared: 09/27/16 11:11		Analyzed: 09/27/16 22:04					
NWTPH-Dx												
Diesel	0.332	---	0.0800	mg/L	1	0.500	---	66	52-120%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 77 %		Limits: 50-150 %		Dilution: 1x						
LCS Dup (6090979-BSD1)					Prepared: 09/27/16 11:11		Analyzed: 09/27/16 22:26					
NWTPH-Dx												
Diesel	0.323	---	0.0800	mg/L	1	0.500	---	65	52-120%	3	20%	
Surr: o-Terphenyl (Surr)		Recovery: 78 %		Limits: 50-150 %		Dilution: 1x						
Q-19												

Apex Laboratories

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Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver GWM**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/29/16 17:34

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6090979							
A610738-01	Water	NWTPH-Dx	09/21/16 11:15	09/27/16 15:55	1050mL/2mL	1000mL/2mL	0.95

Apex Laboratories



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

Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver GWM**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
09/29/16 17:34

Notes and Definitions

Qualifiers:

- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-20 Result for Diesel is Estimated due to overlap from the Gasoline Range.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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



Darrell Auvil, Project Manager

Reported:
09/29/16 17:34

Page 7 of 7

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Wednesday, January 4, 2017

John Foxwell
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

RE: Tarr Vancouver / 1821-01

Enclosed are the results of analyses for work order A6L0253, which was received by the laboratory on 12/8/2016 at 11:45:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



Darrell Auvil, Project Manager

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

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-01
Project Manager: John Foxwell

Reported:
01/04/17 12:16

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A6L0253-01	Water	12/07/16 13:27	12/08/16 11:45

Apex Laboratories



Darrell Auvil, Project Manager

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

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-01
Project Manager: John Foxwell

Reported:
01/04/17 12:16

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6L0253-01)			Matrix: Water		Batch: 6120428			
Diesel	0.188	---	0.0755	mg/L	1	12/12/16 19:38	NWTPH-Dx	F-11, F-20
Oil	ND	---	0.151	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



Darrell Auvil, Project Manager

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-01
Project Manager: John FoxwellReported:
01/04/17 12:16

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 6120428 - EPA 3510C (Fuels/Acid Ext.)						Water							
Blank (6120428-BLK1)						Prepared: 12/12/16 13:56		Analyzed: 12/12/16 18:37					
NWTPH-Dx													
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---		
Oil	ND	---	0.145	"	"	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 84 %		Limits: 50-150 %		Dilution: 1x							
LCS (6120428-BS1)						Prepared: 12/12/16 13:56		Analyzed: 12/12/16 18:58					
NWTPH-Dx													
Diesel	0.441	---	0.0800	mg/L	1	0.500	---	88	52-120%	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 94 %		Limits: 50-150 %		Dilution: 1x							
LCS Dup (6120428-BSD1)						Prepared: 12/12/16 13:56		Analyzed: 12/12/16 19:18					Q-19
NWTPH-Dx													
Diesel	0.431	---	0.0800	mg/L	1	0.500	---	86	52-120%	2	20%		
Surr: o-Terphenyl (Surr)		Recovery: 82 %		Limits: 50-150 %		Dilution: 1x							

Apex Laboratories



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Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-01
Project Manager: John Foxwell

Reported:
01/04/17 12:16

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6120428							
A6L0253-01	Water	NWTPH-Dx	12/07/16 13:27	12/12/16 13:56	1060mL/2mL	1000mL/2mL	0.94

Apex Laboratories



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Darrell Auvil, Project Manager

Apex Companies, LLC

3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**

Project Number: 1821-01

Project Manager: John Foxwell

Reported:

01/04/17 12:16

Notes and Definitions

Qualifiers:

- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-20 Result for Diesel is Estimated due to overlap from the Gasoline Range.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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



Darrell Auvil, Project Manager

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-01
Project Manager: John Foxwell

Reported:
01/04/17 12:16

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Apex Companies Project Mgr: John Foxwell Project # 1821-01

Address: 3015 SW First Ave Portland, OR Phone: Email: J.Foxwell@ApexLabs.com

Sampled by: John Foxwell

CHAIN OF CUSTODY

Lab # AL0253 of 1

Site Location: COB WA

Other:

