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October 18, 2019

Mr. Frank Winslow  
Toxics Cleanup Program  
Washington Department of Ecology – Central Regional Office  
1250 W. Alder Street  
Union Gap, WA 98903

**RE: Groundwater Monitoring Status Report and Data Gap Analysis**

Site Name: Michael Irrigation (aka John Michael Lease Site)  
Facility/Site ID No.: 3154383  
Cleanup Site ID No.: 2149  
Agreed Order No.: DE 15694

Dear Mr. Winslow

On behalf of BNSF Railway Company (BNSF), TRC is submitting this *Groundwater Monitoring Status Report* to document activities conducted at the John Michael Lease property (FSID 3154383) located adjacent to 5640 Sunset Highway in Cashmere, Washington (the Site, Figure 1) pursuant to the State of Washington, Department of Ecology (Ecology) Agreed Order No. DE 15694 Scope of Work (SOW) and Schedule and in accordance with the *Final Supplemental Groundwater Data Collection Work Plan* dated September 11<sup>th</sup>, 2018.

This letter report summarizes the groundwater monitoring activities performed during the 2<sup>nd</sup> and 3<sup>rd</sup> quarters of 2019. The 2<sup>nd</sup> quarter monitoring was performed on June 20<sup>th</sup>, 2019, and the 3<sup>rd</sup> quarter monitoring was conducted on September 19<sup>th</sup>, 2019. Based on, Sampling of wells MW-2, MW-3, and MW-4 was discontinued upon email approval from Ecology as sample results from those wells were consistently below Model Toxics Control Act (MTCA) Cleanup Levels (CULs) since 2012 (Ecology, 2019). Specific information about site background and monitoring methods, and the 4<sup>th</sup> quarter 2018 and 1<sup>st</sup> quarter 2019 results are available in the *Final Second Quarter Supplemental Groundwater Data Report* dated May 28<sup>th</sup>, 2019.

## **GROUNDWATER MONITORING METHODS**

On June 20<sup>th</sup> and September 19<sup>th</sup>, 2019 depth to groundwater was gauged in the seven Site monitoring wells (MW-1 through MW-7, Table 3) and groundwater samples were collected from wells MW-1, MW-5, MW-6, and MW-7 (Figure 2).

Groundwater samples were collected using the same methods as summarized in the approved *Final Supplemental Groundwater Data Collection Work Plan*, dated September 11, 2018. Geochemical parameters were recorded in the field and include dissolved oxygen (DO), pH, temperature, conductivity, turbidity, and oxidation reduction potential (ORP). Field sampling forms from the two monitoring events are provided in Appendix A.

The groundwater samples were submitted to Pace National of Mt. Juliet, Tennessee, under chain-of-custody protocols, for analysis of the following compounds:

- Diesel-Range Organics (DRO) and Oil-Range Organics (ORO) by Northwest Method NWTPH-Dx (with and without Silica Gel Cleanup [SGC] to determine the potential for interferences by naturally occurring non-petroleum organic matter during the extraction process);

- Gasoline-range organics (GRO) by Northwest Method NWTPH-Gx;
- Naphthalene and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by US EPA Method 8270D-SIM;
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by US EPA Method 8260; and
- Total Organic Carbon (TOC) by US EPA Method 9060A.

Copies of the laboratory analytical reports and chain-of-custody documentation are provided in Appendix B. Laboratory data were validated using TRC's Analytical Data Review Checklist.

## GROUNDWATER MONITORING RESULTS

Groundwater analytical chemistry results are summarized below for the June 20<sup>th</sup>, 2019 event:

- TOC ranged from 1,130 micrograms per liter ( $\mu\text{g/L}$ ) (in the sample collected from MW-5) to 6,700  $\mu\text{g/L}$  (in the sample collected from MW-7).
- DRO and ORO were reported above their CUL (500  $\mu\text{g/L}$  for both DRO and ORO) in the sample collected without SGC in MW-7 (DRO: 890  $\mu\text{g/L}$  and ORO: 610  $\mu\text{g/L}$ ) DRO or ORO were not detected in the same sample with SGC.
- DRO or ORO were not detected in the other sampled wells.
- There were no detections of GRO, BTEX, cPAHs, or naphthalene.

Groundwater analytical chemistry results are summarized below for the September 19<sup>th</sup>, 2019 event:

- TOC ranged from below the laboratory detection limit of 1,000  $\mu\text{g/L}$  (in the sample from MW-1) to 1,290  $\mu\text{g/L}$  (in the sample from MW-7).
- There were no detections of DRO (with and without SGC), ORO (with and without SGC), GRO, BTEX, cPAHs, or naphthalene.

Groundwater elevation is included in Table 1, groundwater analytical results are provided in Tables 2 and 3, and groundwater field parameters are provided in Table 4. Groundwater analytical results, groundwater elevations, and groundwater flow direction for the June 2019 and September 2019 groundwater monitoring events are shown on Figures 3 and 4, respectively.

The general groundwater flow direction for the 2<sup>nd</sup> quarter groundwater monitoring event is to the east north east (Figure 3), and the 3<sup>rd</sup> quarter is to the east (Figure 4), which is consistent with previous sampling events and is generally towards the Wenatchee River.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results from the groundwater sampling conducted to date, the 2018 CUL exceedances for DRO and ORO from well MW-1 are anomalous due to high turbidity in the sample collected during the 4Q 2018 monitoring event. Following redevelopment of well MW-1, results from the subsequent three quarterly monitoring events (March through September 2019) are representative of groundwater conditions, with significantly lower turbidity and concentrations below the MTCA CULs, consistent with previous sample results.

Monitoring well MW-7 is located on the southwest side of the tracks in an area of known soil impact. Groundwater analytical results from MW-7 for the past four quarters were generally at or below laboratory reporting limits, with some exceptions. DRO and ORO results from the Q4 2018 and Q2 2019 sampling events, analyzed without SGC, nominally exceeded the MTCA CUL of 500  $\mu\text{g/L}$  for both

fractions (Table 2). However, the Q4 2018 and Q2 2009 exceedances in MW-7 also correlate with elevated total organic carbon (TOC) results during those events.

Downgradient monitoring wells MW-5 and MW-6 installed at locations on the northeast side of the tracks and hydraulically downgradient of the soil contamination near MW-7 have had no reported detections of site-related contaminants in groundwater since their installation in 2018.

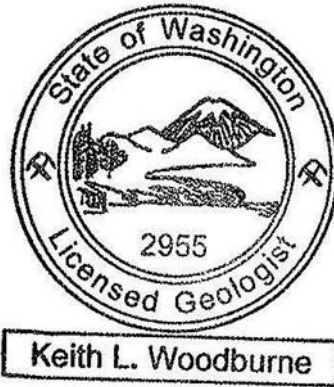
The data demonstrate that impacts at the Site are limited to periodic exceedances of the groundwater CULs for DRO and ORO on the southwest side of the tracks. Groundwater samples collected from wells on the northeast downgradient, side of the tracks are consistently below CULs or not detected. As such, there are no data gaps remaining that would preclude from advancing the site forward to preparation of a Remedial Investigation.

TRC recommends cessation of groundwater monitoring and moving forward with preparation of the Remedial Investigation Report as outlined in the Agreed Order.

Sincerely,



Mathieu Piovesan  
Senior Geologist



Keith Woodburne, LG  
Managing Principal

#### Tables

- Table 1 – Summary of Groundwater Elevation Data
- Table 2 – Summary of Groundwater Analytical Results – TPH and BTEX
- Table 3 – Summary of Groundwater Analytical Results – cPAHs and Naphthalene
- Table 4 – Summary of Groundwater Field Parameters

#### Figures

- Figure 1 – Vicinity Map
- Figure 2 – Site Plan
- Figure 3 – Groundwater Elevation Contour and Analytical Results Map – June 20, 2019
- Figure 4 – Groundwater Elevation Contour and Analytical Results Map – September 19, 2019

#### Appendices

- Appendix A - Field Sampling Forms
- Appendix B – Laboratory Analytical Reports

## Tables

**Table 1**  
**Summary of Groundwater Elevation Data**  
**John Michael Lease Site**  
**Cashmere, Washington**

<b>Well ID</b>	<b>Date Measured</b>	<b>TOC Elevation (ft amsl)</b>	<b>Depth to Water (ft btoc)</b>	<b>Groundwater Elevation (ft amsl)</b>
MW-1	8/6/2008	804.01	13.94	790.07
	4/7/2009		13.96	790.05
	9/25/2012		13.98	790.03
	12/11/2012		13.66	790.35
	3/20/2013		13.40	790.61
	6/19/2013		11.86	792.15
	8/11/2015		14.32	789.69
	11/7/2018		13.41	790.60
	3/26/2019		13.60	790.41
	6/20/2019		12.90	791.11
	9/19/2019		13.94	790.07
MW-2	8/6/2008	801.22	9.00	792.22
	4/7/2009		9.12	792.10
	9/25/2012		9.30	791.92
	12/11/2012		8.88	792.34
	3/20/2013		8.70	792.52
	6/19/2013		7.54	793.68
	8/11/2015		9.76	791.46
	11/7/2018		6.26	794.96
	3/26/2019		8.92	792.30
	6/20/2019		8.19	793.03
	9/19/2019		9.31	791.91

**Table 1**  
**Summary of Groundwater Elevation Data**  
**John Michael Lease Site**  
**Cashmere, Washington**

<b>Well ID</b>	<b>Date Measured</b>	<b>TOC Elevation (ft amsl)</b>	<b>Depth to Water (ft btoc)</b>	<b>Groundwater Elevation (ft amsl)</b>
MW-3	8/6/2008	798.88	7.83	791.05
	4/7/2009		7.79	791.09
	9/25/2012		7.70	791.18
	12/11/2012		7.62	791.26
	3/20/2013		7.54	791.34
	6/19/2013		6.64	792.24
	8/11/2015		8.14	790.74
	11/7/2018		7.59	791.29
	3/26/2019		7.65	791.23
	6/20/2019		7.23	791.65
	9/19/2019		7.58	791.30
MW-4	8/6/2008	797.99	6.39	791.60
	4/7/2009		6.45	791.54
	9/25/2012		6.33	791.66
	12/11/2012		6.30	791.69
	3/20/2013		6.22	791.77
	6/19/2013		5.18	792.81
	8/11/2015		6.99	791.00
	11/7/2018		6.26	791.73
	3/26/2019		6.29	791.70
	6/20/2019		5.74	792.25
	9/19/2019		6.31	791.68
MW-5	11/7/2018	802.97	13.09	789.88
	3/26/2019		13.18	789.79
	6/20/2019		12.66	790.31
	9/19/2019		13.31	789.66

**Table 1**  
**Summary of Groundwater Elevation Data**  
**John Michael Lease Site**  
**Cashmere, Washington**

<b>Well ID</b>	<b>Date Measured</b>	<b>TOC Elevation (ft amsl)</b>	<b>Depth to Water (ft btoc)</b>	<b>Groundwater Elevation (ft amsl)</b>
MW-6	11/7/2018	799.49	10.59	788.90
	3/26/2019		10.67	788.82
	6/20/2019		10.12	789.37
	9/19/2019		11.15	788.34
MW-7	11/7/2018	798.92	8.11	790.81
	3/26/2019		8.17	790.75
	6/20/2019		7.80	791.12
	9/19/2019		8.31	790.61

NOTES:

TOC elevations surveyed to NAVD88 by Erlandsen Surveying, November 2018

ABBREVIATIONS:

TOC = top of casing

ft amsl = feet above mean sea level

ft btoc = feet below top of casing

**Table 2**  
**Summary of Groundwater Analytical Results**  
**TPH and BTEX**  
**John Michael Lease Site**  
**Cashmere, Washington**

Analytical Results in micrograms per liter (µg/L)

Well ID	Sampled By	Sample Date	TOC	TPH					VOCs <sup>c</sup>			
				DRO <sup>a</sup> w/SGC	DRO <sup>a</sup> w/oSGC	ORO <sup>a</sup> w/SGC	ORO <sup>a</sup> w/o SGC	GRO <sup>b</sup>	Benzene	Toluene	Ethyl- benzene	Xylenes
<b>MTCA Method A Cleanup Levels for Groundwater<sup>d</sup></b>			<b>NE</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>1,000/800</b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>
<b>Monitoring Well Samples</b>												
MW-1	Farallon	8/6/2008	--	1,110	--	<472	--	145 J	1.09 J	0.7 J	0.893 J	2.84 J
	Farallon	9/25/2012	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	12/11/2012	--	200	--	150 J	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	3/20/2013	--	100	--	<250	--	<100	<0.50	0.23 J	<0.50	0.82 J
	Farallon	6/19/2013	--	110	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	8/11/2015	--	210	--	267	--	<100	<0.50	<5.0	<0.50	<1.5
	TRC	11/9/2018	2,680	703	1,760	1,220	2,760	<100	<1.00	<1.00	<1.00	<3.00
	TRC	3/26/2019	2,460	<200	262	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	6/20/2019	1,520	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
TRC	9/19/2019	<1000	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00	
MW-2	Farallon	8/6/2008	--	<236	--	<472	--	<50	<0.500	<0.500	<0.500	<1.00
	Farallon	9/25/2012	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	12/11/2012	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	3/20/2013	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	6/19/2013	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	8/11/2015	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
TRC	11/9/2018	1,470	<200	<200	<250	<250	100	<1.00	<1.00	<1.00	<3.00	
MW-3	Farallon	8/6/2008	--	<236	--	499	--	<50	<0.500	<0.500	<0.500	<1.00
	Farallon	9/25/2012	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	12/11/2012	--	90 J	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	3/20/2013	--	<100	--	<250	--	<100	<0.50	0.26 J	<0.50	<1.5
	Farallon	6/19/2013	--	57 J	--	<250	--	59 J	<0.50	<5.0	<0.50	<1.5
	Farallon	8/11/2015	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	TRC	11/9/2018	2,400	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
MW-4	Farallon	8/6/2008	--	<236	--	<472	--	<50	<0.500	<0.500	<0.500	<1.00
	Farallon	9/25/2012	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	12/11/2012	--	78 J	--	170 J	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	3/20/2013	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	Farallon	6/19/2013	--	<100	--	<250	--	<50	<0.50	<5.0	<0.50	<1.5
	Farallon	8/11/2015	--	<100	--	<250	--	<100	<0.50	<5.0	<0.50	<1.5
	TRC	11/7/2018	1,790	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
MW-5	TRC	11/8/2018	1,560	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	3/26/2019	1,030	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	6/20/2019	1,130	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	9/19/2019	1,250	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00





**Table 2**  
**Summary of Groundwater Analytical Results**  
**TPH and BTEX**  
**John Michael Lease Site**  
**Cashmere, Washington**

Analytical Results in micrograms per liter (µg/L)

Well ID	Sampled By	Sample Date	TOC	TPH					VOCs <sup>c</sup>			
				DRO <sup>a</sup> w/SGC	DRO <sup>a</sup> w/oSGC	ORO <sup>a</sup> w/SGC	ORO <sup>a</sup> w/o SGC	GRO <sup>b</sup>	Benzene	Toluene	Ethyl- benzene	Xylenes
<b>MTCA Method A Cleanup Levels for Groundwater<sup>d</sup></b>			<b>NE</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>1,000/800</b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>
<b>Monitoring Well Samples</b>												
MW-6	TRC	11/8/2018	2,140	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	3/26/2019	2,060	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	6/20/2019	2,250	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	9/19/2019	1,220	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
MW-7	TRC	11/8/2018	2,010	200	<b>743</b>	<250 J	<b>707</b>	<100	<1.00	<1.00	<1.00	<3.00
	TRC	3/26/2019	1,650	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
	TRC	6/20/2019	6,700	<200	<b>890</b>	<250	<b>610</b>	<100	<1.00	<1.00	<1.00	<3.00
	TRC	9/19/2019	1,290	<200	<200	<250	<250	<100	<1.00	<1.00	<1.00	<3.00
<b>Temporary Well Samples</b>												
B-5	EMR	12/1/2004	--	<b>1,290</b>	--	<b>2,160</b>	--	<100	<b>26.1</b>	<1.0	<1.0	<2.0
B-6	EMR	12/1/2004	--	<254	--	<507	--	<100	<0.5	<1.0	<1.0	<2.0
B-8	EMR	12/1/2004	--	<252	--	<505	--	<100	<0.5	<1.0	<1.0	<2.0

**NOTES:**

Results in **bold** denote concentrations detected at or above the applicable cleanup level.

