Transmittal

March 4, 2020

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Eastern Regional Office
4601 N. Monroe Street, Suite 202
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Ref. No.: 11145847

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Subject: Site Investigation Summary Report

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1	Site Investigation Summary Report		

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Remarks:

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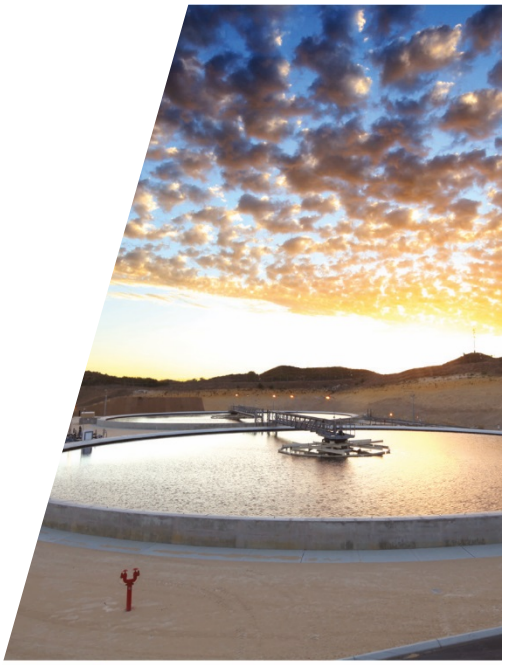
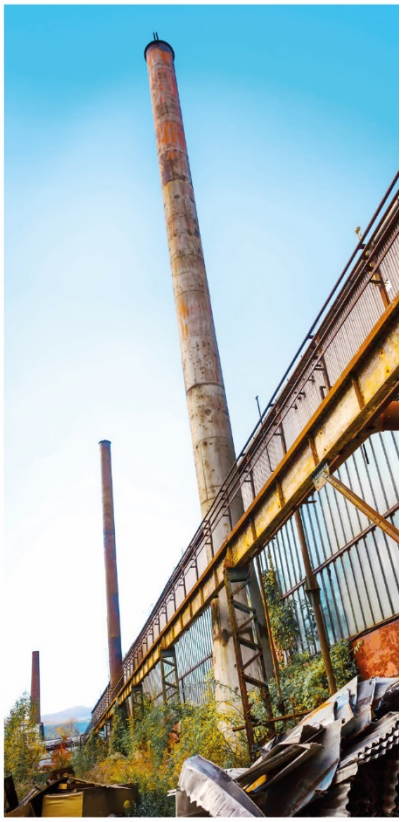


Site Investigation Summary Report

Phillips 66 Facility No. 6880
Geiger Corrections Facility –
USAAC Geiger Field GF003
Spokane, Washington
Facility/Site No 663
VCP Project No. EA0263



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1. Introduction

GHD is submitting this *Site Investigation Summary Report and Supplemental Investigation Work Plan* on behalf of P66 Company (P66) for the Geiger Corrections Facility (No. 6880) facility located at the southeast corner of South Spotted Road and Alton Road in Spokane, Washington (Property, Figure 1). The scope of work was completed in accordance with the *Site Assessment Work Plan* dated June 18, 2019 (Work Plan). The purpose of the site investigation was to collect additional information necessary to further characterization of historical soil and groundwater impacts and to gather appropriate data to evaluate potential remedial alternatives. This report summarizes the findings of the investigation activities that were completed in October 2019. Based on the results of the recent field activities, additional data gaps have been identified and the details of the scope of work necessary to complete the remedial investigation (RI) are provided in Section 6 of this report.

2. Site Description and Background

The Property consists of a Yellowstone Pipeline (YPL) Company pipeline easement within a minimum security prison, Geiger Corrections Center (Figure 2). The 3-inch YPL pipeline was constructed in 1968 and enters the Property near the intersection of South Spotted Road and West Will D Alton Road.

The Model Toxics Control Act (MTCA) site (Site) is defined as all affected areas from the petroleum release associated with the Property and potentially impacted adjacent parcels. The Site boundary is presented on Figure 2. An area map identifying surrounding property use is provided as Figure 3. Additionally, a summary of previous site investigations and remedial activities performed at the Site are provided in Appendix A.

2.1 Site Geology and Hydrogeology

The Property is situated within the Columbia Basalt plateau at approximately 2,360 feet above mean sea level (msl). The local topography is relatively flat with a slight slope to the northeast toward the Spokane River. The nearest surface water bodies are three unnamed ponds, which are located approximately 1,750 feet northeast of the Property.

Regional geology consists of basalt, with the immediate vicinity of the Property consisting mainly of Pleistocene aged glacial flood deposits of boulders, cobbles, pebbles, granules, and sand, containing lenses of sand and silt (Hamilton, 2004).

According to historical subsurface investigations conducted at the Site, soil appears to consist of Aeolian silt and sand, and fluvial deposits of silt, sand, and gravel underlain by basalt to a maximum explored depth of approximately 101 feet below grade (fbg). Basalt has been encountered at the Site at depths ranging from 3 to 37 fbg. The boring logs from the current investigation are provided in Appendix B.

Based on the results of previous investigations and groundwater monitoring conducted at the Site, shallow groundwater is discontinuous and present between approximately 2 and 6.5 fbg, and appears to flow toward the east and northeast. The depth to water in the deeper water bearing zone

is typically measured between 26 and 38.5 fbg, and the groundwater flow direction has historically been variable.

3. Summary of Site Investigation Activities

GHD oversaw the advancement of four soil borings (B1 through B4) and the installation of three groundwater monitoring wells (MW-10 through MW-12). The borings were advanced to evaluate current soil conditions at the Site and the extent of the groundwater impacts within the shallow and deep water bearing zones. The soil boring and monitoring well locations are presented on Figure 2 - Site Plan and Figure 4 – Soil Investigation Map.