DATE: 12/7/16 TIME: 1:45

LAB ID # 1221-1

SAMPLE ID 1221-1

ANALYSIS REQUEST		SPECIAL INSTRUCTIONS:	
ANALYSIS REQUEST	ANALYSIS REQUEST	ANALYSIS REQUEST	ANALYSIS REQUEST
Al, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Zn	1200-Z		
Hg, Ag, Na, Ti, V, Zn	1200-COLS		
TOTAL DISS TCLP			
RCRA Metals (8)			
TCLP Metals (8)			
600 TTO			
8082 PCBs			
8270 SVOC			
8270 BTEX			
8260 RBDV VOCs			
8260 VOC			
NWTPH-GX			
NWTPH-DX			
NWTPH-HCID			
# OF CONTAINERS			
MATRIX			
TIME			
DATE			
LAB ID #			
SAMPLE ID			

RELINQUISHED BY:

Signature: [Signature] Date: 12/8/16

Printed Name: John Foxwell Time: 1:45

Company: Apex Companies

RECEIVED BY:

Signature: [Signature] Date: 12/8/16

Printed Name: John Foxwell Time: 1:45

Company: Apex Companies

SAMPLES ARE HELD FOR 30 DAYS

1 Day 2 Day 3 Day 4 DAY 5 DAY Other:

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-01
Project Manager: John Foxwell

Reported:
01/04/17 12:16

APEX LABS COOLER RECEIPT FORM

Client: Apex Comp Element WO#: A6 L0253
Project/Project #: Tarr Vancouver / 1821-01

Delivery info:

Date/Time Received: 11/4/16 @ 12/8/16 By: MS
Delivered by: Apex ☐ Client ☒ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Envoy ☐ SDS ☐ Other ☐

Cooler Inspection Inspected by: MS : 12/8/16 @ 11:46

Chain of Custody Included? Yes ☒ No ☐ Custody Seals? Yes ☐ No ☒

Signed/Dated by Client? Yes ☒ No ☐

Signed/Dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	<u>2.4</u>						
Received on Ice? (Y/N)	<u>(Y)</u>						
Temp. Blanks? (Y/N)	<u>(Y)</u>						
Ice Type: (Gel/Real/Other)	<u>(Gel)</u>						
Condition:	<u>1</u>						

Cooler out of temp? (Y/N) Possible reason why: _____

If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

Samples Inspection: Inspected by: MS : 12/9/16 @ 1330

All Samples Intact? Yes ☒ No ☐ Comments: _____

Bottle Labels/COCs agree? Yes ☒ No ☐ Comments: _____

Containers/Volumes Received Appropriate for Analysis? Yes ☒ No ☐ Comments: _____

Do VOA Vials have Visible Headspace? Yes ☐ No ☐ NA ☒

Comments: _____

Water Samples: pH Checked and Appropriate (except VOAs): Yes ☒ No ☐ NA ☐

Comments: _____

Additional Information: _____

Labeled by: MS Witness: AKK Cooler Inspected by: MS See Project Contact Form: Y



Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Wednesday, June 3, 2015

John Foxwell
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

RE: Tarr Vancouver / 1821-00

Enclosed are the results of analyses for work order A5E0208, which was received by the laboratory on 5/7/2015 at 12:10:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-2	A5E0208-01	Soil	05/06/15 14:30	05/07/15 12:10
B-1	A5E0208-02	Soil	05/06/15 14:00	05/07/15 12:10

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
B-2 (A5E0208-01)			Matrix: Soil		Batch: 5050289			
Diesel	ND	---	31.6	mg/kg dry	1	05/11/15 21:57	NWTPH-Dx/SG	
Oil	ND	---	63.2	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		"	"	"
B-1 (A5E0208-02)			Matrix: Soil		Batch: 5050289			
Diesel	ND	---	32.2	mg/kg dry	1	05/11/15 22:17	NWTPH-Dx/SG	
Oil	ND	---	64.3	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		"	"	"

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
B-2 (A5E0208-01)			Matrix: Soil		Batch: 5050201			
Gasoline Range Organics	ND	---	7.51	mg/kg dry	50	05/08/15 20:27	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>100 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
B-1 (A5E0208-02)			Matrix: Soil		Batch: 5050201			
Gasoline Range Organics	ND	---	7.73	mg/kg dry	50	05/08/15 20:02	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