< denotes analyte not detected at or above the given reporting limit.

-- sample was not analyzed for this constituent.

J denotes analyte was detected in the sample at an estimated concentration between the method detection limit and the reporting limit.

**ABBREVIATIONS:**

TOC = total organic carbon

TPH = total petroleum hydrocarbons

VOC = volatile organic compounds

DRO = diesel-range organics

ORO = heavy oil-range organics

GRO = gasoline-range organics

NE = no cleanup level established

EMR = EMR, Inc.

Farallon = Farallon Consulting, LLC

TRC = TRC Environmental

**FOOTNOTES:**

<sup>a</sup>Analyzed by Northwest Method NWTPH-Dx.

<sup>b</sup>Analyzed by Northwest Method NWTPH-Gx.

<sup>c</sup>Analyzed by USEPA Method 8260C. Prior to 2018, analyzed by USEPA Method 8021B.

<sup>d</sup>Washington State Department of Ecology, Model Toxics Control Act (MTCA) Cleanup Level and Risk Calculations (CLARC) Tables Method A values for Groundwater, Chapter 173-340 WAC, MTCA Chapter 70.105D RCW, Uniform Environmental Covenants Act Chapter 64.70 TCW. Publication No. 94-06. Revised August 2015.

**Table 3**  
**Summary of Groundwater Analytical Results**  
**cPAHs and Naphthalene**  
**John Michael Lease Site**  
**Cashmere, Washington**

Analytical Results in micrograms per liter (µg/L)

Well ID	Sampled By	Sample Date	Semi-Volatile Organic Compounds <sup>a</sup>								cPAHs <sup>c</sup>	Naphthalene
			Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz(a,h) anthracene			
<b>MTCA Method A Cleanup Levels for Groundwater<sup>b</sup></b>			<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>0.10</b>	<b>NE</b>	<b>NE</b>	<b>0.10</b>	<b>160</b>	
<b>Monitoring Well Samples</b>												
MW-1	Farallon	8/6/2008	<0.0943	<0.0943	0.2890	<0.0943	<b>0.2550</b>	<0.0943	<0.0943	<b>0.3032</b>	0.975	
		9/25/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.079
		12/11/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.11
		3/20/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.11
		6/19/2013	0.015 J	0.012 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.037	<0.11
	8/11/2015	0.0172 J	0.0245 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.037	<0.038	
	TRC	11/9/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		3/26/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		6/20/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
9/19/2019		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25	
MW-2	Farallon	8/6/2008	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	< 0.0712	<0.0943	
		9/25/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.5	
		12/11/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.5	
		3/20/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.033	
		6/19/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.041	
	8/11/2015	0.00657 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.036	<0.0335		
	TRC	11/9/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25	
MW-3	Farallon	8/6/2008	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	< 0.0712	<0.0943	
		9/25/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.5	
		12/11/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.5	
		3/20/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.08	
		6/19/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.038	
	8/11/2015	0.00570 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.036	<0.03		
TRC	11/9/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25		
MW-4	Farallon	8/6/2008	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	< 0.0712	<0.0943	
		9/25/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.08	
		12/11/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.08	
		3/20/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.031	
		6/19/2013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.038	<0.04	
	8/11/2015	0.00636 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.036	<0.0435		
	TRC	11/7/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25	

**Table 3  
Summary of Groundwater Analytical Results  
cPAHs and Naphthalene  
John Michael Lease Site  
Cashmere, Washington**

Analytical Results in micrograms per liter (µg/L)

Well ID	Sampled By	Sample Date	Semi-Volatile Organic Compounds <sup>a</sup>								cPAHs <sup>c</sup>	Naphthalene
			Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz(a,h) anthracene			
<b>MTCA Method A Cleanup Levels for Groundwater<sup>b</sup></b>			NE	NE	NE	NE	0.10	NE	NE	0.10	160	
<b>Monitoring Well Samples</b>												
MW-5	TRC	11/8/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		3/26/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		6/20/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		9/19/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
MW-6	TRC	11/8/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		3/26/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		6/20/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		9/19/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
MW-7	TRC	11/8/2018	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		3/26/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		6/20/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
		9/19/2019	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	< 0.038	<0.25
<b>Temporary Monitoring Well Samples</b>												
B-5	EMR	12/1/2004	--	--	--	--	--	--	--	--	0.64	
B-6	EMR	12/1/2004	--	--	--	--	--	--	--	--	1.8	
B-8	EMR	12/1/2004	--	--	--	--	--	--	--	--	1.1	

**NOTES:**

Results in **bold** denote concentrations detected at or above the applicable cleanup level.

< denotes analyte not detected at or above the given reporting limit.

-- sample was not analyzed for this constituent.

J denotes analyte was detected in the sample at an estimated concentration between the method detection limit and the reporting limit.

**ABBREVIATIONS:**

NE = no cleanup level established

EMR = EMR, Inc.

Farallon = Farallon Consulting, LLC

TRC = TRC Environmental

**FOOTNOTES:**

<sup>a</sup>Analyzed by U.S. Environmental Protection Agency Method 8270D-SIM.

<sup>b</sup>Washington State Department of Ecology, Model Toxics Control Act (MTCA) Cleanup Level and Risk Calculations (CLARC) Tables Method A values for Groundwater, Chapter 173-340 WAC, MTCA Chapter 70.105D RCW, Uniform Environmental Covenants Act Chapter 64.70 TCW. Publication No. 94-06. Revised August 2015.

<sup>c</sup>Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) derived using the total toxicity equivalency for benzo(a)pyrene method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEQ.

**Table 4**  
**Summary of Groundwater Field Parameters**  
**John Michael Lease Site**  
**Cashmere, Washington**

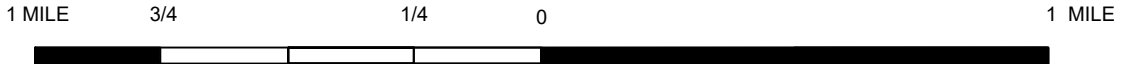
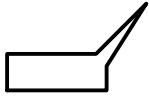
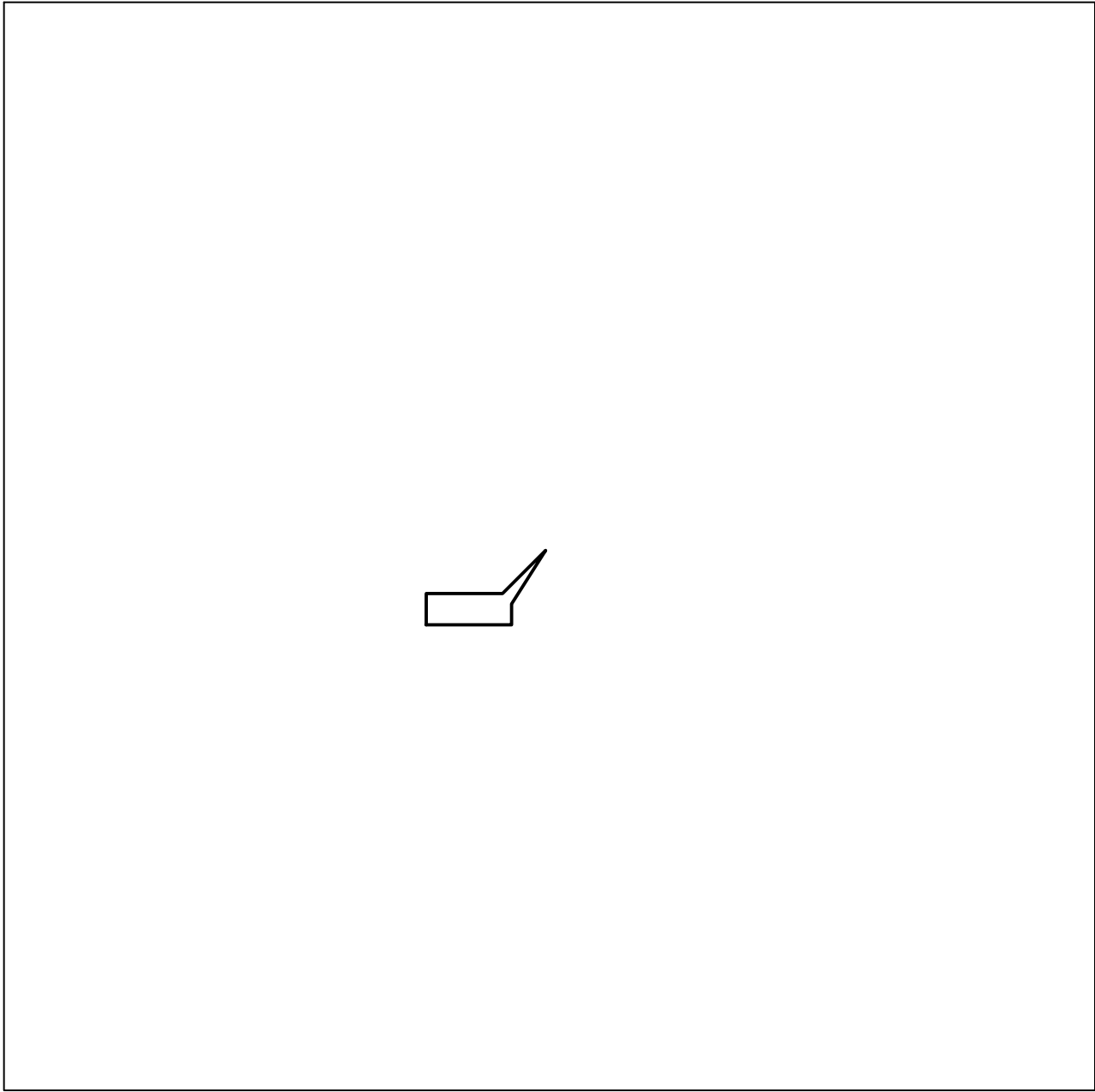
Well ID	Sampled By	Sample Date	Temperature (°C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)
MW-1	Farallon	8/6/2008	14.78	7.12	0.634	2.02	194.8	--
		9/25/2012	13.29	6.42	0.546	0.99	110.2	--
		12/11/2012	11.13	6.57	0.481	1.19	67.8	--
		3/20/2013	10.15	6.83	0.595	3.22	114.9	--
		6/19/2013	12.79	6.64	0.517	2.13	70.0	--
	8/11/2015	18.47	6.72	0.567	2.04	93.0	--	
	TRC	11/9/2018	12.29	6.49	0.435	1.12	283.7	515.0
		3/26/2019	10.81	7.27	0.490	5.40	180.0	3.25
6/20/2019		16.30	6.89	0.587	5.13	93.3	0.02	
		9/19/2019	16.2	6.99	0.521	3.99	67.6	0.75
MW-2	Farallon	8/6/2008	17.00	6.72	0.550	3.69	403.5	--
		9/25/2012	14.83	6.63	0.530	4.31	145.7	--
		12/11/2012	11.53	6.38	0.466	4.35	276.1	--
		3/20/2013	9.68	6.89	0.502	5.29	146.6	--
		6/19/2013	14.25	7.26	0.521	5.72	316.0	--
	8/11/2015	20.39	6.91	0.542	3.66	96.0	--	
	TRC	11/9/2018	13.28	6.75	0.402	6.21	270.8	73.3
MW-3	Farallon	8/6/2008	17.07	6.23	0.548	2.64	432.7	--
		9/25/2012	16.43	6.38	0.534	0.81	137.6	--
		12/11/2012	12.44	6.89	0.517	2.11	145.1	--
		3/20/2013	9.06	6.79	0.560	4.05	128.3	--
		6/19/2013	14.55	7.10	0.560	3.08	297.0	--
	8/11/2015	20.53	6.89	0.595	1.25	80.0	--	
TRC	11/9/2018	13.62	6.64	0.422	1.33	235.2	83.3	
MW-4	Farallon	8/6/2008	16.86	6.35	0.504	5.37	439.1	--
		9/25/2012	14.30	6.46	0.532	4.14	157.0	--
		12/11/2012	11.95	6.99	0.486	4.59	235.0	--
		3/20/2013	10.29	6.82	0.580	6.18	159.6	--
		6/19/2013	13.18	6.78	0.559	6.50	66.5	--
	8/11/2015	19.76	7.00	0.595	3.75	95.0	--	
TRC	11/7/2018	13.72	6.78	0.414	6.35	221.0	154	
MW-5	TRC	11/8/2018	12.30	6.83	0.392	5.51	149.8	44.2
		3/26/2019	11.30	7.34	0.378	6.86	214.4	0.48
		6/20/2019	14.90	6.91	0.581	6.82	82.3	0.24
		9/19/2019	16.1	7.04	0.518	4.22	115.3	1.07
MW-6	TRC	11/8/2018	14.71	6.73	0.425	2.98	39.6	299
		3/26/2019	9.87	7.23	0.402	12.82	218.3	8.82
		6/20/2019	14.90	6.73	0.589	3.56	46.1	0.08
		9/19/2019	15.9	6.89	0.546	3.71	144.7	0.75
MW-7	TRC	11/8/2018	13.71	6.81	0.411	3.37	120.8	49.7
		3/26/2019	10.27	7.25	0.400	5.45	149.4	5.60
		6/20/2019	15.40	6.83	0.650	2.56	102.6	9.53
		9/19/2019	17.5	6.81	0.559	4.21	37.7	2.28

**ABBREVIATIONS:**

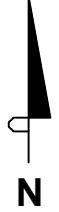
°C = degrees Celsius  
mS/cm = milliSiemens per centimeter  
mg/L = milligrams per liter  
mV = milliVolts  
NTU = Nephelometric turbidity units  
Farallon = Farallon Consulting, LLC  
TRC = TRC Environmental

## Figures

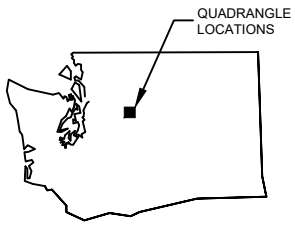
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DRAWING NAME: L:\CAD\_DRAWING\Current\BNSF\_Peshastin\Cashmere\Fig1\_Vicinity Map-5-1-2019.dwg -- PLOT DATE: May 01, 2019 - 2:13PM -- LAYOUT: 8x11