3.1 Deviations from Work Plan

Due to conditions encountered in the field which prohibited drill rig access, B-3 (proposed location F) was advanced by a hand auger to approximately 6 fbg. Vertical delineation of soil impacts were not achieved in this area.

3.2 Soil Borings & Sampling

Prior to field activities, GHD notified the Washington State One Call Utility Notification Service (811 Call Before You Dig) more than 48 hours prior to field activities to clear the soil boring locations with public utility companies. GHD also contracted Underground Locating Services (ULS) to conduct a private utility survey to further identify potential subsurface utilities and underground obstructions in the vicinity of the proposed boring locations. Soil boring locations were cleared to 5 fbg using an air knife and vacuum truck to ensure no unidentified underground utilities or obstructions were located.

On October 9 through 11, 2019, Cascade Environmental of Woodinville, Washington, advanced four soil borings (B1 through B4) and installed three monitoring wells (MW-10 through MW-12) under the supervision of GHD field personnel. Borings were advanced from the surface to 5 fbg via vacuum truck/air knife then to termination depths ranging from 6 to 49 fbg via sonic drill rig.

Soil encountered in each boring during drilling activities was logged in accordance with American Society for Testing and Materials' Unified Soil Classification System by experienced environmental personnel and overseen by a Washington State Licensed Geologist. Soil samples were screened for the presences of volatile organic compounds (VOCs) using a photoionization detector (PID) in addition to visual field observations. Groundwater was initially encountered in each boring at depths ranging from approximately 5 to 6 fbg, and again at approximately 34 fbg in MW-12. After boring advancement, soil borings B1 through B4 were backfilled with hydrated bentonite chips and capped to match exiting grade. Boring logs with lithological descriptions, well construction details and PID readings are provided in Appendix B.

Soil samples were collected for laboratory analysis based on field screening within the vadose zone, at the soil/water interface and/or at the bottom of each borehole. Depths of soil samples are presented in Table 1. Field indication of impacts were observed in borings B-1 through B-4 and MW-12. Soil samples were immediately placed on ice and shipped to Pace Analytical Services, LLC in Minneapolis, Minnesota under proper chain of custody procedures. Twelve total soil samples were analyzed for the following:

- Gasoline-range total petroleum hydrocarbons (TPHg) by NWTPH-Gx
- Diesel-range TPH (TPHd) and oil-range TPH (TPHo) by NWTPH-Dx
- VOCs by Environmental Protection Agency (EPA) Method 8260B

Select soil samples were additionally analyzed for the following:

- n-Hexane by EPA Method 8260B
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270 Select Ion Monitoring (SIM) and/or
- Extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH) by methods NWTPH-EPH and NWTPH-VPH, respectively.

3.3 Groundwater Monitoring Well Installation

Permanent groundwater monitoring wells MW-10 and MW-11 were installed to a depth of 15 fbg and MW-12 was installed to a depth of approximately 49 fbg. The wells were constructed with 10 to 20 feet of 2-inch, Schedule 40 polyvinyl chloride (PVC), 0.010-inch slot screen, flush threaded with PVC blank well casing from the top of the screen to the ground surface. The well annulus was backfilled with a 12/20 sand pack to 1 foot above the screen and sealed with hydrated bentonite chips above the filter pack to approximately 2 fbg. Each well was finished at the surface with a flush mount, traffic rated well box set in a concrete surface seal extending to 2 fbg. Monitoring well MW-12 was then developed with an inertial down-hole pump. At the time of completion monitoring wells MW-10 and MW-11 did not contain measurable water for development. A depiction of the well construction details are presented on the boring logs in Appendix B.

3.4 Groundwater Monitoring – 4th Quarter

On October 30, 2019, GHD gauged the depth to water in each well at the Site, with the exception of well MW-3, which was inaccessible. GHD returned on October 31, 2019 to complete groundwater monitoring activities. Groundwater monitoring included sampling wells MW-1R, MW-2, MW-5D, MW-7, and MW-10 through MW-12 using low-flow sampling procedures. At the time of gauging monitoring wells MW-10 and MW-11 were dry. Additionally, during purging of MW-12 turbid groundwater was observed and therefore the well was subsequently redeveloped for future sampling. Based on the data collected, depth to groundwater in the 7 wells gauged ranged from 4.42 to 5.75 fbg in the shallow water bearing zone and 33.87 to 36.47 fbg in the relatively deeper groundwater bearing zone. The groundwater flow direction was observed to the east-southeast in the shallow water bearing zone at a gradient of 0.002 feet per foot. The groundwater flow direction was observed to the northwest in the relatively deeper groundwater bearing zone at a gradient of 0.01 feet per foot. The four offsite wells MW-11A/B and MW-12A/B, and newly installed wells MW-10 through MW-12 were not used in contouring. Groundwater elevation data for the shallow and deep water bearing zones are presented in Table 2A and 2B, respectively. A Groundwater Contour and Chemical Concentration Map Shallow Zone – October 30, 2019 is provided as Figure 5. A Groundwater Contour and Chemical Concentration Map Deep Zone – October 30, 2019 is provided as Figure 6. Groundwater monitoring field data sheets are included as Appendix C.