ANALYTICAL SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
B-2 (A5E0208-01)		Matrix: Soil		Batch: 5050201				
Benzene	ND	9.39	18.8	ug/kg dry	50	05/08/15 20:27	5035/8260B	
Toluene	ND	75.1	75.1	"	"	"	"	
Ethylbenzene	ND	18.8	37.5	"	"	"	"	
Xylenes, total	ND	56.3	113	"	"	"	"	
Naphthalene	ND	75.1	150	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	37.5	75.1	"	"	"	"	
Isopropylbenzene	ND	37.5	75.1	"	"	"	"	
n-Propylbenzene	ND	18.8	37.5	"	"	"	"	
1,2,4-Trimethylbenzene	ND	37.5	75.1	"	"	"	"	
1,3,5-Trimethylbenzene	ND	37.5	75.1	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	18.8	37.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	18.8	37.5	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 70-130 %</i>		1	"	"
<i>1,4-Difluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>		"	"	"
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>		"	"	"
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>Limits: 70-130 %</i>		"	"	"
B-1 (A5E0208-02)		Matrix: Soil		Batch: 5050201				
Benzene	ND	9.66	19.3	ug/kg dry	50	05/08/15 20:02	5035/8260B	
Toluene	ND	77.3	77.3	"	"	"	"	
Ethylbenzene	ND	19.3	38.6	"	"	"	"	
Xylenes, total	ND	58.0	116	"	"	"	"	
Naphthalene	ND	77.3	155	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	38.6	77.3	"	"	"	"	
Isopropylbenzene	ND	38.6	77.3	"	"	"	"	
n-Propylbenzene	ND	19.3	38.6	"	"	"	"	
1,2,4-Trimethylbenzene	ND	38.6	77.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND	38.6	77.3	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	19.3	38.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	19.3	38.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 70-130 %</i>		1	"	"
<i>1,4-Difluorobenzene (Surr)</i>		<i>100 %</i>		<i>Limits: 70-130 %</i>		"	"	"
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>Limits: 70-130 %</i>		"	"	"
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>Limits: 70-130 %</i>		"	"	"

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
B-2 (A5E0208-01)			Matrix: Soil					
Batch: 5050280								
Lead	7.47	---	0.268	mg/kg dry	10	05/13/15 18:16	EPA 6020A	
B-1 (A5E0208-02)			Matrix: Soil					
Batch: 5050280								
Lead	5.32	---	0.272	mg/kg dry	10	05/13/15 18:19	EPA 6020A	

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3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
B-2 (A5E0208-01)			Matrix: Soil		Batch: 5050285			
% Solids	75.6	---	1.00	% by Weight	1	05/12/15 09:03	EPA 8000C	Q-38
B-1 (A5E0208-02)			Matrix: Soil		Batch: 5050285			
% Solids	74.8	---	1.00	% by Weight	1	05/12/15 09:03	EPA 8000C	Q-38

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John FoxwellReported:
06/03/15 16:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5050289 - EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)						Soil						
Blank (5050289-BLK1)						Prepared: 05/11/15 12:37		Analyzed: 05/11/15 21:18				
NWTPH-Dx/SG												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
LCS (5050289-BS1)						Prepared: 05/11/15 12:37		Analyzed: 05/11/15 21:37				
NWTPH-Dx/SG												
Diesel	105	---	25.0	mg/kg wet	1	125	---	84	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (5050289-DUP1)						Prepared: 05/11/15 12:37		Analyzed: 05/11/15 22:37				
QC Source Sample: B-1 (ASE0208-02)												
NWTPH-Dx/SG												
Diesel	ND	---	31.8	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	63.6	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						

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Darrell Auvin For Darwin Thomas, Business Development Director

Page 8 of 16

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5050201 - EPA 5035A						Soil						
Blank (5050201-BLK1)						Prepared: 05/07/15 14:17 Analyzed: 05/08/15 13:09						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 99 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		98 %		50-150 %		"						
LCS (5050201-BS2)						Prepared: 05/07/15 14:17 Analyzed: 05/08/15 12:44						
NWTPH-Gx (MS)												
Gasoline Range Organics	22.4	---	5.00	mg/kg wet	50	25.0	---	90	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 99 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		97 %		50-150 %		"						

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC

3015 SW First Avenue
Portland, OR 97201

Project: Tarr Vancouver

Project Number: 1821-00

Project Manager: John Foxwell

Reported:

06/03/15 16:05

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5050201 - EPA 5035A						Soil						
Blank (5050201-BLK1)			Prepared: 05/07/15 14:17 Analyzed: 05/08/15 13:09									
5035/8260B												
Benzene	ND	4.17	8.33	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	33.3	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Xylenes, total	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Naphthalene	ND	33.3	66.7	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)		Recovery: 102 %		Limits: 70-130 %		Dilution: 1x						
1,4-Difluorobenzene (Surr)		101 %		70-130 %		"						
Toluene-d8 (Surr)		99 %		70-130 %		"						
4-Bromofluorobenzene (Surr)		101 %		70-130 %		"						
LCS (5050201-BS1)						Prepared: 05/07/15 14:17 Analyzed: 05/08/15 12:19						
5035/8260B												

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Portland, OR 97201

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Project Number: 1821-00

Project Manager: John Foxwell

Reported:

06/03/15 16:05

QUALITY CONTROL (QC) SAMPLE RESULTS

RBCA Compounds (BTEX+) by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5050201 - EPA 5035A						Soil						
LCS (5050201-BS1)			Prepared: 05/07/15 14:17 Analyzed: 05/08/15 12:19									
1,2-Dichloroethane (EDC)	1050	12.5	25.0	ug/kg wet	"	"	---	105	"	---	---	
Surr: Dibromofluoromethane (Surr)		Recovery: 101 %		Limits: 70-130 %		Dilution: 1x						
1,4-Difluorobenzene (Surr)		99 %		70-130 %		"						
Toluene-d8 (Surr)		97 %		70-130 %		"						
4-Bromofluorobenzene (Surr)		99 %		70-130 %		"						
Matrix Spike (5050201-MS1)						Prepared: 05/06/15 14:30 Analyzed: 05/08/15 21:43						
QC Source Sample: B-2 (A5E0208-01)												
5035/8260B												
Benzene	2750	16.8	33.5	ug/kg dry	50	2680	ND	103	65-135%	---	---	
Toluene	2780	134	134	"	"	"	ND	104	"	---	---	
Ethylbenzene	2850	33.5	67.0	"	"	"	ND	106	"	---	---	
Xylenes, total	8910	101	201	"	"	8040	ND	111	"	---	---	
Naphthalene	3460	134	268	"	"	2680	ND	129	"	---	---	
Methyl tert-butyl ether (MTBE)	2800	67.0	134	"	"	"	ND	105	"	---	---	
Isopropylbenzene	2870	67.0	134	"	"	"	ND	107	"	---	---	
n-Propylbenzene	2960	33.5	67.0	"	"	"	ND	110	"	---	---	
1,2,4-Trimethylbenzene	2960	67.0	134	"	"	"	ND	110	"	---	---	
1,3,5-Trimethylbenzene	2930	67.0	134	"	"	"	ND	109	"	---	---	
1,2-Dibromoethane (EDB)	2870	33.5	67.0	"	"	"	ND	107	"	---	---	
1,2-Dichloroethane (EDC)	2730	33.5	67.0	"	"	"	ND	102	"	---	---	
Surr: Dibromofluoromethane (Surr)		Recovery: 98 %		Limits: 70-130 %		Dilution: 1x						
1,4-Difluorobenzene (Surr)		100 %		70-130 %		"						
Toluene-d8 (Surr)		99 %		70-130 %		"						
4-Bromofluorobenzene (Surr)		100 %		70-130 %		"						

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Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201Project: Tarr Vancouver
Project Number: 1821-00
Project Manager: John FoxwellReported:
06/03/15 16:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5050280 - EPA 3051A						Soil						
Blank (5050280-BLK1)					Prepared: 05/11/15 09:14		Analyzed: 05/13/15 17:00					
EPA 6020A												
Lead	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
LCS (5050280-BS1)					Prepared: 05/11/15 09:14		Analyzed: 05/13/15 17:02					
EPA 6020A												
Lead	53.7	---	0.200	mg/kg wet	10	50.0	---	107	80-120%	---	---	

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Page 12 of 16

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	--------------------	-------	------	-----------------	------------------	------	----------------	-----	--------------	-------

Batch 5050285 - Total Solids (Dry Weight)

Soil

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Darrell Auvil For Darwin Thomas, Business Development Director

Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**
Project Number: 1821-00
Project Manager: John Foxwell

Reported:
06/03/15 16:05

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Prep: EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5050289							
A5E0208-01	Soil	NWTPH-Dx/SG	05/06/15 14:30	05/11/15 12:37	10.46g/5mL	10g/5mL	0.96
A5E0208-02	Soil	NWTPH-Dx/SG	05/06/15 14:00	05/11/15 12:37	10.39g/5mL	10g/5mL	0.96