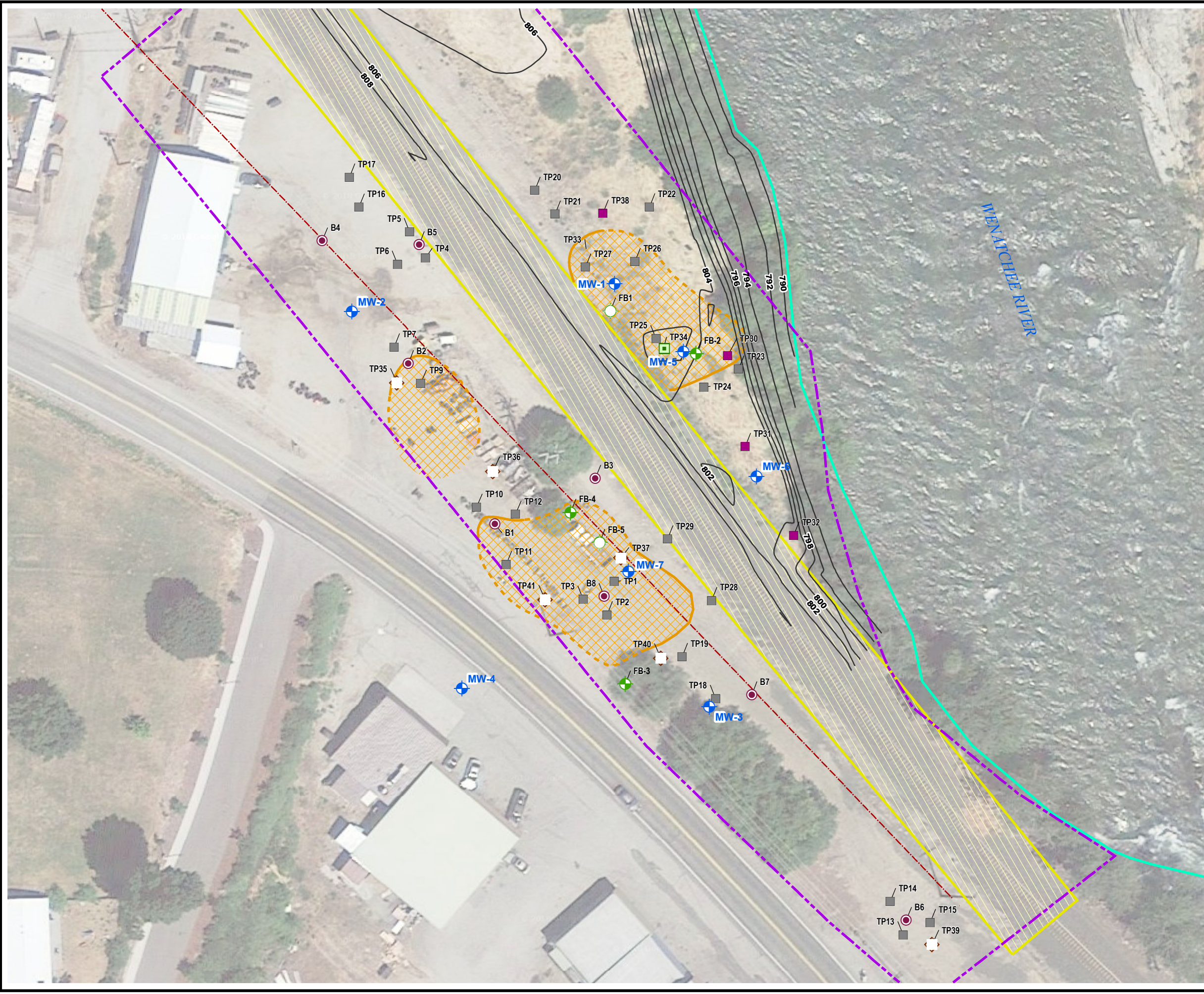
SCALE 1 : 24,000



SOURCE:  
United States Geological Survey  
7.5 Minute Topographic Maps:  
Cashmere and Peshastin Quadrangles,  
Washington



PROJECT:		<b>JOHN MICHAEL LEASE SITE ADJACENT TO 5640 SUNSET HIGHWAY CASHMERE, WASHINGTON</b>	
TITLE:		<b>VICINITY MAP</b>	
	R. Collins	PROJ NO	318140.0000.0000
	A. Meugniot	<b>FIGURE 1</b>	
	B. Helland		
DAT	May 2019	19874 141st Place N.E. Woo	
Fig1_Vicinity Map-5-1-2019.dwg			



**LEGEND**

- Monitoring Well
- Boring (EMR, 2004)
- Soil Boring (Farallon, 2015)
- Supplemental Investigation, Cultural Survey Test Pit (Farallon, 2012)
- Supplemental Investigation, Cultural Survey and Soil Sample Test Pit (Farallon, 2012)
- Supplemental Investigation, Soil Sample Test Pit (Farallon, 2012)
- Test Pit (Farallon, 2007, 2008, 2009)
- Ordinary High Water Mark
- Overhead Utility Line
- BNSF Right-of-Way
- Limited Work Area
- Soils with Diesel-range Organic (DRO)/ Oil-range Organic (ORO) Concentrations above Model Toxics Control Act Method A Cleanup Levels for Unrestricted Land Use; Dashed where Inferred

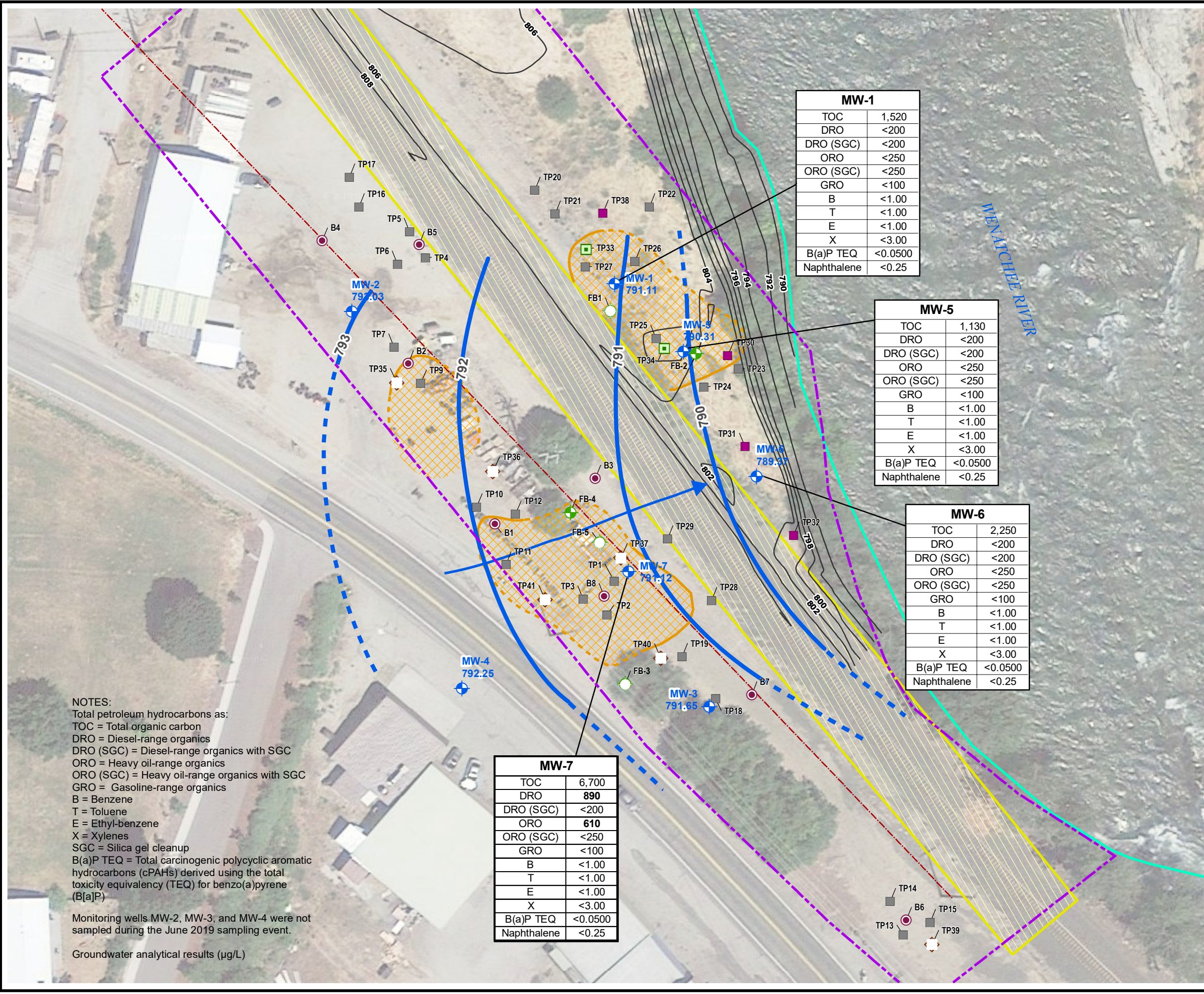
N

0 50 100  
Feet

1" = 50'  
1:600

PROJECT:		<b>JOHN MICHAEL LEASE SITE ADJACENT TO 5640 SUNSET HIGHWAY CASHMERE, WASHINGTON</b>	
TITLE:		<b>SITE PLAN</b>	
DRAWN BY:	R. COLLINS	PROJ. NO.:	318140.000.0000
CHECKED BY:	A. MEUGNIOT	<b>FIGURE 2</b>	
APPROVED BY:	-		
DATE:	MAY 2019		
		19874 141st Place N.E. Woodinville, WA 98072 Phone: 425.489.1938 www.trccompanies.com	
FILE NO.:		318140_2_SitePlan.mxd	

TRC - GIS  
 Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet (Foot US)  
 Plot Date: 10/18/2019 16:34:55 PM by RCOLLINS --LAYOUT: ANSIB(11"x17")  
 Path: S:\PROJECTS\BNSF\318140\_JML\GWData\Work Plan\_June2019\318140\_FIG3\_GW\_Map.mxd



MW-1	
TOC	1,520
DRO	<200
DRO (SGC)	<200
ORO	<250
ORO (SGC)	<250
GRO	<100
B	<1.00
T	<1.00
E	<1.00
X	<3.00
B(a)P TEQ	<0.0500
Naphthalene	<0.25

MW-5	
TOC	1,130
DRO	<200
DRO (SGC)	<200
ORO	<250
ORO (SGC)	<250
GRO	<100
B	<1.00
T	<1.00
E	<1.00
X	<3.00
B(a)P TEQ	<0.0500
Naphthalene	<0.25

MW-6	
TOC	2,250
DRO	<200
DRO (SGC)	<200
ORO	<250
ORO (SGC)	<250
GRO	<100
B	<1.00
T	<1.00
E	<1.00
X	<3.00
B(a)P TEQ	<0.0500
Naphthalene	<0.25

MW-7	
TOC	6,700
DRO	<b>890</b>
DRO (SGC)	<200
ORO	<b>610</b>
ORO (SGC)	<250
GRO	<100
B	<1.00
T	<1.00
E	<1.00
X	<3.00
B(a)P TEQ	<0.0500
Naphthalene	<0.25

### LEGEND

- Monitoring Well
- Boring (EMR, 2004)
- Soil Boring (Farallon, 2015)
- Supplemental Investigation, Cultural Survey Test Pit (Farallon, 2012)
- Supplemental Investigation, Cultural Survey and Soil Sample Test Pit (Farallon, 2012)
- Supplemental Investigation, Soil Sample Test Pit (Farallon, 2012)
- Test Pit (Farallon, 2007, 2008, 2009)
- Ordinary High Water Mark
- Overhead Utility Line
- BNSF Right-of-Way
- Limited Work Area
- Soils with Diesel-range Organic (DRO)/ Oil-range Organic (ORO) Concentrations above Model Toxics Control Act Method A Cleanup Levels for Unrestricted Land Use; Dashed where Inferred
- 791.11 Groundwater Elevation (June 2019)
- 792 Interpreted Groundwater Elevation Contour Line (June 2019) Dashed where inferred
- Interpreted Gradient Direction (June 2019)

NOTE:  
 Results in BOLD denote concentrations detected at or above the applicable cleanup level.

PROJECT: **JOHN MICHAEL LEASE SITE  
 ADJACENT TO 5640 SUNSET HIGHWAY  
 CASHMERE, WASHINGTON**

TITLE: **GROUNDWATER ELEVATION  
 CONTOUR AND ANALYTICAL RESULTS MAP  
 JUNE 20, 2019**

DRAWN BY: R. COLLINS PROJ. NO.: 318140.0000.0000  
 CHECKED BY: D. VERRET  
 APPROVED BY: K. WOODBURNE  
 DATE: OCTOBER 2019

**FIGURE 3**

19874 141st Place N.E.  
 Woodinville, WA 98072  
 Phone: 425.489.1938  
 www.trccompanies.com