Samples collected during the groundwater monitoring events were placed immediately on ice and transported to Pace Analytical Services, LLC in Minneapolis, Minnesota under proper chain of custody procedures. Groundwater samples were analyzed for the following:

- Gasoline-range total petroleum hydrocarbons by NWTPH-Gx
- Diesel-range TPH and oil-range TPH by NWTPH-Dx
- VOCs by EPA Method 8260B

3.5 Investigation Derived Waste

Investigation derived waste (IDW) including soil cuttings and decontamination water was placed in 55-gallon steel drums and labeled as pending analysis. A total of eight 55-gallon drums of soil cuttings mixed with decontamination cleaning water were generated pending disposal. Waste disposal documents will be provided under separate cover when available.

4. Site Investigation Results

4.1 Soil Analytical Results

A total of sixteen soil samples were submitted for laboratory analyses. Concentrations of TPHg above the MTCA Method A cleanup level were reported in soil samples collected from borings B-1 through B-4, and monitoring well MW-12. Elevated soil concentrations were primarily observed at 5 to 6 fbg. Additionally, a TPHd concentration was reported above the MTCA Method A cleanup level in the soil sample collected from boring B-1 at approximately 6 fbg.

The remaining soil analytical results were either below laboratory reporting limits and/or MTCA Method A cleanup levels. Based on field screening, shallow soil samples collected from borings B1, B2, and MW-12 were additionally analyzed for EPH/VPH and n-hexane by EPA Method 8260, which may be used to develop Site-specific soil cleanup levels in the revised RI report, if appropriate.

Soil analytical results are presented on Table 1. A Soil Investigation Map is provided as Figure 4. The laboratory analytical reports are presented in Appendix D.

4.2 Groundwater Analytical Results

Groundwater monitoring activities performed on October 30 and 31, 2019 included sampling wells MP-1R, MW-2, MW-5D, MW-7, and MW-10 through MW-12. Groundwater analytical results indicated that samples collected from wells MP-1R, MW-2, and MW-7 had concentrations of TPHg and/or TPHd above their respective MTCA Method A cleanup levels. Monitoring wells MP-1R and MW-2 are screened within the shallow water bearing zone located in the north and northwest portions of the Site and monitoring well MW-7, located east of the release area, is screened within the deep groundwater bearing zone. The remaining analytical results were either below laboratory reporting limits and/or MTCA Method A cleanup levels.

Cumulative groundwater analytical results for the shallow and deep water bearing zones are presented in Table 2A and 2B, respectively. A Groundwater Contour and Chemical Concentration

Map Shallow Zone – October 30, 2019 is provided as Figure 5. A Groundwater Contour and Chemical Concentration Map Deep Zone – October 30, 2019 is provided as Figure 6.

5. Conclusions

Seven soil borings were advanced to evaluate current soil and groundwater conditions at the Site and to attempt to complete delineation of the Site. Borings B-1 through B-4 and well MW-12 were advanced to evaluate current soil conditions in the area of the Site with the highest historical petroleum impacts. Soil analytical results indicate that petroleum hydrocarbons remain at the Site above MTCA Method A cleanup levels in soil, at depths ranging from 5 to 10 fbg.

Monitoring wells MW-10 and MW-11 were installed to the northeast to evaluate the shallow groundwater bearing zone and define groundwater impacts; however, both wells have remained dry since installation. Soil samples from MW-10 and MW-11 were below MTCA Method A cleanup levels. Monitoring well MW-12 was installed to evaluate the deep groundwater bearing zone and confirm historical impacts; however, the well was not sampled as it required re-development.