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5050201							
A5E0208-01	Soil	NWTPH-Gx (MS)	05/06/15 14:30	05/06/15 14:30	5.61g/5mL	10g/10mL	0.89
A5E0208-02	Soil	NWTPH-Gx (MS)	05/06/15 14:00	05/06/15 14:00	5.53g/5mL	10g/10mL	0.90

RBCA Compounds (BTEX+) by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5050201							
A5E0208-01	Soil	5035/8260B	05/06/15 14:30	05/06/15 14:30	5.61g/5mL	10g/10mL	0.89
A5E0208-02	Soil	5035/8260B	05/06/15 14:00	05/06/15 14:00	5.53g/5mL	10g/10mL	0.90

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5050280							
A5E0208-01	Soil	EPA 6020A	05/06/15 14:30	05/11/15 09:14	0.493g/50mL	0.5g/50mL	1.01
A5E0208-02	Soil	EPA 6020A	05/06/15 14:00	05/11/15 09:14	0.491g/50mL	0.5g/50mL	1.02

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5050285							
A5E0208-01	Soil	EPA 8000C	05/06/15 14:30	05/11/15 11:22	1N/A/1N/A	1N/A/1N/A	NA
A5E0208-02	Soil	EPA 8000C	05/06/15 14:00	05/11/15 11:22	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



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

Apex Companies, LLC

3015 SW First Avenue
Portland, OR 97201

Project: **Tarr Vancouver**

Project Number: 1821-00

Project Manager: John Foxwell

Reported:

06/03/15 16:05

Notes and Definitions

Qualifiers:

Q-38 Oven outside of control limits during drying step.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to $\frac{1}{2}$ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories



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

Darrell Auvil For Darwin Thomas, Business Development Director

Page 15 of 16

Apex Companies, LLC 3015 SW First Avenue Portland, OR 97201	Project: Tarr Vancouver Project Number: 1821-00 Project Manager: John Foxwell	Reported: 06/03/15 16:05
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[illegible]

Appendix B

Documentation



Voluntary Cleanup Program

Washington State Department of Ecology Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation. You still need to submit your evaluation as part of your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name: Tarr LLC Vancouver Cardlock

Facility/Site Address: 7208 NE St. Johns Road, Vancouver, Washington

Facility/Site No:

VCP Project No.: SW1174

Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name: John Foxwell, LHG

Title: Senior Associate
Hydrogeologist

Organization: Ash Creek Associates

Mailing address: 3015 SW 1st Avenue

City: Portland

State: Or

Zip code: 97201

Phone: 503/924-4704
ext113

Fax: 503/943-6357

E-mail: jfoxwell@ashcreekassociates.com

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

- ☒ Yes *If you answered "YES," then answer **Question 2**.*
- ☐ No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? Check all that apply. Then skip to **Step 4** of this form.

Point of Compliance: WAC 173-340-7491(1)(a)

- ☐ All soil contamination is, or will be,* at least 15 feet below the surface.
- ☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

- ☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

- ☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.
- ☒ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

- ☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

- ☐ Yes *If you answered "YES," then answer **Question 2** below.*
- ☐ No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

- ☐ Yes *If you answered "YES," then answer **Question 3** below.*
- ☐ No *If you answered "NO," then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

- ☐ Yes *If you answered "YES," then answer **Question 4** below.*
- ☐ No *If you answered "NO," then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

- ☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*
- ☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? Check all that apply. Then skip to **Step 4** of this form.

Exposure Analysis: WAC 173-340-7492(2)(a)

- ☐ Area of soil contamination at the Site is not more than 350 square feet.
- ☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

- ☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.
- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.
- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.
- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. See WAC 173-340-7493(1)(c).

1. Was there a problem? See WAC 173-340-7493(2).

- ☐ Yes *If you answered "YES," then answer **Question 2** below.*
- ☐ No *If you answered "NO," then identify the reason here and then skip to **Question 5** below:*
- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? See WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?

Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

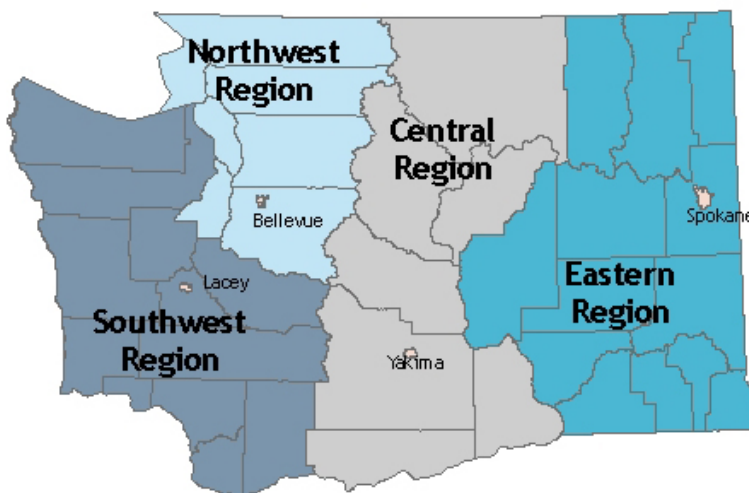
- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

- ☐ Yes If so, please identify the Ecology staff who approved those steps:
- ☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: Sara Nied 3190 160 th Ave. SE Bellevue, WA 98008-5452	Central Region: Attn: Mark Dunbar 15 W. Yakima Ave., Suite 200 Yakima, WA 98902
Southwest Region: Attn: Scott Rose P.O. Box 47775 Olympia, WA 98504-7775	Eastern Region: Attn: Patti Carter N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

John Foxwell

From: Radcliff, Eugene (ECY) <erad461@ECY.WA.GOV>
Sent: Wednesday, April 29, 2015 4:04 PM
To: John Foxwell
Cc: Rose, Scott (ECY)
Subject: RE: Tarr Vancouver Cardlock Site

John:

It was a pleasure to speak with you about the Tarr Inc. facility (Site) today and thank you for providing the latest report (Groundwater Monitoring Report dated March 19, 2015) for Ecology review. The groundwater analytical data seems to indicate the Site is coming along nicely.

Items we discussed today were the recommendations that Apex proposed in the report and Ecology proposed work:

- Ecology agrees with the proposed locations for soil confirmation sampling at SB-6, MW-1, and near SB-18.
- Additional groundwater sampling at MW-2 to verify groundwater contamination had not migrated down gradient and agreed this sampling should be performed; the sampling at MW-2 would be one-time only unless impacts to groundwater are present.
- The TOC elevations of monitoring wells MW-4 and MW-5 should be surveyed so the data can be entered into the EIM database.
- All investigational sample results should be uploaded into the EIM database.
- Two hard copies and one e-copy (pdf) should be submitted to Ecology for review.
- No estimate of carbon removed during air sparging was made due to the low VOC concentrations that were measured by Apex.
- The air sparging system was shut down several days before the last groundwater sampling event.
- The use of MW-2 and MW-3 as sentry wells if the Site should seek closure using institutional controls.

If I have missed anything please reply to this email with the omitted items.

Regards,

Eugene

Eugene Radcliff, L.G.
Toxic Cleanup Program-Voluntary Cleanup Program
[Washington Department of Ecology](#)
(360) 407-7404
erad461@ecy.wa.gov

From: John Foxwell [<mailto:JFoxwell@apexcoss.com>]
Sent: Friday, March 20, 2015 2:01 PM
To: Radcliff, Eugene (ECY)
Subject: RE: Tarr Vancouver Cardlock Site

Hello Eugene,

Attached is a groundwater monitoring report that summarizes the performance groundwater monitoring activities at the Vancouver Cardlock site. Additionally, since the January 2015 sampling indicates we have achieved preliminary compliance, the report also includes the proposed scope of remaining activities to close out the project.

We'd like to be back out in the field towards the end of April. We are requesting that you review the report and indicate whether you see that project status the same as us, and also let us know of the scope of the proposed remaining work is acceptable.

Thank you, and we look forward to hearing from you.

John



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From: John Foxwell
Sent: Thursday, March 12, 2015 9:34 AM
To: 'Radcliff, Eugene (ECY)'
Subject: Tarr Vancouver Cardlock Site

Hi Eugene,

I wanted to let you know we have a groundwater monitoring report that also includes the proposed scope of the remaining activities needed for site closure. During our January 2015 monitoring event, all groundwater concentrations were below Method A levels.

We would like to be out there mid- to late April. You should have the report in about a week or so. We are hoping you will be able to review the report so that you can let us know if we are all seeing the site the same way, and you approve of our compliance soil and groundwater scope.

Thank you,

John



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Eugene Radcliff, L.G.
Toxic Cleanup Program-Voluntary Cleanup Program
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