FILE NO.: 318140\_FIG3\_GW\_Map.mxd

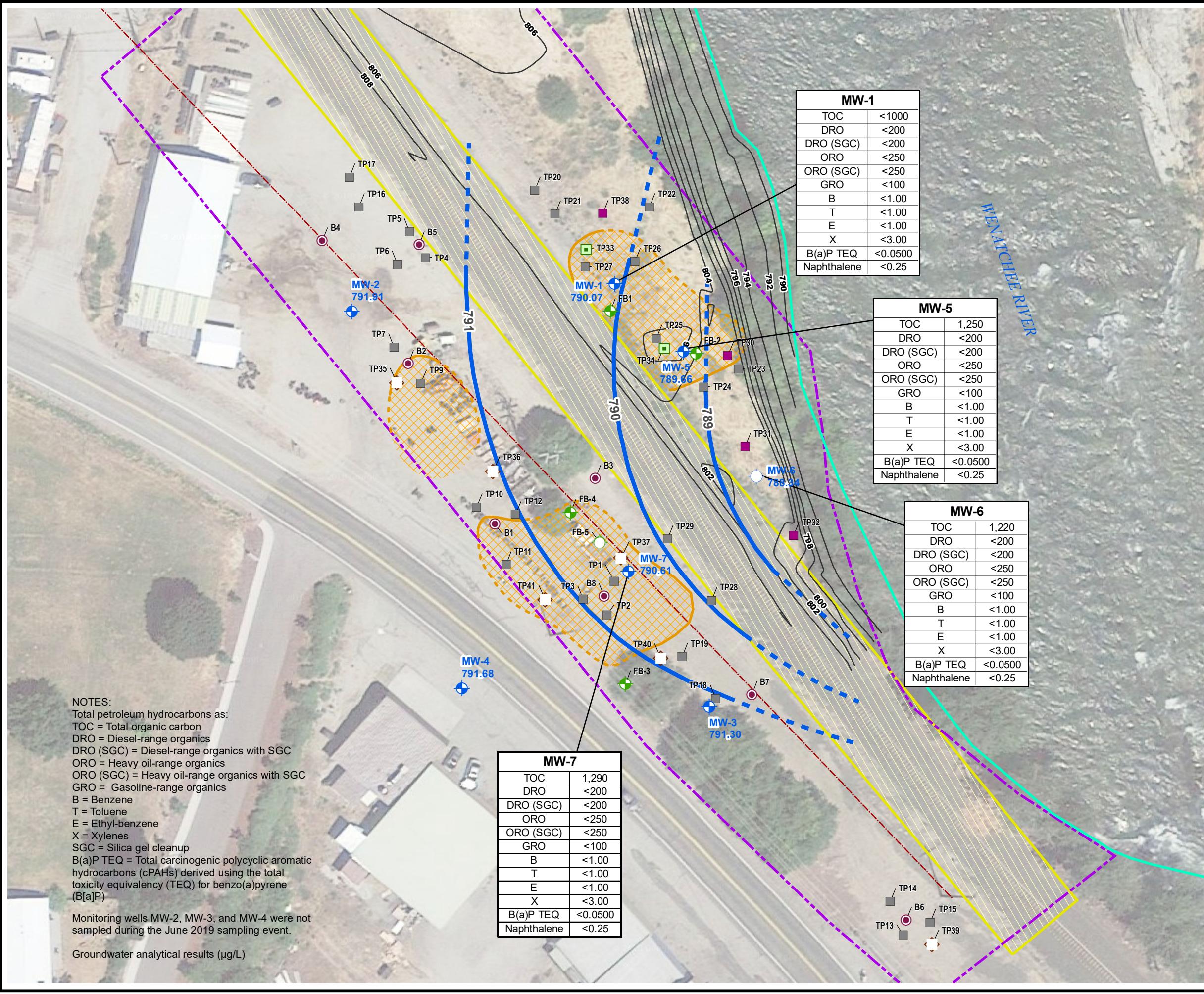
NOTES:  
 Total petroleum hydrocarbons as:  
 TOC = Total organic carbon  
 DRO = Diesel-range organics  
 DRO (SGC) = Diesel-range organics with SGC  
 ORO = Heavy oil-range organics  
 ORO (SGC) = Heavy oil-range organics with SGC  
 GRO = Gasoline-range organics  
 B = Benzene  
 T = Toluene  
 E = Ethyl-benzene  
 X = Xylenes  
 SGC = Silica gel cleanup  
 B(a)P TEQ = Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) derived using the total toxicity equivalency (TEQ) for benzo(a)pyrene (B[a]P)

Monitoring wells MW-2, MW-3, and MW-4 were not sampled during the June 2019 sampling event.

Groundwater analytical results (µg/L)



TRC - GIS  
 Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet (Foot US)  
 Plot Date: 10/18/2019 16:34:14 PM by RCOLLINS --LAYOUT: ANS1 B(11"x17")  
 Path: S:\PROJECTS\BNSF\318140\_JML\GW Data Work Plan\_Sep2019\318140\_FIG3\_GW\_Map\_9\_2019.mxd



## **Appendix A: Field Sampling Forms**



GROUNDWATER SAMPLING RECORD



WELL ID MW1

Sheet 1 of 1

Project Number: \_\_\_\_\_

Date: 6/20/19

Project Name: JML

Personnel: E. STATA

Weather: Breezy, Partly Cloudy

Well Construction	
Casing Material:	PVC
Casing Diameter:	2"
Completion Type:	flush
Screened Interval:	

Well Integrity	
Concrete Collar:	OK
Well Cap:	OK
Security Lock:	N/A
Standing Water:	NO

Well Volume	
Initial DTW (ft btoc)	12.90
Measured Total Depth (ft btoc)	18.24
Height of water Column (ft)	
Casing Volume (gal)	

Sampling Method:	peristaltic pump, dedicated tubing
Intake Depth (ft btoc):	<del>16</del> ~ 16 ft

Field Water Quality Measurements

Time	DTW (ft/btoc)	Temp. (C°)	pH	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Turbidity (visual)	Color (visual)	Flow Rate (mL/min)	Cum. Vol. (mL)
3 consecutive readings, 3 minutes apart			+/- 0.1	+/- 3%	+/- 0.3	+/- 10	+/-10% or <10 NTUs	N/A	N/A	100 to 150	N/A
1421	12.99	17.3	6.68	0.590	2.96	91.5	1.41	clear	none	140	
1424	13.02	17.1	6.71	0.589	3.13	91.4	2.61				
1427	13.02	16.7	6.76	0.589	3.50	91.0	2.12				
1430	13.02	16.6	6.80	0.588	4.21	90.4	2.02				
1433	13.02	16.3	6.81	0.589	4.34	90.3	<10				
1438	13.02	16.4	6.86	0.585	4.83	90.0	0.45				
1444	13.02	16.4	6.87	0.596	5.20	90.8	0.02				
1447	13.02	16.6	6.88	0.585	5.05	91.9	<10				
1450	13.02	16.4	6.88	0.587	4.95	91.7	<10				
1453	13.02	16.3	6.88	0.586	5.20	92.4	<10				
1456	13.02	16.2	6.88	0.585	5.39	92.8	<10				
1459	13.02	16.3	6.89	0.587	5.13	93.3	0.02				

Sample Name	MW1-0619
Sample Time	1500

Comments:



GROUNDWATER SAMPLING RECORD



WELL ID MW5

Sheet 1 of 1

Project Number: \_\_\_\_\_  
 Project Name: JML - CASHMERE

Date: 6/20/19  
 Personnel: E. Sotomayor  
 Weather: Sunny

Well Construction	
Casing Material:	<u>PVC</u>
Casing Diameter:	<u>2"</u>
Completion Type:	<u>Flush</u>
Screened Interval:	<u>10-20</u>

Well Integrity	
Concrete Collar:	<u>OK</u>
Well Cap:	<u>OK</u>
Security Lock:	<u>N/A</u>
Standing Water:	<u>NO</u>

Well Volume	
Initial DTW (ft btoc)	<u>12.66</u>
Measured Total Depth (ft btoc)	<u>19.95</u>
Height of water Column (ft)	
Casing Volume (gal)	

Sampling Method:	<u>Peristaltic pump</u>
Intake Depth (ft btoc):	<u>~16 ft</u>

Field Water Quality Measurements

Time	DTW (ft/btoc)	Temp. (C°)	pH	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Turbidity (visual)	Color (visual)	Flow Rate (mL/min)	Cum. Vol. (mL)
3 consecutive readings, 3 minutes apart			+/- 0.1	+/- 3%	+/- 0.3	+/- 10	+/-10% or <10 NTUs	N/A	N/A	100 to 150	N/A
<u>1258</u>	<u>12.74</u>	<u>15.6</u>	<u>6.80</u>	<u>0.585</u>	<u>6.16</u>	<u>88.5</u>	<u>4.00</u>	<u>clear</u>	<u>clear</u>	<u>150</u>	
<u>1301</u>	<u>12.76</u>	<u>15.3</u>	<u>6.83</u>	<u>0.584</u>	<u>6.66</u>	<u>86.6</u>	<u>0.84</u>	<u>clear</u>	<u>clear</u>	<u>↓</u>	
<u>1304</u>	<u>12.75</u>	<u>14.8</u>	<u>6.87</u>	<u>0.583</u>	<u>6.24</u>	<u>84.6</u>	<u>1.04</u>				
<u>1307</u>	<u>12.75</u>	<u>14.9</u>	<u>6.91</u>	<u>0.581</u>	<u>6.82</u>	<u>82.3</u>	<u>0.24</u>				
<u>1315</u>											
Sample Name	<u>MW5 - 0619</u>										
Sample Time	<u>1315</u>										

Comments:

GROUNDWATER SAMPLING RECORD



WELL ID MW7

Sheet 1 of 1

Project Number: \_\_\_\_\_  
 Project Name: JML - CASHMERE

Date: 6/20/19  
 Personnel: E-STARR  
 Weather: Breezy, sunny

Well Construction	
Casing Material:	2"
Casing Diameter:	PVC
Completion Type:	FLUSH
Screened Interval:	14.5-9.5

Well Integrity	
Concrete Collar:	OK
Well Cap:	OK
Security Lock:	N/A
Standing Water:	NONE

Well Volume	
Initial DTW (ft btoc)	7.80
Measured Total Depth (ft btoc)	14.50
Height of water Column (ft)	
Casing Volume (gal)	

Sampling Method:	Peristaltic pump
Intake Depth (ft btoc):	12 feet

Field Water Quality Measurements

Time	DTW (ft/btoc)	Temp. (C°)	pH	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Turbidity (visual)	Color (visual)	Flow Rate (mL/min)	Cum. Vol. (mL)
3 consecutive readings, 3 minutes apart			+/- 0.1	+/- 3%	+/- 0.3	+/- 10	+/-10% or <10 NTUs	N/A	N/A	100 to 150	N/A
1626	7.83	15.6	6.52	0.80	0.40	125.8	84.9	Low	Straw	150	
1629	7.83	15.6	6.58	0.79	0.38	122.1	65.4	Low	Straw	150	
1632	7.83	15.6	6.66	0.77	0.82	116.3	42.2	"	"	"	450
1635	7.83	15.6	6.72	0.75	1.46	111.1	30.2	"	"	"	
1638	7.83	15.6	6.75	0.73	1.67	109.0	24.6	"	"	"	
1641	7.83	15.3	6.80	0.70	2.20	105.7	14.8	Clear	clear	"	900
1644	7.83	15.4	6.81	0.69	2.33	104.1	12.3	"	"	"	
1647	7.83	15.4	6.85	0.66	2.67	102.0	9.32	"	"	"	
1650	7.84	15.3	6.84	0.65	2.50	102.2	9.49	"	"	"	1350
1653	7.84	15.4	6.83	0.65	2.56	102.6	9.53	"	"	"	
Sample Name	MW7-0619 1700										
Sample Time											

Comments: initial purge flow from well has a chemical smell and a Straw-color

# TRC - BNSF Region 1

19874 141st Place NE  
Woodinville, WA 98072

Billing Information:  
Accounts Payable  
19874 141st Place NE  
Woodinville, WA 98072

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page \_\_\_ of \_\_\_



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



Report to:  
Keith Woodburne

Email To: kwoodburne@trccompanies.com,  
EStata@trccompanies.com,

Project  
Description: BNSF - JML Cashmere, WA

City/State  
Collected:

Phone: 425-489-1938

Client Project #  
318140

Lab Project #  
BNSF1TRC-JML

Fax:

Collected by (print):  
ERIL STANA

Site/Facility ID #

P.O. #

Collected by (signature):  
*[Signature]*

Rush? (Lab MUST Be Notified)

Quote #

Immediately  
Packed on Ice N \_\_\_ Y X

\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day

Date Results Needed

No.  
of  
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	NWTPHDX w/ SGT 40mlAmb-HCl-BT	NWTPHDX w/o SGT 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	PAHSIMLVID 40mlAmb-NoPres-WT	TOC 250mlAmb-HCl	V8260BTEXC 40mlAmb-HCl	Remarks	Sample # (lab only)
<del>MW1-0619</del>	<del>---</del>	<del>GW</del>	<del>---</del>	<del>6/20/19</del>	<del>1500</del>	<del>13</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>		
MW5-0619	---	GW	---	6/20/19	1315	13	X	X	X	X	X	X		
MW6-0619	---	GW	---	6/20/19	1135	13	X	X	X	X	X	X		
MW7-0619	---	GW	---	6/20/19	1700	13	X	X	X	X	X	X		
MW1-0619	---	GW	---	6/20/19	1500	13	X	X	X	X	X	X		
TRIP BLANK														
TEMP BLANK														

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:

Samples returned via:  
\_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist

COC Seal Present/Intact: \_\_\_ NP \_\_\_ Y \_\_\_ N  
COC Signed/Accurate: \_\_\_ Y \_\_\_ N  
Bottles arrive intact: \_\_\_ Y \_\_\_ N  
Correct bottles used: \_\_\_ Y \_\_\_ N  
Sufficient volume sent: \_\_\_ Y \_\_\_ N  
If Applicable  
VOA Zero Headspace: \_\_\_ Y \_\_\_ N  
Preservation Correct/Checked: \_\_\_ Y \_\_\_ N

Relinquished by: (Signature)  
*[Signature]*

Date:

6/21/19

Time:

1200

Received by: (Signature)

Trip Blank Received: Yes / No

HCL / MeOH  
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date:

Time:

Hold:

Condition:  
NCF / OK











GROUNDWATER SAMPLING RECORD



WELL ID MW - 6

Sheet \_\_\_ of \_\_\_

Project Number: \_\_\_\_\_

Date: 9/19/2019

Project Name: JML

Personnel: E. STATA

Weather: Sunny, 70°F

Well Construction	
Casing Material:	<u>PVC</u>
Casing Diameter:	<u>2"</u>
Completion Type:	<u>flush</u>
Screened Interval:	

Well Integrity	
Concrete Collar:	<u>OK</u>
Well Cap:	<u>OK</u>
Security Lock:	<u>N/A</u>
Standing Water:	<u>NO</u>

Well Volume	
Initial DTW (ft btoc)	<u>11.15</u>
Measured Total Depth (ft btoc)	<u>18.65</u>
Height of water Column (ft)	
Casing Volume (gal)	

Sampling Method:	<u>Peristaltic pump</u>
Intake Depth (ft btoc):	<u>15</u>

Field Water Quality Measurements

Time	DTW (ft/btoc)	Temp. (C°)	pH	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Turbidity (visual)	Color (visual)	Flow Rate (mL/min)	Cum. Vol. (mL)
3 consecutive readings, 3 minutes apart			+/- 0.1	+/- 3%	+/- 0.3	+/- 10	+/-10% or <10 NTUs	N/A	N/A	100 to 150	N/A
1149	11.17	16.4	7.29	554.1	4.47	142.3	1.40	low	clear	100	
1152	11.17	15.8	6.81	533.4	3.16	156.8	2.02			150	
1155	11.18	15.8	6.76	535.8	3.31	157.2	1.29				
1158	11.18	15.7	6.77	537.8	3.30	156.6	1.31				
1201	11.18	15.8	6.81	542.4	3.53	153.6	1.02				
1204	11.18	15.8	6.85	544.0	3.80	151.6	0.75				
1207	11.18	15.7	6.85	544.8	3.90	151.7	<10				
1210	<u>TRAIN</u>										
1213	11.18	15.9	6.89	545.9	3.71	144.7	<10				
Sample Name		<u>MW6-190919 @ 1215</u>									
Sample Time											

Comments:



## **Appendix B: Laboratory Analytical Reports**

## TRC - BNSF Region 1

Sample Delivery Group: L1112118  
Samples Received: 06/22/2019  
Project Number: 318140  
Description: BNSF - JML Cashmere, WA

Report To: Keith Woodburne  
19874 141st Place NE  
Woodinville, WA 98072

Entire Report Reviewed By:



Mark W. Beasley  
Project Manager

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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