All of Which is Respectfully Submitted,

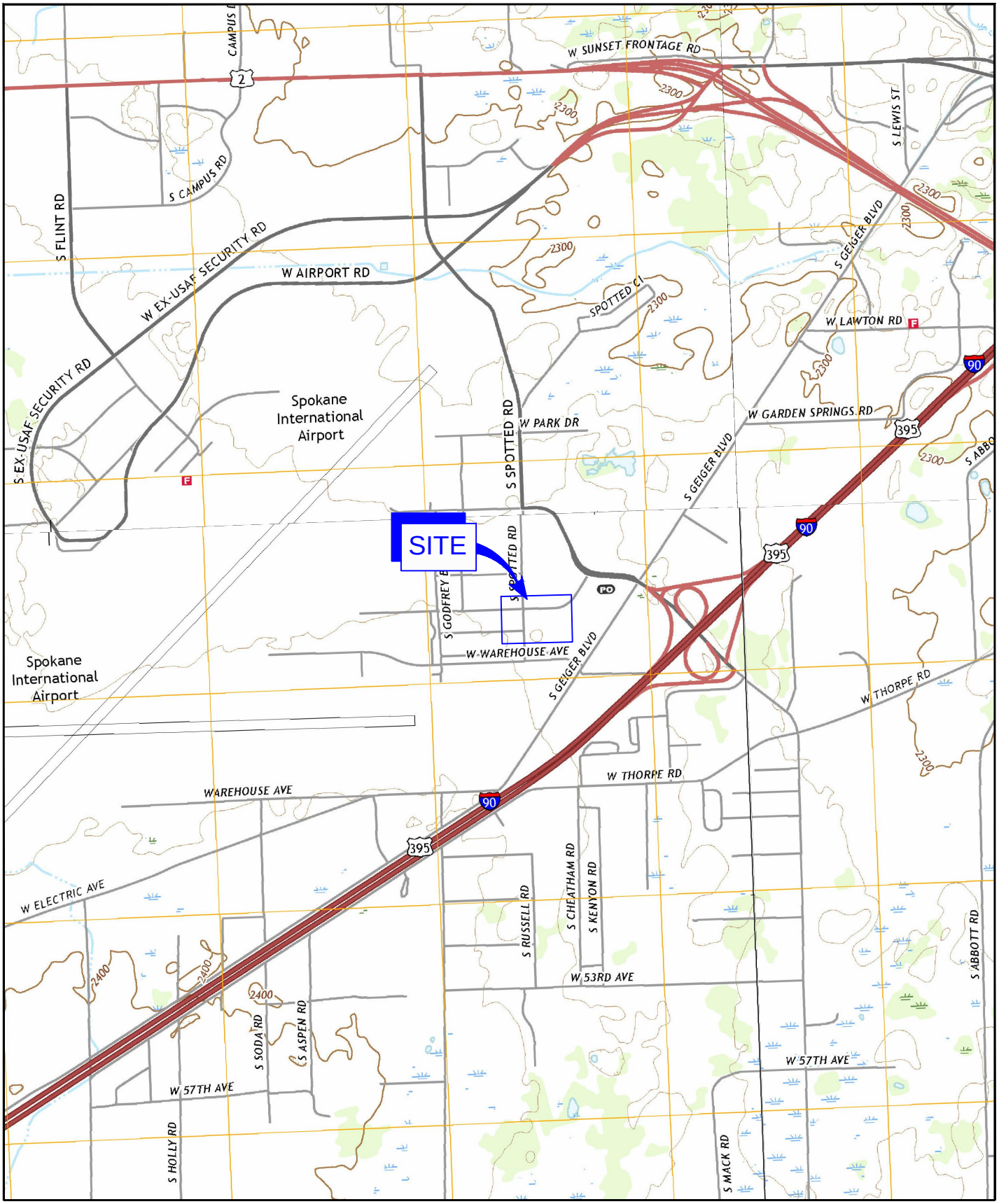
GHD

Moshghan Mansoori

Brian Peters, LG

State of Washington 1122 Licensed Geologist BRIAN C. PETERS

Figures



Source: USGS QUADRANGLE MAPS: SPOKANE NW, WA. (2017)., SPOKANE SW, WA. (2017)., FOUR LAKES, WA. (2017)., & AIRWAY HEIGHTS, WA. (2017).

0 1000 2000ft

Coordinate System:
WASHINGTON NORTH
STATE PLANE NAD83 FEET

PHILLIPS 66 FACILITY NO. 6880
GEIGER CORRECTIONS FACILITY
SPOKANE, WASHINGTON

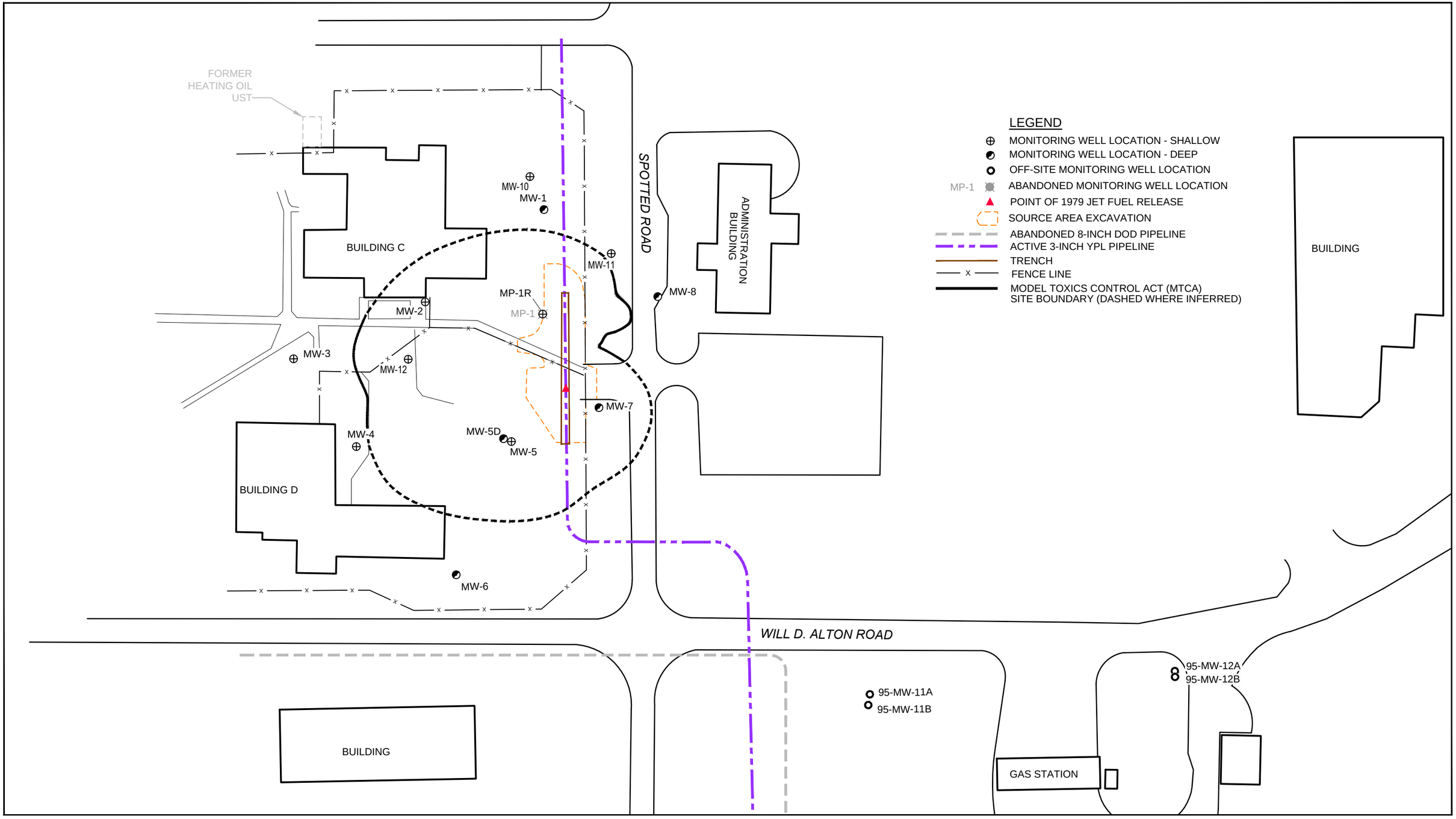
11145847-5MN00

Dec 5, 2019

SITE LOCATION MAP

FIGURE 1

CAD File: I:\Sonoma.Public\CAD\drawings\11140000s\11145847\11145847-REPORTS\11145847-5MN00(010)GN\11145847-5MN00(010)GN-SO001.DWG