<b>Cp: Cover Page</b>	<b>1</b>	<b>1</b> Cp
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<b>2</b> Tc
<b>Cn: Case Narrative</b>	<b>4</b>	
<b>Sr: Sample Results</b>	<b>5</b>	<b>3</b> Ss
MW5-0619 L1112118-01	<b>5</b>	
MW6-0619 L1112118-02	<b>7</b>	<b>4</b> Cn
MW7-0619 L1112118-03	<b>9</b>	<b>5</b> Sr
MW1-0619 L1112118-04	<b>11</b>	
TRIP BLANK L1112118-05	<b>13</b>	<b>6</b> Qc
<b>Qc: Quality Control Summary</b>	<b>14</b>	<b>7</b> Gl
Wet Chemistry by Method 9060A	<b>14</b>	
Volatile Organic Compounds (GC) by Method NWTPHGX	<b>15</b>	<b>8</b> Al
Volatile Organic Compounds (GC/MS) by Method 8260C	<b>16</b>	
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	<b>18</b>	<b>9</b> Sc
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	<b>19</b>	
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	<b>20</b>	
<b>Gl: Glossary of Terms</b>	<b>22</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>23</b>	
<b>Sc: Sample Chain of Custody</b>	<b>24</b>	

# SAMPLE SUMMARY



## MW5-0619 L112118-01 GW

Collected by  
Eric Stata      Collected date/time  
06/20/19 13:15      Received date/time  
06/22/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1301379	1	06/25/19 18:07	06/25/19 18:07	EEM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1305954	1	07/04/19 00:39	07/04/19 00:39	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1304041	1	06/29/19 22:50	06/29/19 22:50	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1302589	1	06/27/19 07:56	06/29/19 06:15	SHG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1302590	1	06/27/19 08:00	07/01/19 19:27	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1302599	1	06/27/19 16:44	06/28/19 06:35	AAT	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## MW6-0619 L112118-02 GW

Collected by  
Eric Stata      Collected date/time  
06/20/19 11:35      Received date/time  
06/22/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1301379	1	06/25/19 19:07	06/25/19 19:07	EEM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1305954	1	07/04/19 01:03	07/04/19 01:03	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1304041	1	06/29/19 23:09	06/29/19 23:09	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1302589	1	06/27/19 07:56	06/29/19 06:35	SHG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1302590	1	06/27/19 08:00	07/01/19 19:45	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1302599	1	06/27/19 16:44	06/28/19 06:56	AAT	Mt. Juliet, TN

## MW7-0619 L112118-03 GW

Collected by  
Eric Stata      Collected date/time  
06/20/19 17:00      Received date/time  
06/22/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1301379	1	06/25/19 19:21	06/25/19 19:21	EEM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1305954	1	07/04/19 01:27	07/04/19 01:27	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1304700	1	07/01/19 20:50	07/01/19 20:50	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1302589	1	06/27/19 07:56	06/29/19 06:56	SHG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1302590	1	06/27/19 08:00	07/01/19 20:04	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1302599	1	06/27/19 16:44	06/28/19 07:17	AAT	Mt. Juliet, TN

## MW1-0619 L112118-04 GW

Collected by  
Eric Stata      Collected date/time  
06/20/19 15:00      Received date/time  
06/22/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1301379	1	06/25/19 19:32	06/25/19 19:32	EEM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1305954	1	07/04/19 01:51	07/04/19 01:51	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1304700	1	07/01/19 21:13	07/01/19 21:13	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1302589	1	06/27/19 07:56	06/29/19 07:17	SHG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1302590	1	06/27/19 08:00	07/01/19 20:22	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1302599	1	06/27/19 16:44	06/28/19 07:38	AAT	Mt. Juliet, TN

## TRIP BLANK L112118-05 GW

Collected by  
Eric Stata      Collected date/time  
06/20/19 15:00      Received date/time  
06/22/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1304041	1	06/29/19 18:13	06/29/19 18:13	ADM	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, 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.

Mark W. Beasley  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1130	B	1000	1	06/25/2019 18:07	<a href="#">WG1301379</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	07/04/2019 00:39	<a href="#">WG1305954</a>
(S) a,a,a-Trifluorotoluene(FID)	110		78.0-120		07/04/2019 00:39	<a href="#">WG1305954</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/29/2019 22:50	<a href="#">WG1304041</a>
Toluene	ND		1.00	1	06/29/2019 22:50	<a href="#">WG1304041</a>
Ethylbenzene	ND		1.00	1	06/29/2019 22:50	<a href="#">WG1304041</a>
Total Xylenes	ND		3.00	1	06/29/2019 22:50	<a href="#">WG1304041</a>
(S) Toluene-d8	106		80.0-120		06/29/2019 22:50	<a href="#">WG1304041</a>
(S) 4-Bromofluorobenzene	89.0		77.0-126		06/29/2019 22:50	<a href="#">WG1304041</a>
(S) 1,2-Dichloroethane-d4	100		70.0-130		06/29/2019 22:50	<a href="#">WG1304041</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	06/29/2019 06:15	<a href="#">WG1302589</a>
Residual Range Organics (RRO)	ND		250	1	06/29/2019 06:15	<a href="#">WG1302589</a>
(S) o-Terphenyl	75.8		52.0-156		06/29/2019 06:15	<a href="#">WG1302589</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	07/01/2019 19:27	<a href="#">WG1302590</a>
Residual Range Organics (RRO)	ND		250	1	07/01/2019 19:27	<a href="#">WG1302590</a>
(S) o-Terphenyl	77.4		52.0-156		07/01/2019 19:27	<a href="#">WG1302590</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Acenaphthene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Acenaphthylene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Benzo(a)anthracene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Benzo(a)pyrene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Benzo(b)fluoranthene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Benzo(g,h,i)perylene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Benzo(k)fluoranthene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Chrysene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Dibenz(a,h)anthracene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Fluoranthene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Fluorene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Naphthalene	ND		0.250	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Phenanthrene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
Pyrene	ND		0.0500	1	06/28/2019 06:35	<a href="#">WG1302599</a>
1-Methylnaphthalene	ND		0.250	1	06/28/2019 06:35	<a href="#">WG1302599</a>



Collected date/time: 06/20/19 13:15

L1112118

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	06/28/2019 06:35	<a href="#">WG1302599</a>
2-Chloronaphthalene	ND		0.250	1	06/28/2019 06:35	<a href="#">WG1302599</a>
(S) Nitrobenzene-d5	91.1		31.0-160		06/28/2019 06:35	<a href="#">WG1302599</a>
(S) 2-Fluorobiphenyl	104		48.0-148		06/28/2019 06:35	<a href="#">WG1302599</a>
(S) p-Terphenyl-d14	107		37.0-146		06/28/2019 06:35	<a href="#">WG1302599</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	2250		1000	1	06/25/2019 19:07	<a href="#">WG1301379</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	07/04/2019 01:03	<a href="#">WG1305954</a>
(S) a,a,a-Trifluorotoluene(FID)	109		78.0-120		07/04/2019 01:03	<a href="#">WG1305954</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/29/2019 23:09	<a href="#">WG1304041</a>
Toluene	ND		1.00	1	06/29/2019 23:09	<a href="#">WG1304041</a>
Ethylbenzene	ND		1.00	1	06/29/2019 23:09	<a href="#">WG1304041</a>
Total Xylenes	ND		3.00	1	06/29/2019 23:09	<a href="#">WG1304041</a>
(S) Toluene-d8	98.7		80.0-120		06/29/2019 23:09	<a href="#">WG1304041</a>
(S) 4-Bromofluorobenzene	85.5		77.0-126		06/29/2019 23:09	<a href="#">WG1304041</a>
(S) 1,2-Dichloroethane-d4	110		70.0-130		06/29/2019 23:09	<a href="#">WG1304041</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	06/29/2019 06:35	<a href="#">WG1302589</a>
Residual Range Organics (RRO)	ND		250	1	06/29/2019 06:35	<a href="#">WG1302589</a>
(S) o-Terphenyl	76.8		52.0-156		06/29/2019 06:35	<a href="#">WG1302589</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	07/01/2019 19:45	<a href="#">WG1302590</a>
Residual Range Organics (RRO)	ND		250	1	07/01/2019 19:45	<a href="#">WG1302590</a>
(S) o-Terphenyl	62.6		52.0-156		07/01/2019 19:45	<a href="#">WG1302590</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Acenaphthene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Acenaphthylene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Benzo(a)anthracene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Benzo(a)pyrene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Benzo(b)fluoranthene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Benzo(g,h,i)perylene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Benzo(k)fluoranthene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Chrysene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Dibenz(a,h)anthracene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Fluoranthene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Fluorene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Naphthalene	ND		0.250	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Phenanthrene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
Pyrene	ND		0.0500	1	06/28/2019 06:56	<a href="#">WG1302599</a>
1-Methylnaphthalene	ND		0.250	1	06/28/2019 06:56	<a href="#">WG1302599</a>



Collected date/time: 06/20/19 11:35

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Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	06/28/2019 06:56	<a href="#">WG1302599</a>
2-Chloronaphthalene	ND		0.250	1	06/28/2019 06:56	<a href="#">WG1302599</a>
<i>(S)</i> Nitrobenzene-d5	88.9		31.0-160		06/28/2019 06:56	<a href="#">WG1302599</a>
<i>(S)</i> 2-Fluorobiphenyl	104		48.0-148		06/28/2019 06:56	<a href="#">WG1302599</a>
<i>(S)</i> p-Terphenyl-d14	104		37.0-146		06/28/2019 06:56	<a href="#">WG1302599</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	6700		1000	1	06/25/2019 19:21	<a href="#">WG1301379</a>

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	07/04/2019 01:27	<a href="#">WG1305954</a>
(S) a,a,a-Trifluorotoluene(FID)	109		78.0-120		07/04/2019 01:27	<a href="#">WG1305954</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	07/01/2019 20:50	<a href="#">WG1304700</a>
Toluene	ND		1.00	1	07/01/2019 20:50	<a href="#">WG1304700</a>
Ethylbenzene	ND		1.00	1	07/01/2019 20:50	<a href="#">WG1304700</a>
Total Xylenes	ND		3.00	1	07/01/2019 20:50	<a href="#">WG1304700</a>
(S) Toluene-d8	115		80.0-120		07/01/2019 20:50	<a href="#">WG1304700</a>
(S) 4-Bromofluorobenzene	94.1		77.0-126		07/01/2019 20:50	<a href="#">WG1304700</a>
(S) 1,2-Dichloroethane-d4	105		70.0-130		07/01/2019 20:50	<a href="#">WG1304700</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	890		200	1	06/29/2019 06:56	<a href="#">WG1302589</a>
Residual Range Organics (RRO)	610		250	1	06/29/2019 06:56	<a href="#">WG1302589</a>
(S) o-Terphenyl	90.0		52.0-156		06/29/2019 06:56	<a href="#">WG1302589</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	07/01/2019 20:04	<a href="#">WG1302590</a>
Residual Range Organics (RRO)	ND		250	1	07/01/2019 20:04	<a href="#">WG1302590</a>
(S) o-Terphenyl	74.2		52.0-156		07/01/2019 20:04	<a href="#">WG1302590</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Acenaphthene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Acenaphthylene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Benzo(a)anthracene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Benzo(a)pyrene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Benzo(b)fluoranthene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Benzo(g,h,i)perylene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Benzo(k)fluoranthene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Chrysene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Dibenz(a,h)anthracene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Fluoranthene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Fluorene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Naphthalene	ND		0.250	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Phenanthrene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
Pyrene	ND		0.0500	1	06/28/2019 07:17	<a href="#">WG1302599</a>
1-Methylnaphthalene	ND		0.250	1	06/28/2019 07:17	<a href="#">WG1302599</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Collected date/time: 06/20/19 17:00

L1112118

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	06/28/2019 07:17	<a href="#">WG1302599</a>
2-Chloronaphthalene	ND		0.250	1	06/28/2019 07:17	<a href="#">WG1302599</a>
(S) Nitrobenzene-d5	93.7		31.0-160		06/28/2019 07:17	<a href="#">WG1302599</a>
(S) 2-Fluorobiphenyl	104		48.0-148		06/28/2019 07:17	<a href="#">WG1302599</a>
(S) p-Terphenyl-d14	98.9		37.0-146		06/28/2019 07:17	<a href="#">WG1302599</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1520	B	1000	1	06/25/2019 19:32	<a href="#">WG1301379</a>

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	07/04/2019 01:51	<a href="#">WG1305954</a>
(S) a,a,a-Trifluorotoluene(FID)	110		78.0-120		07/04/2019 01:51	<a href="#">WG1305954</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	07/01/2019 21:13	<a href="#">WG1304700</a>
Toluene	ND		1.00	1	07/01/2019 21:13	<a href="#">WG1304700</a>
Ethylbenzene	ND		1.00	1	07/01/2019 21:13	<a href="#">WG1304700</a>
Total Xylenes	ND		3.00	1	07/01/2019 21:13	<a href="#">WG1304700</a>
(S) Toluene-d8	113		80.0-120		07/01/2019 21:13	<a href="#">WG1304700</a>
(S) 4-Bromofluorobenzene	94.8		77.0-126		07/01/2019 21:13	<a href="#">WG1304700</a>
(S) 1,2-Dichloroethane-d4	100		70.0-130		07/01/2019 21:13	<a href="#">WG1304700</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	06/29/2019 07:17	<a href="#">WG1302589</a>
Residual Range Organics (RRO)	ND		250	1	06/29/2019 07:17	<a href="#">WG1302589</a>
(S) o-Terphenyl	80.0		52.0-156		06/29/2019 07:17	<a href="#">WG1302589</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	07/01/2019 20:22	<a href="#">WG1302590</a>
Residual Range Organics (RRO)	ND		250	1	07/01/2019 20:22	<a href="#">WG1302590</a>
(S) o-Terphenyl	71.6		52.0-156		07/01/2019 20:22	<a href="#">WG1302590</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Acenaphthene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Acenaphthylene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Benzo(a)anthracene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Benzo(a)pyrene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Benzo(b)fluoranthene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Benzo(g,h,i)perylene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Benzo(k)fluoranthene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Chrysene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Dibenz(a,h)anthracene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Fluoranthene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Fluorene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Naphthalene	ND		0.250	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Phenanthrene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
Pyrene	ND		0.0500	1	06/28/2019 07:38	<a href="#">WG1302599</a>
1-Methylnaphthalene	ND		0.250	1	06/28/2019 07:38	<a href="#">WG1302599</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/20/19 15:00

L1112118

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	06/28/2019 07:38	<a href="#">WG1302599</a>
2-Chloronaphthalene	ND		0.250	1	06/28/2019 07:38	<a href="#">WG1302599</a>
<i>(S)</i> Nitrobenzene-d5	92.1		31.0-160		06/28/2019 07:38	<a href="#">WG1302599</a>
<i>(S)</i> 2-Fluorobiphenyl	105		48.0-148		06/28/2019 07:38	<a href="#">WG1302599</a>
<i>(S)</i> p-Terphenyl-d14	105		37.0-146		06/28/2019 07:38	<a href="#">WG1302599</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/29/2019 18:13	<a href="#">WG1304041</a>
Toluene	ND		1.00	1	06/29/2019 18:13	<a href="#">WG1304041</a>
Ethylbenzene	ND		1.00	1	06/29/2019 18:13	<a href="#">WG1304041</a>
Total Xylenes	ND		3.00	1	06/29/2019 18:13	<a href="#">WG1304041</a>
<i>(S) Toluene-d8</i>	97.8		80.0-120		06/29/2019 18:13	<a href="#">WG1304041</a>
<i>(S) 4-Bromofluorobenzene</i>	91.8		77.0-126		06/29/2019 18:13	<a href="#">WG1304041</a>
<i>(S) 1,2-Dichloroethane-d4</i>	110		70.0-130		06/29/2019 18:13	<a href="#">WG1304041</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3424680-1 06/25/19 10:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
TOC (Total Organic Carbon)	212	↓	102	1000

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L111958-17 Original Sample (OS) • Duplicate (DUP)

(OS) L111958-17 06/25/19 12:38 • (DUP) R3424680-3 06/25/19 12:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
TOC (Total Organic Carbon)	2840	2150	1	27.6	P1	20

L112245-04 Original Sample (OS) • Duplicate (DUP)

(OS) L112245-04 06/25/19 19:59 • (DUP) R3424680-8 06/25/19 20:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
TOC (Total Organic Carbon)	553000	553000	20	0.0724		20

Laboratory Control Sample (LCS)

(LCS) R3424680-2 06/25/19 10:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
TOC (Total Organic Carbon)	75000	74900	99.8	85.0-115	

L112082-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L112082-04 06/25/19 15:24 • (MS) R3424680-4 06/25/19 15:40 • (MSD) R3424680-5 06/25/19 15:59

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
TOC (Total Organic Carbon)	50000	770	49400	49100	97.2	96.7	1	80.0-120			0.447	20

L112118-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L112118-01 06/25/19 18:07 • (MS) R3424680-6 06/25/19 18:31 • (MSD) R3424680-7 06/25/19 18:52

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
TOC (Total Organic Carbon)	50000	1130	49800	49300	97.2	96.4	1	80.0-120			0.828	20



Method Blank (MB)

(MB) R3427498-2 07/03/19 14:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	90.3	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	109			78.0-120

1 Cp

2 Tc

3 Ss

4 Cn

Laboratory Control Sample (LCS)

(LCS) R3427498-1 07/03/19 13:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5140	93.5	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			98.6	78.0-120	

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3426583-2 06/29/19 17:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
<i>(S) Toluene-d8</i>	105			80.0-120
<i>(S) 4-Bromofluorobenzene</i>	98.5			77.0-126
<i>(S) 1,2-Dichloroethane-d4</i>	106			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3426583-1 06/29/19 16:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	25.0	24.3	97.2	70.0-123	
Ethylbenzene	25.0	24.3	97.3	79.0-123	
Toluene	25.0	26.1	104	79.0-120	
Xylenes, Total	75.0	70.9	94.5	79.0-123	
<i>(S) Toluene-d8</i>			97.9	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			91.9	77.0-126	
<i>(S) 1,2-Dichloroethane-d4</i>			116	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3426800-2 07/01/19 20:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
<i>(S) Toluene-d8</i>	111			80.0-120
<i>(S) 4-Bromofluorobenzene</i>	93.7			77.0-126
<i>(S) 1,2-Dichloroethane-d4</i>	100			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3426800-1 07/01/19 19:35

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	22.7	90.8	70.0-123	
Ethylbenzene	25.0	22.6	90.3	79.0-123	
Toluene	25.0	23.5	94.0	79.0-120	
Xylenes, Total	75.0	70.8	94.4	79.0-123	
<i>(S) Toluene-d8</i>			106	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			101	77.0-126	
<i>(S) 1,2-Dichloroethane-d4</i>			105	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Method Blank (MB)

(MB) R3425975-1 06/29/19 00:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Residual Range Organics (RRO)	U		83.3	250
Diesel Range Organics (DRO)	U		66.7	200
<i>(S) o-Terphenyl</i>	96.0			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3425975-2 06/29/19 00:26 • (LCSD) R3425975-3 06/29/19 00:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1600	1540	107	103	50.0-150			3.82	20
<i>(S) o-Terphenyl</i>				88.5	75.0	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3426824-1 07/01/19 17:55

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	77.5			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3426824-2 07/01/19 18:14 • (LCSD) R3426824-3 07/01/19 18:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1160	1270	77.3	84.7	50.0-150			9.05	20
<i>(S) o-Terphenyl</i>				103	96.5	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3425699-3 06/28/19 00:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0140	0.0500
Acenaphthene	U		0.0100	0.0500
Acenaphthylene	U		0.0120	0.0500
Benzo(a)anthracene	U		0.00410	0.0500
Benzo(a)pyrene	U		0.0116	0.0500
Benzo(b)fluoranthene	U		0.00212	0.0500
Benzo(g,h,i)perylene	U		0.00227	0.0500
Benzo(k)fluoranthene	U		0.0136	0.0500
Chrysene	U		0.0108	0.0500
Dibenz(a,h)anthracene	U		0.00396	0.0500
Fluoranthene	U		0.0157	0.0500
Fluorene	U		0.00850	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0148	0.0500
Naphthalene	U		0.0198	0.250
Phenanthrene	U		0.00820	0.0500
Pyrene	U		0.0117	0.0500
1-Methylnaphthalene	U		0.00821	0.250
2-Methylnaphthalene	U		0.00902	0.250
2-Chloronaphthalene	U		0.00647	0.250
(S) Nitrobenzene-d5	87.0			31.0-160
(S) 2-Fluorobiphenyl	110			48.0-148
(S) p-Terphenyl-d14	111			37.0-146

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3425699-1 06/28/19 00:00 • (LCSD) R3425699-2 06/28/19 00:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	2.09	2.10	105	105	67.0-150			0.477	20
Acenaphthene	2.00	1.86	1.91	93.0	95.5	65.0-138			2.65	20
Acenaphthylene	2.00	1.99	2.04	99.5	102	66.0-140			2.48	20
Benzo(a)anthracene	2.00	2.16	2.19	108	109	61.0-140			1.38	20
Benzo(a)pyrene	2.00	2.11	2.17	105	108	60.0-143			2.80	20
Benzo(b)fluoranthene	2.00	1.97	2.08	98.5	104	58.0-141			5.43	20
Benzo(g,h,i)perylene	2.00	2.22	2.27	111	114	52.0-153			2.23	20
Benzo(k)fluoranthene	2.00	2.25	2.16	112	108	58.0-148			4.08	20
Chrysene	2.00	2.11	2.15	105	108	64.0-144			1.88	20
Dibenz(a,h)anthracene	2.00	2.14	2.21	107	111	52.0-155			3.22	20
Fluoranthene	2.00	2.45	2.49	122	124	69.0-153			1.62	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3425699-1 06/28/19 00:00 • (LCSD) R3425699-2 06/28/19 00:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	2.24	2.17	112	108	64.0-136			3.17	20
Indeno(1,2,3-cd)pyrene	2.00	2.15	2.25	108	112	54.0-153			4.55	20
Naphthalene	2.00	1.59	1.57	79.5	78.5	61.0-137			1.27	20
Phenanthrene	2.00	2.08	2.09	104	105	62.0-137			0.480	20
Pyrene	2.00	1.82	1.92	91.0	96.0	60.0-142			5.35	20
1-Methylnaphthalene	2.00	1.54	1.53	77.0	76.5	66.0-142			0.651	20
2-Methylnaphthalene	2.00	1.49	1.49	74.5	74.5	62.0-136			0.000	20
2-Chloronaphthalene	2.00	1.83	1.73	91.5	86.5	64.0-140			5.62	20
<i>(S) Nitrobenzene-d5</i>				92.5	97.0	31.0-160				
<i>(S) 2-Fluorobiphenyl</i>				119	111	48.0-148				
<i>(S) p-Terphenyl-d14</i>				103	111	37.0-146				

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

## Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National 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.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

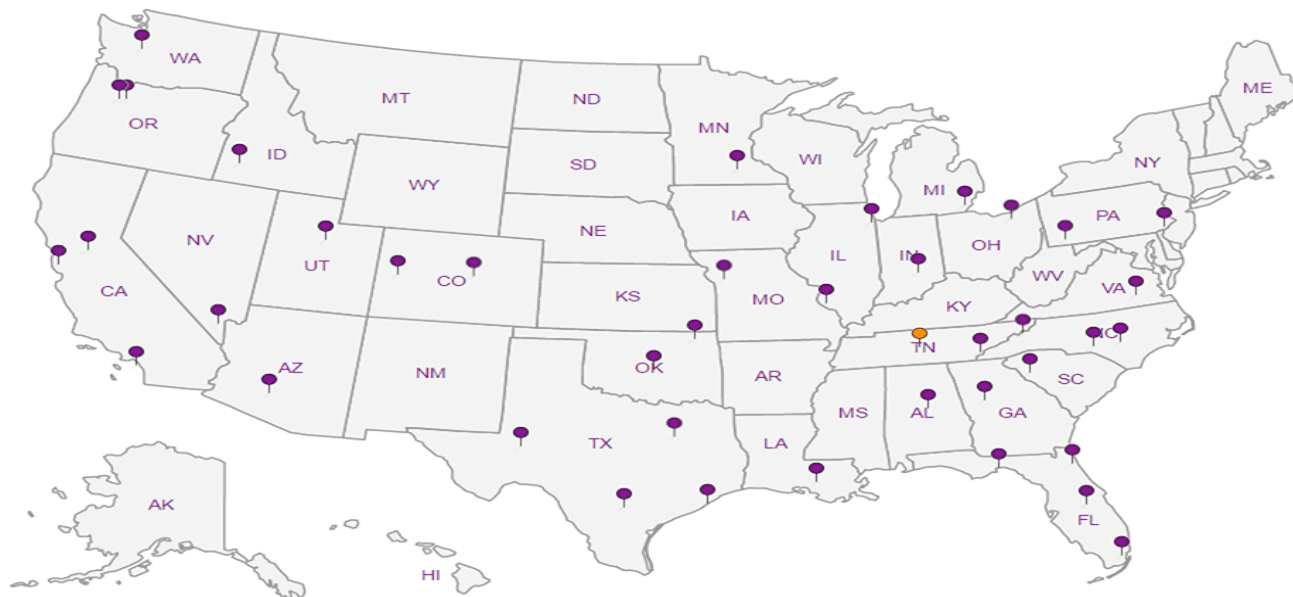
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National 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. Pace National performs all testing at our central laboratory.



**TRC - BNSF Region 1**

19874 141st Place NE  
Woodinville, WA 98072

Billing Information:

Accounts Payable  
19874 141st Place NE  
Woodinville, WA 98072

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



Report to:  
**Keith Woodburne**

Email To: kwoodburne@trccompanies.com,  
EStata@trccompanies.com,

Project  
Description: **BNSF - JML Cashmere, WA**

City/State  
Collected:

Phone: **425-489-1938**  
Fax:

Client Project #  
**318140**

Lab Project #  
**BNSF1TRC-JML**

Collected by (print):  
**ETIL STATA**

Site/Facility ID #

P.O. #

Collected by (signature):  
*[Signature]*  
Immediately  
Packed on Ice N \_\_\_ Y **X**

**Rush?** (Lab MUST Be Notified)  
\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day  
Quote #  
Date Results Needed

No.  
of  
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts
-----------	-----------	----------	-------	------	------	-------------

<del>MW 1-0619</del>	<del>---</del>	<del>GW</del>	<del>---</del>	<del>6/20/19</del>	<del>1500</del>	<del>13</del>
MW 5-0619	---	GW	---	6/20/19	1315	13
MW 6-0619	---	GW	---	6/20/19	1135	13
MW 7-0619	---	GW	---	6/20/19	1700	13
MW 1-0619	---	GW	---	6/20/19	1500	13
TRIP BLANK						
TEMP BLANK						

NWTPHDX w/ SGT 40mlAmb-HCl-BT	NWTPHDX w/o SGT 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	PAHSIMLVID 40mlAmb-NoPres-WT	TOC 250mlAmb-HCl	V8260BTEXC 40mlAmb-HCl
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X

L# **L1112118**  
Moob  
Acctnum: **BNSF1TRC**  
Template: **T151331**  
Prelogin: **P713849**  
TSR: **134 - Mark W. Beasley**  
PB: **66196m**  
Shipped Via: **FedEX Ground**

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:  
Samples returned via:  
\_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking # **1023 1356 9088**

Sample Receipt Checklist  
COC Seal Present/Intact: \_\_\_ NP \_\_\_ Y \_\_\_ N  
COC Signed/Accurate: \_\_\_ Y \_\_\_ N  
Bottles arrive intact: \_\_\_ Y \_\_\_ N  
Correct bottles used: \_\_\_ Y \_\_\_ N  
Sufficient volume sent: \_\_\_ Y \_\_\_ N  
If Applicable  
VOA Zero Headspace: \_\_\_ Y \_\_\_ N  
Preservation Correct/Checked: \_\_\_ Y \_\_\_ N  
**RAD SCREEN: <0.5 mR/hr**

Relinquished by: (Signature)  
*[Signature]*

Date: **6/21/19**  
Time: **1200**

Received by: (Signature)  
*[Signature]*

Trip Blank Received:  Yes / No  
 HCl / MeOH  
 TBR

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received by: (Signature)

Temp: °C **9.120-9.132**  
Bottles Received: **147-13**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received for lab by: (Signature)  
*[Signature]*

Date: **6/22/19**  
Time: **9:00**

Hold: \_\_\_\_\_  
Condition: **NCF / OK**



<b>Login #:</b> L1112118	<b>Client:</b> BNSF1TRC	<b>Date:</b> 6/22/19	<b>Evaluated by:</b> Jeremy
--------------------------	-------------------------	----------------------	-----------------------------

**Non-Conformance (check applicable items)**

Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	Login Clarification Needed	<b>If Broken Container:</b>
Temperature not in range	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
pH not in range.	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
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.	<b>If no Chain of Custody:</b>
Broken container	x 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:** Trip Blank not marked for analysis.