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0 40 80ft

PHILLIPS 66 FACILITY NO. 6880
GEIGER CORRECTIONS FACILITY
SPOKANE, WASHINGTON

11145847-5MN00

Jan 31, 2020

SITE PLAN

FIGURE 2

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Source: Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Acquisition Date Jun/2015 - Sep/2016, Accessed: 2017. Google ©2017 Image. AECOM SITE PLAN AND WELL LOCATIONS DATED 2/7/2014. MAXIM Technologies, Inc. Figures 3 and 4 dated July 2001.

0 60 120ft

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GEIGER CORRECTIONS FACILITY
SPOKANE, WASHINGTON

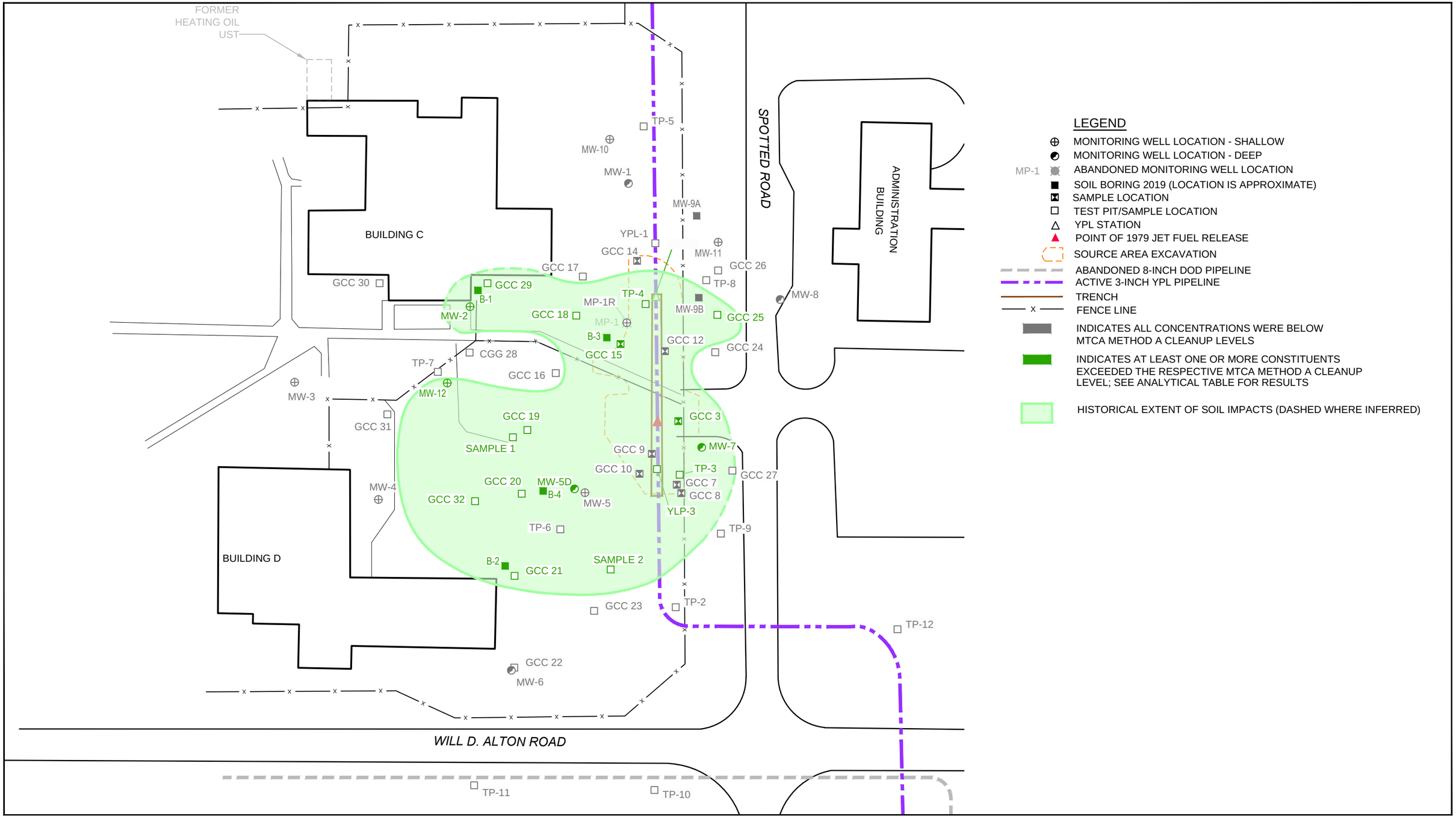
11145847-5MN00

Dec 5, 2019

AREA MAP

FIGURE 3

CAD File: I:\Sonoma.Public\CAD\drawings\11140000s\11145847\11145847-REPORTS\11145847-5MN00(010)GN\11145847-5MN00(010)GN-SO003.DWG



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0 30 60ft

PHILLIPS 66 FACILITY NO. 6880
GEIGER CORRECTIONS FACILITY
SPOKANE, WASHINGTON

11145847-5MN00

Dec 10, 2019

SOIL INVESTIGATION MAP

FIGURE 4

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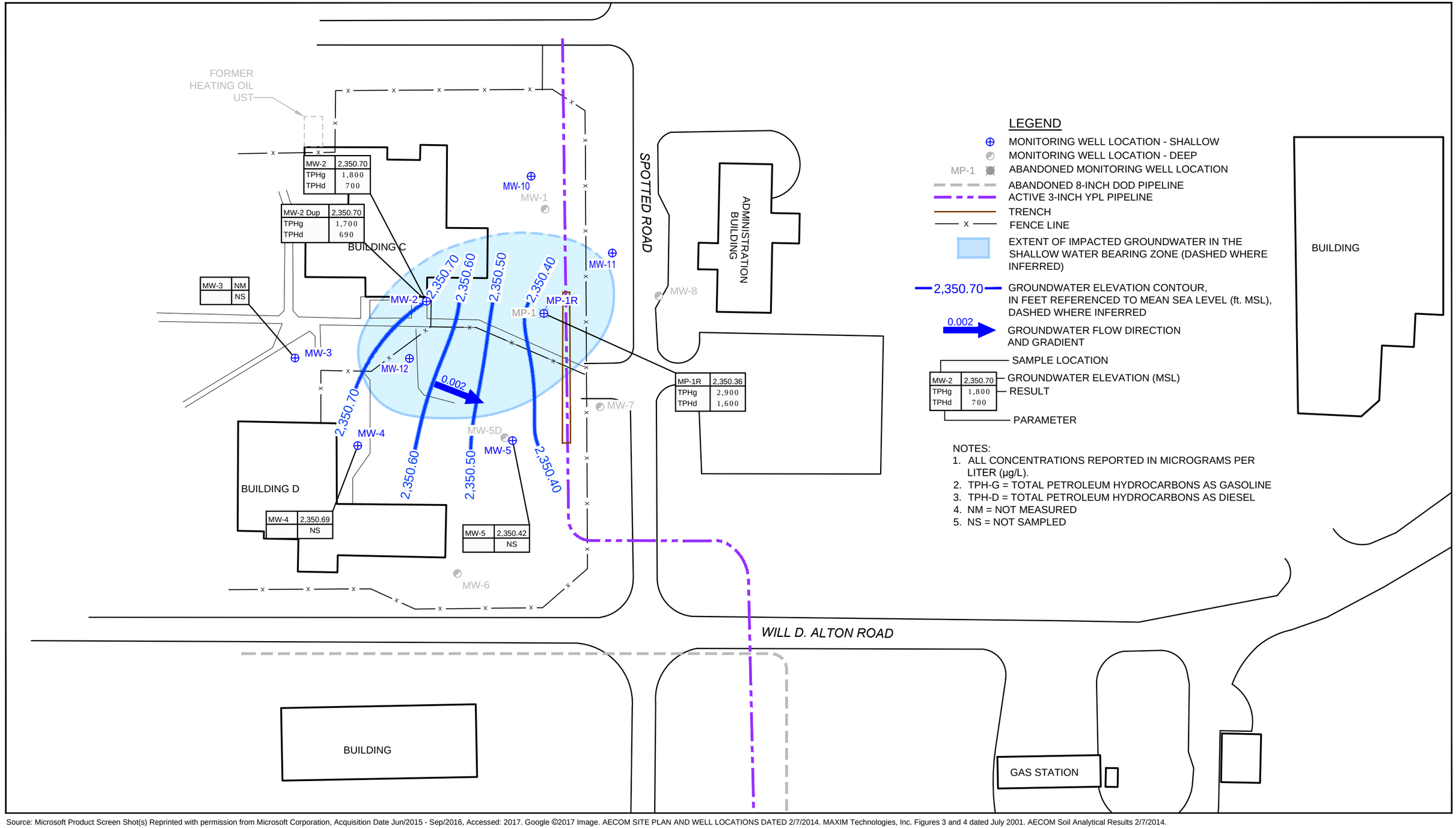

LEGEND

- MONITORING WELL LOCATION - SHALLOW
- MONITORING WELL LOCATION - DEEP
- MP-1 ABANDONED MONITORING WELL LOCATION
- ABANDONED 8-INCH DOD PIPELINE
- ACTIVE 3-INCH YPL PIPELINE
- TRENCH
- x FENCE LINE
- EXTENT OF IMPACTED GROUNDWATER IN THE SHALLOW WATER BEARING ZONE (DASHED WHERE INFERRED)
- 2,350.70 GROUNDWATER ELEVATION CONTOUR, IN FEET REFERENCED TO MEAN SEA LEVEL (ft. MSL), DASHED WHERE INFERRED
- 0.002 GROUNDWATER FLOW DIRECTION AND GRADIENT
- SAMPLE LOCATION
- MW-2 / 2,350.70 — GROUNDWATER ELEVATION (MSL)
- TPHg / 1,800 — RESULT
- TPHd / 700 — PARAMETER

NOTES:
1. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).
2. TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
3. TPH-D = TOTAL PETROLEUM HYDROCARBONS AS DIESEL
4. NM = NOT MEASURED
5. NS = NOT SAMPLED