Client informed by:	Call	Email	Voice Mail	Date: 6/24/19	Time: 1020
TSR Initials: MB	Client Contact:				

**Login Instructions:**

Log trip blank for V8260BTEXC



## TRC - BNSF Region 1

Sample Delivery Group: L1142102  
Samples Received: 09/21/2019  
Project Number: 318140  
Description: BNSF - JML Cashmere, WA

Report To: Eric Stata  
19874 141st Place NE  
Woodinville, WA 98072

Entire Report Reviewed By:

Mark W. Beasley  
Project Manager

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 Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



<b>Cp: Cover Page</b>	<b>1</b>	<b>1</b> Cp
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<b>2</b> Tc
<b>Cn: Case Narrative</b>	<b>4</b>	
<b>Sr: Sample Results</b>	<b>5</b>	<b>3</b> Ss
MW1-190919 L1142102-01	<b>5</b>	
MW5-190919 L1142102-02	<b>7</b>	<b>4</b> Cn
MW6-190919 L1142102-03	<b>9</b>	<b>5</b> Sr
MW7-190919 L1142102-04	<b>11</b>	
TRIP BLANK L1142102-05	<b>13</b>	<b>6</b> Qc
<b>Qc: Quality Control Summary</b>	<b>14</b>	
Wet Chemistry by Method 9060A	<b>14</b>	<b>7</b> Gl
Volatile Organic Compounds (GC) by Method NWTPHGX	<b>15</b>	
Volatile Organic Compounds (GC/MS) by Method 8260C	<b>17</b>	<b>8</b> Al
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	<b>18</b>	
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	<b>19</b>	
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	<b>20</b>	<b>9</b> Sc
<b>Gl: Glossary of Terms</b>	<b>24</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>25</b>	
<b>Sc: Sample Chain of Custody</b>	<b>26</b>	

# SAMPLE SUMMARY



## MW1-190919 L1142102-01 GW

Collected by  
Eric Stata      Collected date/time  
09/19/19 14:45      Received date/time  
09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1351337	1	09/24/19 19:38	09/24/19 19:38	VRP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1353692	1	09/28/19 05:47	09/28/19 05:47	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1353998	1	09/28/19 19:38	09/28/19 19:38	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1350622	1	09/23/19 18:24	09/24/19 07:31	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1350212	1	09/22/19 17:09	09/25/19 03:28	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1351245	1	09/24/19 19:11	09/25/19 05:35	AAT	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## MW5-190919 L1142102-02 GW

Collected by  
Eric Stata      Collected date/time  
09/19/19 13:30      Received date/time  
09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1351337	1	09/24/19 21:19	09/24/19 21:19	VRP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1353718	1	09/28/19 14:57	09/28/19 14:57	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1353998	1	09/28/19 19:58	09/28/19 19:58	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1350622	1	09/23/19 18:24	09/24/19 07:54	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1350212	1	09/22/19 17:09	09/25/19 03:50	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1351245	1	09/24/19 19:11	09/25/19 05:58	AAT	Mt. Juliet, TN

## MW6-190919 L1142102-03 GW

Collected by  
Eric Stata      Collected date/time  
09/19/19 12:15      Received date/time  
09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1351337	1	09/24/19 22:23	09/24/19 22:23	VRP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1353718	1	09/28/19 15:21	09/28/19 15:21	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1353998	1	09/28/19 20:18	09/28/19 20:18	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1350622	1	09/23/19 18:24	09/24/19 08:17	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1350212	1	09/22/19 17:09	09/25/19 04:13	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1351581	1	09/25/19 15:04	09/25/19 22:41	AAT	Mt. Juliet, TN

## MW7-190919 L1142102-04 GW

Collected by  
Eric Stata      Collected date/time  
09/19/19 16:10      Received date/time  
09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9060A	WG1351337	1	09/24/19 22:45	09/24/19 22:45	VRP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1353718	1	09/28/19 15:45	09/28/19 15:45	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1353998	1	09/28/19 20:37	09/28/19 20:37	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1350622	1	09/23/19 18:24	09/24/19 08:40	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1350212	1	09/22/19 17:09	09/25/19 04:36	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1351245	1	09/24/19 19:11	09/25/19 06:20	AAT	Mt. Juliet, TN

## TRIP BLANK L1142102-05 GW

Collected by  
Eric Stata      Collected date/time  
09/20/19 11:00      Received date/time  
09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1353998	1	09/28/19 18:58	09/28/19 18:58	ACG	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, 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.

Mark W. Beasley  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	ND		1000	1	09/24/2019 19:38	<a href="#">WG1351337</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	09/28/2019 05:47	<a href="#">WG1353692</a>
(S) a,a,a-Trifluorotoluene(FID)	110		78.0-120		09/28/2019 05:47	<a href="#">WG1353692</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/28/2019 19:38	<a href="#">WG1353998</a>
Toluene	ND		1.00	1	09/28/2019 19:38	<a href="#">WG1353998</a>
Ethylbenzene	ND		1.00	1	09/28/2019 19:38	<a href="#">WG1353998</a>
Total Xylenes	ND		3.00	1	09/28/2019 19:38	<a href="#">WG1353998</a>
(S) Toluene-d8	94.8		80.0-120		09/28/2019 19:38	<a href="#">WG1353998</a>
(S) 4-Bromofluorobenzene	105		77.0-126		09/28/2019 19:38	<a href="#">WG1353998</a>
(S) 1,2-Dichloroethane-d4	87.9		70.0-130		09/28/2019 19:38	<a href="#">WG1353998</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/24/2019 07:31	<a href="#">WG1350622</a>
Residual Range Organics (RRO)	ND		250	1	09/24/2019 07:31	<a href="#">WG1350622</a>
(S) o-Terphenyl	82.6		52.0-156		09/24/2019 07:31	<a href="#">WG1350622</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/25/2019 03:28	<a href="#">WG1350212</a>
Residual Range Organics (RRO)	ND		250	1	09/25/2019 03:28	<a href="#">WG1350212</a>
(S) o-Terphenyl	67.9		52.0-156		09/25/2019 03:28	<a href="#">WG1350212</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Acenaphthene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Acenaphthylene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Benzo(a)anthracene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Benzo(a)pyrene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Benzo(b)fluoranthene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Benzo(g,h,i)perylene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Benzo(k)fluoranthene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Chrysene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Dibenz(a,h)anthracene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Fluoranthene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Fluorene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Naphthalene	ND		0.250	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Phenanthrene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
Pyrene	ND		0.0500	1	09/25/2019 05:35	<a href="#">WG1351245</a>
1-Methylnaphthalene	ND		0.250	1	09/25/2019 05:35	<a href="#">WG1351245</a>



Collected date/time: 09/19/19 14:45

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Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	09/25/2019 05:35	<a href="#">WG1351245</a>
2-Chloronaphthalene	ND		0.250	1	09/25/2019 05:35	<a href="#">WG1351245</a>
(S) Nitrobenzene-d5	106		31.0-160		09/25/2019 05:35	<a href="#">WG1351245</a>
(S) 2-Fluorobiphenyl	75.8		48.0-148		09/25/2019 05:35	<a href="#">WG1351245</a>
(S) p-Terphenyl-d14	87.4		37.0-146		09/25/2019 05:35	<a href="#">WG1351245</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1250	<u>B</u>	1000	1	09/24/2019 21:19	<a href="#">WG1351337</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	09/28/2019 14:57	<a href="#">WG1353718</a>
(S) a,a,a-Trifluorotoluene(FID)	110		78.0-120		09/28/2019 14:57	<a href="#">WG1353718</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/28/2019 19:58	<a href="#">WG1353998</a>
Toluene	ND		1.00	1	09/28/2019 19:58	<a href="#">WG1353998</a>
Ethylbenzene	ND		1.00	1	09/28/2019 19:58	<a href="#">WG1353998</a>
Total Xylenes	ND		3.00	1	09/28/2019 19:58	<a href="#">WG1353998</a>
(S) Toluene-d8	96.2		80.0-120		09/28/2019 19:58	<a href="#">WG1353998</a>
(S) 4-Bromofluorobenzene	104		77.0-126		09/28/2019 19:58	<a href="#">WG1353998</a>
(S) 1,2-Dichloroethane-d4	87.8		70.0-130		09/28/2019 19:58	<a href="#">WG1353998</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/24/2019 07:54	<a href="#">WG1350622</a>
Residual Range Organics (RRO)	ND		250	1	09/24/2019 07:54	<a href="#">WG1350622</a>
(S) o-Terphenyl	81.1		52.0-156		09/24/2019 07:54	<a href="#">WG1350622</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/25/2019 03:50	<a href="#">WG1350212</a>
Residual Range Organics (RRO)	ND		250	1	09/25/2019 03:50	<a href="#">WG1350212</a>
(S) o-Terphenyl	66.8		52.0-156		09/25/2019 03:50	<a href="#">WG1350212</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Acenaphthene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Acenaphthylene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Benzo(a)anthracene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Benzo(a)pyrene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Benzo(b)fluoranthene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Benzo(g,h,i)perylene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Benzo(k)fluoranthene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Chrysene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Dibenz(a,h)anthracene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Fluoranthene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Fluorene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Naphthalene	ND		0.250	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Phenanthrene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
Pyrene	ND		0.0500	1	09/25/2019 05:58	<a href="#">WG1351245</a>
1-Methylnaphthalene	ND		0.250	1	09/25/2019 05:58	<a href="#">WG1351245</a>



Collected date/time: 09/19/19 13:30

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Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	09/25/2019 05:58	<a href="#">WG1351245</a>
2-Chloronaphthalene	ND		0.250	1	09/25/2019 05:58	<a href="#">WG1351245</a>
(S) Nitrobenzene-d5	105		31.0-160		09/25/2019 05:58	<a href="#">WG1351245</a>
(S) 2-Fluorobiphenyl	77.4		48.0-148		09/25/2019 05:58	<a href="#">WG1351245</a>
(S) p-Terphenyl-d14	94.7		37.0-146		09/25/2019 05:58	<a href="#">WG1351245</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1220	B	1000	1	09/24/2019 22:23	<a href="#">WG1351337</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	09/28/2019 15:21	<a href="#">WG1353718</a>
(S) a,a,a-Trifluorotoluene(FID)	110		78.0-120		09/28/2019 15:21	<a href="#">WG1353718</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/28/2019 20:18	<a href="#">WG1353998</a>
Toluene	ND		1.00	1	09/28/2019 20:18	<a href="#">WG1353998</a>
Ethylbenzene	ND		1.00	1	09/28/2019 20:18	<a href="#">WG1353998</a>
Total Xylenes	ND		3.00	1	09/28/2019 20:18	<a href="#">WG1353998</a>
(S) Toluene-d8	95.6		80.0-120		09/28/2019 20:18	<a href="#">WG1353998</a>
(S) 4-Bromofluorobenzene	103		77.0-126		09/28/2019 20:18	<a href="#">WG1353998</a>
(S) 1,2-Dichloroethane-d4	87.3		70.0-130		09/28/2019 20:18	<a href="#">WG1353998</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/24/2019 08:17	<a href="#">WG1350622</a>
Residual Range Organics (RRO)	ND		250	1	09/24/2019 08:17	<a href="#">WG1350622</a>
(S) o-Terphenyl	76.8		52.0-156		09/24/2019 08:17	<a href="#">WG1350622</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/25/2019 04:13	<a href="#">WG1350212</a>
Residual Range Organics (RRO)	ND		250	1	09/25/2019 04:13	<a href="#">WG1350212</a>
(S) o-Terphenyl	63.7		52.0-156		09/25/2019 04:13	<a href="#">WG1350212</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Acenaphthene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Acenaphthylene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Benzo(a)anthracene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Benzo(a)pyrene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Benzo(b)fluoranthene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Benzo(g,h,i)perylene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Benzo(k)fluoranthene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Chrysene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Dibenz(a,h)anthracene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Fluoranthene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Fluorene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Naphthalene	ND		0.250	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Phenanthrene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
Pyrene	ND		0.0500	1	09/25/2019 22:41	<a href="#">WG1351581</a>
1-Methylnaphthalene	ND		0.250	1	09/25/2019 22:41	<a href="#">WG1351581</a>



Collected date/time: 09/19/19 12:15

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Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	09/25/2019 22:41	<a href="#">WG1351581</a>
2-Chloronaphthalene	ND		0.250	1	09/25/2019 22:41	<a href="#">WG1351581</a>
<i>(S)</i> Nitrobenzene-d5	80.5		31.0-160		09/25/2019 22:41	<a href="#">WG1351581</a>
<i>(S)</i> 2-Fluorobiphenyl	95.3		48.0-148		09/25/2019 22:41	<a href="#">WG1351581</a>
<i>(S)</i> p-Terphenyl-d14	98.9		37.0-146		09/25/2019 22:41	<a href="#">WG1351581</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1290	B	1000	1	09/24/2019 22:45	<a href="#">WG1351337</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	09/28/2019 15:45	<a href="#">WG1353718</a>
(S) a,a,a-Trifluorotoluene(FID)	110		78.0-120		09/28/2019 15:45	<a href="#">WG1353718</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/28/2019 20:37	<a href="#">WG1353998</a>
Toluene	ND		1.00	1	09/28/2019 20:37	<a href="#">WG1353998</a>
Ethylbenzene	ND		1.00	1	09/28/2019 20:37	<a href="#">WG1353998</a>
Total Xylenes	ND		3.00	1	09/28/2019 20:37	<a href="#">WG1353998</a>
(S) Toluene-d8	93.3		80.0-120		09/28/2019 20:37	<a href="#">WG1353998</a>
(S) 4-Bromofluorobenzene	105		77.0-126		09/28/2019 20:37	<a href="#">WG1353998</a>
(S) 1,2-Dichloroethane-d4	87.7		70.0-130		09/28/2019 20:37	<a href="#">WG1353998</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/24/2019 08:40	<a href="#">WG1350622</a>
Residual Range Organics (RRO)	ND		250	1	09/24/2019 08:40	<a href="#">WG1350622</a>
(S) o-Terphenyl	82.1		52.0-156		09/24/2019 08:40	<a href="#">WG1350622</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	09/25/2019 04:36	<a href="#">WG1350212</a>
Residual Range Organics (RRO)	ND		250	1	09/25/2019 04:36	<a href="#">WG1350212</a>
(S) o-Terphenyl	72.1		52.0-156		09/25/2019 04:36	<a href="#">WG1350212</a>

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Acenaphthene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Acenaphthylene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Benzo(a)anthracene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Benzo(a)pyrene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Benzo(b)fluoranthene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Benzo(g,h,i)perylene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Benzo(k)fluoranthene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Chrysene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Dibenz(a,h)anthracene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Fluoranthene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Fluorene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Naphthalene	ND		0.250	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Phenanthrene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
Pyrene	ND		0.0500	1	09/25/2019 06:20	<a href="#">WG1351245</a>
1-Methylnaphthalene	ND		0.250	1	09/25/2019 06:20	<a href="#">WG1351245</a>



Collected date/time: 09/19/19 16:10

L1142102

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	ND		0.250	1	09/25/2019 06:20	<a href="#">WG1351245</a>
2-Chloronaphthalene	ND		0.250	1	09/25/2019 06:20	<a href="#">WG1351245</a>
(S) Nitrobenzene-d5	102		31.0-160		09/25/2019 06:20	<a href="#">WG1351245</a>
(S) 2-Fluorobiphenyl	75.8		48.0-148		09/25/2019 06:20	<a href="#">WG1351245</a>
(S) p-Terphenyl-d14	90.5		37.0-146		09/25/2019 06:20	<a href="#">WG1351245</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/28/2019 18:58	<a href="#">WG1353998</a>
Toluene	ND		1.00	1	09/28/2019 18:58	<a href="#">WG1353998</a>
Ethylbenzene	ND		1.00	1	09/28/2019 18:58	<a href="#">WG1353998</a>
Total Xylenes	ND		3.00	1	09/28/2019 18:58	<a href="#">WG1353998</a>
<i>(S) Toluene-d8</i>	94.6		80.0-120		09/28/2019 18:58	<a href="#">WG1353998</a>
<i>(S) 4-Bromofluorobenzene</i>	103		77.0-126		09/28/2019 18:58	<a href="#">WG1353998</a>
<i>(S) 1,2-Dichloroethane-d4</i>	85.8		70.0-130		09/28/2019 18:58	<a href="#">WG1353998</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3454219-1 09/24/19 16:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
TOC (Total Organic Carbon)	229	↓	102	1000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

L1142079-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1142079-10 09/24/19 19:02 • (DUP) R3454219-3 09/24/19 19:20

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
TOC (Total Organic Carbon)	6980	7210	1	3.28		20

<sup>6</sup> Qc

Laboratory Control Sample (LCS)

(LCS) R3454219-2 09/24/19 17:25

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
TOC (Total Organic Carbon)	75000	74800	99.7	85.0-115	

<sup>7</sup> Gl

<sup>8</sup> Al

L1142102-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142102-02 09/24/19 21:19 • (MS) R3454219-4 09/24/19 21:41 • (MSD) R3454219-5 09/24/19 22:02

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
TOC (Total Organic Carbon)	50000	1250	52900	52500	103	103	1	80.0-120			0.702	20

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3456013-3 09/28/19 04:35

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120

1 Cp

2 Tc

3 Ss

4 Cn

Laboratory Control Sample (LCS)

(LCS) R3456013-2 09/28/19 03:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4500	81.8	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			97.2	78.0-120	

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3455985-2 09/28/19 14:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3455985-1 09/28/19 13:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5050	91.8	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			96.0	78.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Method Blank (MB)

(MB) R3455634-2 09/28/19 18:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	95.5			80.0-120
(S) 4-Bromofluorobenzene	105			77.0-126
(S) 1,2-Dichloroethane-d4	84.7			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3455634-1 09/28/19 17:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	25.0	25.0	99.9	70.0-123	
Ethylbenzene	25.0	23.9	95.8	79.0-123	
Toluene	25.0	22.8	91.3	79.0-120	
Xylenes, Total	75.0	73.4	97.9	79.0-123	
(S) Toluene-d8			96.7	80.0-120	
(S) 4-Bromofluorobenzene			106	77.0-126	
(S) 1,2-Dichloroethane-d4			86.2	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3453896-1 09/24/19 04:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Residual Range Organics (RRO)	U		83.3	250
Diesel Range Organics (DRO)	U		66.7	200
<i>(S) o-Terphenyl</i>	77.5			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3453896-2 09/24/19 06:34 • (LCSD) R3453896-3 09/24/19 06:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1440	1520	96.0	101	50.0-150			5.41	20
<i>(S) o-Terphenyl</i>				99.5	96.5	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3454157-1 09/24/19 15:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	59.0			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3454157-2 09/24/19 15:58 • (LCSD) R3454157-3 09/24/19 16:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1270	1390	84.7	92.7	50.0-150			9.02	20
<i>(S) o-Terphenyl</i>				84.5	92.5	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3454349-3 09/25/19 01:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0140	0.0500
Acenaphthene	U		0.0100	0.0500
Acenaphthylene	U		0.0120	0.0500
Benzo(a)anthracene	U		0.00410	0.0500
Benzo(a)pyrene	U		0.0116	0.0500
Benzo(b)fluoranthene	U		0.00212	0.0500
Benzo(g,h,i)perylene	U		0.00227	0.0500
Benzo(k)fluoranthene	U		0.0136	0.0500
Chrysene	U		0.0108	0.0500
Dibenz(a,h)anthracene	U		0.00396	0.0500
Fluoranthene	U		0.0157	0.0500
Fluorene	U		0.00850	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0148	0.0500
Naphthalene	0.0308	U	0.0198	0.250
Phenanthrene	U		0.00820	0.0500
Pyrene	U		0.0117	0.0500
1-Methylnaphthalene	U		0.00821	0.250
2-Methylnaphthalene	0.0100	U	0.00902	0.250
2-Chloronaphthalene	U		0.00647	0.250
(S) Nitrobenzene-d5	97.0			31.0-160
(S) 2-Fluorobiphenyl	70.0			48.0-148
(S) p-Terphenyl-d14	78.0			37.0-146

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3454349-1 09/25/19 00:40 • (LCSD) R3454349-2 09/25/19 01:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.75	1.66	87.5	83.0	67.0-150			5.28	20
Acenaphthene	2.00	1.78	1.67	89.0	83.5	65.0-138			6.38	20
Acenaphthylene	2.00	1.83	1.71	91.5	85.5	66.0-140			6.78	20
Benzo(a)anthracene	2.00	1.47	1.47	73.5	73.5	61.0-140			0.000	20
Benzo(a)pyrene	2.00	1.35	1.32	67.5	66.0	60.0-143			2.25	20
Benzo(b)fluoranthene	2.00	1.41	1.33	70.5	66.5	58.0-141			5.84	20
Benzo(g,h,i)perylene	2.00	1.25	1.24	62.5	62.0	52.0-153			0.803	20
Benzo(k)fluoranthene	2.00	1.30	1.32	65.0	66.0	58.0-148			1.53	20
Chrysene	2.00	1.50	1.55	75.0	77.5	64.0-144			3.28	20
Dibenz(a,h)anthracene	2.00	1.18	1.18	59.0	59.0	52.0-155			0.000	20
Fluoranthene	2.00	1.52	1.45	76.0	72.5	69.0-153			4.71	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3454349-1 09/25/19 00:40 • (LCSD) R3454349-2 09/25/19 01:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	1.60	1.52	80.0	76.0	64.0-136			5.13	20
Indeno(1,2,3-cd)pyrene	2.00	1.20	1.16	60.0	58.0	54.0-153			3.39	20
Naphthalene	2.00	1.87	1.76	93.5	88.0	61.0-137			6.06	20
Phenanthrene	2.00	1.69	1.61	84.5	80.5	62.0-137			4.85	20
Pyrene	2.00	1.52	1.56	76.0	78.0	60.0-142			2.60	20
1-Methylnaphthalene	2.00	1.64	1.58	82.0	79.0	66.0-142			3.73	20
2-Methylnaphthalene	2.00	1.59	1.52	79.5	76.0	62.0-136			4.50	20
2-Chloronaphthalene	2.00	1.56	1.46	78.0	73.0	64.0-140			6.62	20
<i>(S) Nitrobenzene-d5</i>				112	102	31.0-160				
<i>(S) 2-Fluorobiphenyl</i>				78.5	72.5	48.0-148				
<i>(S) p-Terphenyl-d14</i>				73.5	74.0	37.0-146				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3454682-3 09/25/19 22:18

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0140	0.0500
Acenaphthene	U		0.0100	0.0500
Acenaphthylene	U		0.0120	0.0500
Benzo(a)anthracene	U		0.00410	0.0500
Benzo(a)pyrene	U		0.0116	0.0500
Benzo(b)fluoranthene	U		0.00212	0.0500
Benzo(g,h,i)perylene	U		0.00227	0.0500
Benzo(k)fluoranthene	U		0.0136	0.0500
Chrysene	U		0.0108	0.0500
Dibenz(a,h)anthracene	U		0.00396	0.0500
Fluoranthene	U		0.0157	0.0500
Fluorene	U		0.00850	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0148	0.0500
Naphthalene	U		0.0198	0.250
Phenanthrene	U		0.00820	0.0500
Pyrene	U		0.0117	0.0500
1-Methylnaphthalene	U		0.00821	0.250
2-Methylnaphthalene	0.00908	J	0.00902	0.250
2-Chloronaphthalene	U		0.00647	0.250
(S) Nitrobenzene-d5	78.0			31.0-160
(S) 2-Fluorobiphenyl	93.5			48.0-148
(S) p-Terphenyl-d14	97.0			37.0-146

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3454682-1 09/25/19 21:33 • (LCSD) R3454682-2 09/25/19 21:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.93	1.90	96.5	95.0	67.0-150			1.57	20
Acenaphthene	2.00	1.72	1.71	86.0	85.5	65.0-138			0.583	20
Acenaphthylene	2.00	1.86	1.83	93.0	91.5	66.0-140			1.63	20
Benzo(a)anthracene	2.00	2.01	1.97	100	98.5	61.0-140			2.01	20
Benzo(a)pyrene	2.00	1.85	1.81	92.5	90.5	60.0-143			2.19	20
Benzo(b)fluoranthene	2.00	1.68	1.60	84.0	80.0	58.0-141			4.88	20
Benzo(g,h,i)perylene	2.00	1.87	1.85	93.5	92.5	52.0-153			1.08	20
Benzo(k)fluoranthene	2.00	1.78	1.82	89.0	91.0	58.0-148			2.22	20
Chrysene	2.00	2.02	2.02	101	101	64.0-144			0.000	20
Dibenz(a,h)anthracene	2.00	1.82	1.77	91.0	88.5	52.0-155			2.79	20
Fluoranthene	2.00	2.09	2.02	104	101	69.0-153			3.41	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3454682-1 09/25/19 21:33 • (LCSD) R3454682-2 09/25/19 21:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	1.80	1.79	90.0	89.5	64.0-136			0.557	20
Indeno(1,2,3-cd)pyrene	2.00	1.88	1.83	94.0	91.5	54.0-153			2.70	20
Naphthalene	2.00	1.69	1.68	84.5	84.0	61.0-137			0.593	20
Phenanthrene	2.00	1.69	1.64	84.5	82.0	62.0-137			3.00	20
Pyrene	2.00	1.63	1.64	81.5	82.0	60.0-142			0.612	20
1-Methylnaphthalene	2.00	1.84	1.85	92.0	92.5	66.0-142			0.542	20
2-Methylnaphthalene	2.00	1.76	1.76	88.0	88.0	62.0-136			0.000	20
2-Chloronaphthalene	2.00	1.75	1.75	87.5	87.5	64.0-140			0.000	20
<i>(S) Nitrobenzene-d5</i>				83.5	81.0	31.0-160				
<i>(S) 2-Fluorobiphenyl</i>				93.5	88.5	48.0-148				
<i>(S) p-Terphenyl-d14</i>				97.5	96.0	37.0-146				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.





Pace National 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.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

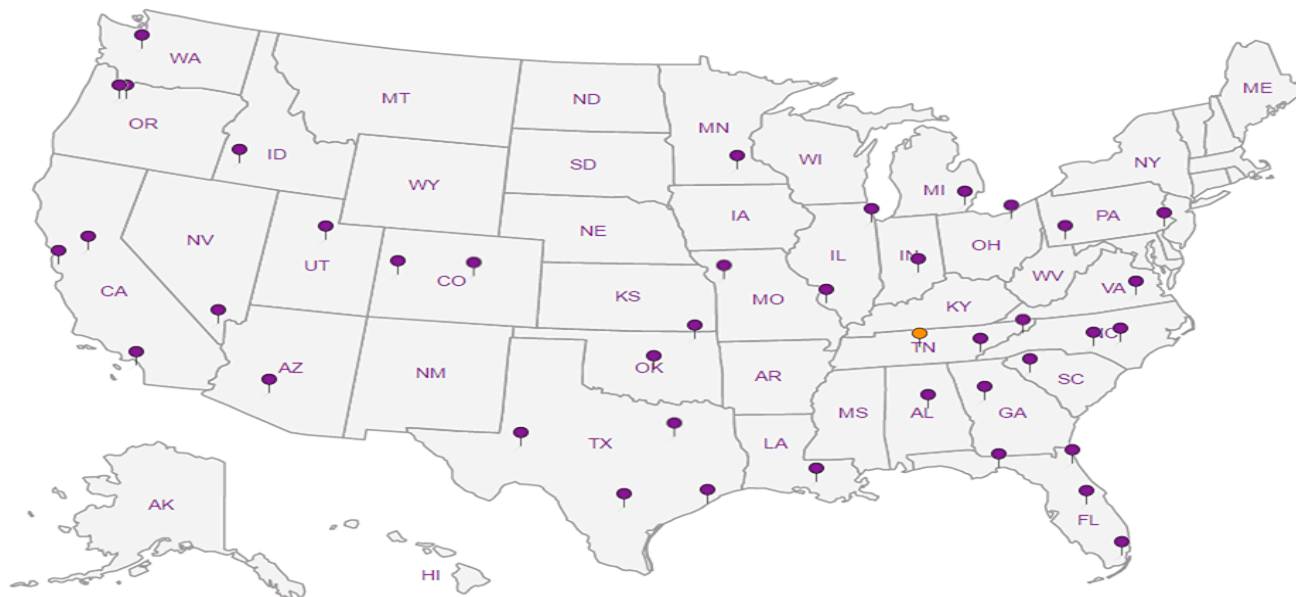
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National 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. Pace National performs all testing at our central laboratory.



**TRC - BNSF Region 1**

19874 141st Place NE  
Woodinville, WA 98072

Billing Information:

Accounts Payable  
19874 141st Place NE  
Woodinville, WA 98072

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page \_\_\_ of \_\_\_



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



Report to:  
**Eric Stata**

Email To: kwoodburne@trccompanies.com,  
EStata@trccompanies.com,

Project  
Description: **BNSF - JML Cashmere, WA**

City/State  
Collected:

Please Circle:  
PT MT CT ET

Phone: **425-489-1938**  
Fax:

Client Project #  
**318140**

Lab Project #  
**BNSF1TRC-JML**

Collected by (print):  
**ERIC STATA**

Site/Facility ID #

P.O. #  
**318140**

Collected by (signature):  
**E. STATA**  
Immediately  
Packed on Ice N \_\_\_ Y **X**

**Rush?** (Lab MUST Be Notified)  
\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day

Quote #  
Date Results Needed

No.  
of  
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

MW1-190919	X	GW	16.5	9/19/19	1445	13
MW5-190919	X	GW	15	9/19/19	1330	13
MW6-190919	X	GW	15	9/19/19	1215	13
MW7-190919	X	GW	11	9/19/19	1610	13
		GW				
TRIP BLANK	X	BLANK	X	9/20/19	1100	1

NWTPHDX w/ SGT 40mlAmb-HCl-BT	NWTPHDX w/o SGT 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	PAHSIMLVID 40mlAmb-NoPres-WT	TOC 250mlAmb-HCl	V8260BTEXC 40mlAmb-HCl
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
					X

SDG # **L1142102**  
**C128**  
Acctnum: **BNSF1TRC**  
Template: **T151331**  
Prelogin: **P724797**  
PM: **134 - Mark W. Beasley**  
PB: **8-15-19 Gen**  
Shipped Via: **FedEX Ground**

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:  
pH \_\_\_\_\_ Temp \_\_\_\_\_  
Flow \_\_\_\_\_ Other \_\_\_\_\_  
Samples returned via:  
\_\_\_ UPS  FedEx \_\_\_ Courier \_\_\_\_\_  
Tracking # **1082 5999 5500**

Sample Receipt Checklist  
COC Seal Present/Intact: \_\_\_ NP  Y \_\_\_ N  
COC Signed/Accurate:  Y \_\_\_ N  
Bottles arrive intact:  Y \_\_\_ N  
Correct bottles used:  Y \_\_\_ N  
Sufficient volume sent:  Y \_\_\_ N  
If Applicable  
VOA Zero Headspace:  Y \_\_\_ N  
Preservation Correct/Checked:  Y \_\_\_ N  
RAD Screen <0.5 mR/hr:  Y \_\_\_ N

Relinquished by: (Signature)  
**Eric Stata**

Date: **9/20/2019**  
Time: **1045**

Received by: (Signature)

Trip Blank Received: Yes/No  
**1**  HCl/MeOH  
TBR

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received by: (Signature)

Temp: **21.10-2.48** °C  
Bottles Received: **52**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Received for Lab by: (Signature)  
**[Signature]**

Date: **9-21-19**  
Time: **8:45**

Hold: \_\_\_\_\_  
Condition: **NCF / OK**