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0 40 80ft

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SPOKANE, WASHINGTON

GROUNDWATER CONTOUR AND CHEMICAL CONCENTRATION MAP SHALLOW ZONE - OCTOBER 30, 2019

11145847-5MN00

Dec 6, 2019

FIGURE 5

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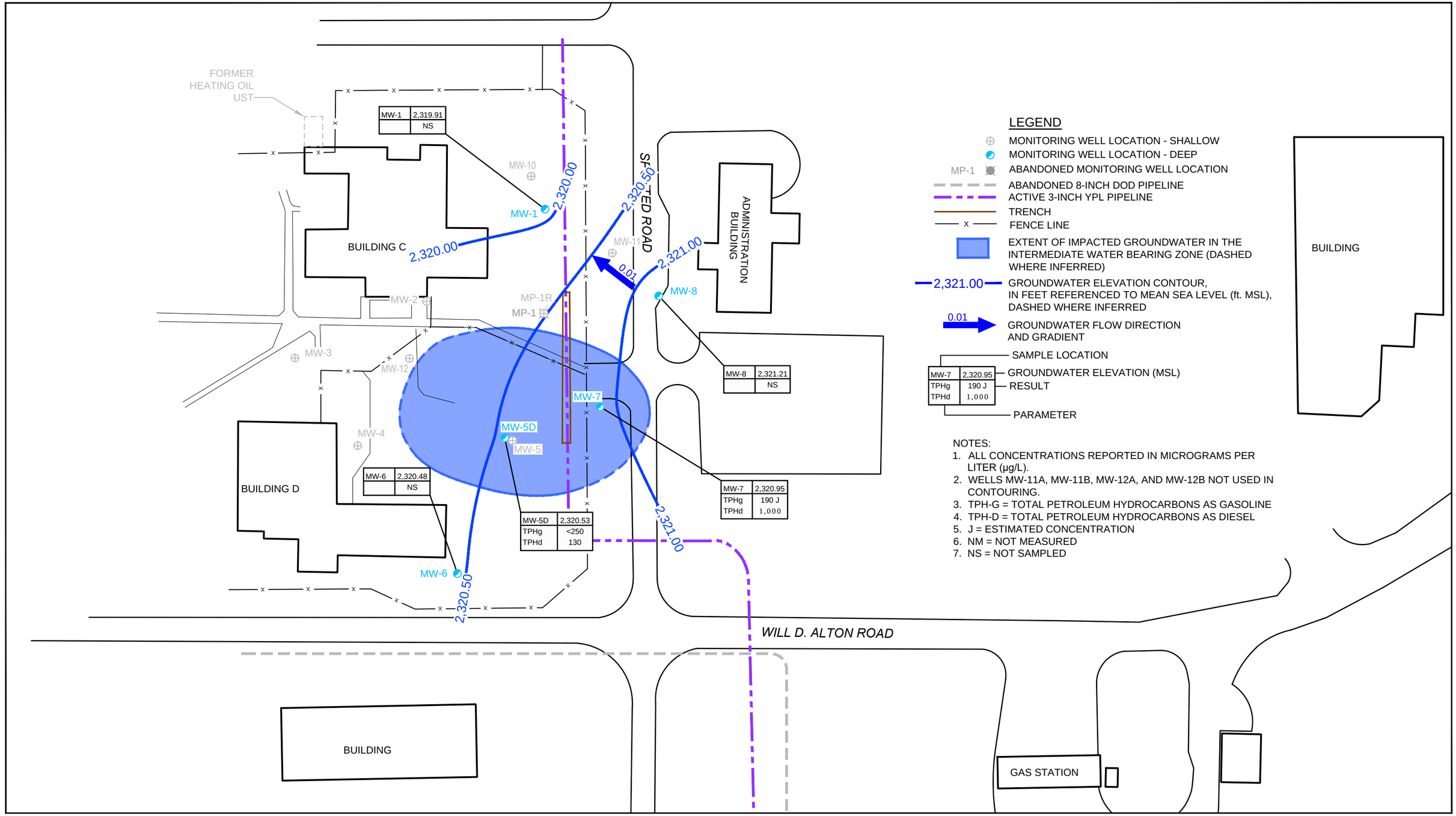

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SPOKANE, WASHINGTON

11145847-5MN00
Dec 5, 2019

GROUNDWATER CONTOUR AND CHEMICAL CONCENTRATION MAP DEEP ZONE - OCTOBER 30, 2019

FIGURE 6

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Tables

Table 1

Summary of Soil Analytical Data
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Location I	*Sample ID*	*Sample Date*	*Sample Depth*	*TPHg*	*TPHd*	*TPHo*	*B*	*T*	*E*	*X*	*Naphthalene*
		MTCA Method A Cleanup Levels		*100*	*2,000*	*2,000*	*0.03*	*7*	*6*	*9*	*5*
			ft bgs	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
TP-2	TP-2-3.5	03/19/01	3.5	6.98	<10	<25	<0.050	<0.100	<0.050	0.108	<0.01
TP-3	TP-3-2.0	03/19/01	2	1,460	690	<25	<0.250	<0.500	0.488	1.37	0.163
TP-3	TP-3-2.0 (dup)	03/19/01	2	699	804	<25	<0.100	<0.200	0.268	0.733	0.130
TP-4	TP-4-6.0	03/19/01	6	4,250	11,600	<275	<0.500	<1.00	1.5	7.06	9.30
TP-5	TP-5-3.5	03/19/01	3.5	<5.00	<10	<25	<0.050	<0.100	<0.050	<0.100	<0.01
TP-6	TP-6-5.5	03/19/01	5.5	44.8	69.9	<25	<0.050	<0.100	<0.050	<0.100	<0.01
TP-7	TP-7-4.0	03/19/01	4	10.3	<10	<25	<0.050	<0.100	<0.050	<0.100	<0.01
TP-8	TP-8-4.0	03/19/01	4	<5.00	<10	<25	<0.050	<0.100	<0.050	<0.100	<0.01
TP-9	TP-9-4.0	03/19/01	4	<5.00	<10	<25	<0.050	<0.100	<0.050	<0.100	<0.01
YPL#2	YPL#2-5.0[a]	03/21/01	5	1,070	5,390	<250	<0.050	<0.100	0.123	0.716	9.34
YPL#3	YPL#3-5.0[a]	03/21/01	5	414	971	<25	<0.050	<0.100	0.130	0.411	11.8
GCC-3	GCC-3	10/15/01	2-5	---	756	<25	<0.100	<0.800	<0.800	<0.800	11.2
GCC-7	GCC-7	10/15/01	4	---	343	<25	<0.0250	<0.200	<0.200	<0.200	4.12
GCC8	GCC8-3.5	10/16/01	3.5	---	<10	<25	---	---	---	---	---
GCC9	GCC9-6	10/16/01	6	---	25.4	<25	---	---	---	---	---
GCC10	GCC10-4	10/16/01	4	---	<10	<25	---	---	---	---	---
GCC12	GCC12-6	10/16/01	6	---	190	<25	<0.0250	<0.200	<0.200	<0.200	4.48
GCC14	GCC14-5	10/16/01	5	---	808	<25	---	---	---	---	---
GCC15	GCC15-5.5	10/17/01	5.5	---	**6,180**	<250	0.0128	<0.100	0.37	4.1	**70.3**
GCC16	GCC16-6	10/17/01	6	---	14.6	<25	---	---	---	---	---
GCC17	GCC17-5.5	10/17/01	5.5	---	<10	<25	---	---	---	---	---
GCC18	GCC18-5.5	10/17/01	5.5	---	**2,690**	<250	---	---	---	---	---
GCC19	GCC19-6	10/17/01	6	---	1,510	<250	<0.0250	<0.200	<0.200	0.702	**17.3**
GCC20	GCC20-6	10/17/01	6	---	**3,470**	<250	---	---	---	---	---
GCC21	GCC21-6	10/17/01	6	---	**5,780**	<250	---	---	---	---	---
GCC22	GCC22-6	10/17/01	6	---	<10	<25	---	---	---	---	---
GCC23	GCC23-7	10/17/01	7	---	57.5	<25	<0.0250	<0.200	<0.200	<0.200	<0.500
GCC24	GCC24-6.5	10/18/01	6.5	---	11	29.8	---	---	---	---	---
GCC25	GCC25-6	10/18/01	6	---	**3,940**	<250	---	---	---	---	---
GCC26	GCC26-6	10/18/01	6	---	11.3	<25	---	---	---	---	---
GCC27	GCC27-6	10/18/01	6	---	<10	<25	---	---	---	---	---
GCC28	GCC28-6	10/18/01	6	---	690	<25	---	---	---	---	---
GCC29	GCC29-6	10/18/01	6	---	**8,280**	<250	0.0205	<0.100	0.371	3.11	**25.0**
GCC30	GCC30-6	10/18/01	6	---	<10	<25	---	---	---	---	---
GCC31	GCC31-6	10/18/01	6	---	<10	<25	<0.0250	<0.200	<0.200	<0.200	<0.500
GCC32	GCC32-6	10/18/01	6	---	**2,810**	<250	<0.0125	<0.100	0.102	0.400	**40.3**
MW-1	MW-1-45	03/18/02	45	---	67.1	98.5	<0.0250	<0.200	<0.200	<0.200	<0.500
MW-2	MW-2-10-10.5	03/19/02	10-10.5	---	87.9	27	<0.0250	<0.200	<0.200	<0.200	27.8
MW-3	MW-3-4-6	03/19/02	4-6	---	<10	<25	<0.0250	<0.200	<0.200	<0.200	<0.500
MW-4	MW-4-7-9	03/19/02	7-9	---	505	40.2	<0.0250	<0.200	<0.200	<0.200	13.6
MW-4	MW-4-12-14	03/19/02	12-14	---	15.2	<25	<0.0250	<0.200	<0.200	<0.200	<0.500
MW-5	MW-5-4-6	03/19/02	4-6	---	328	<25	<0.0250	<0.200	<0.200	<0.200	16.8
MW-5	MW-5-9.5-11.5	03/19/02	9.5-11.5	---	45.4	40.3	<0.0250	<0.200	<0.200	<0.200	0.544
MW-6	MW-6-22-24	3/19/2002	22-24	---	68	<25	<0.0250	<0.200	<0.200	<0.200	1.6
MW-6	MW-6-42	3/20/2002	42	---	27.9	29.2	<0.0250	<0.200	<0.200	<0.200	<0.500
MW-7	MW-7-4-4.5	3/20/2002	4-4.5	---	301	<25	<0.0250	<0.200	<0.200	0.402	20.3
MW-7	MW-7-37	3/20/2002	37	---	87.1	47.4	<0.0250	<0.200	<0.200	<0.200	<0.500
MW-8	MW-8-4-6	3/20/2002	4-6	---	<10	<25	<0.0250	<0.200	<0.200	<0.200	<0.500
MW-8	MW-8-36	3/20/2002	36	---	26.7	35.1	<0.0250	<0.200	<0.200	<0.200	<0.500

Table 1

Summary of Soil Analytical Data
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Location I	*Sample ID*	*Sample Date*	*Sample Depth*	*TPHg*	*TPHd*	*TPHo*	*B*	*T*	*E*	*X*	*Naphthalene*
	MTCA Method A Cleanup Levels			*100*	*2,000*	*2,000*	*0.03*	*7*	*6*	*9*	*5*
			ft bgs	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
MP-1R	MP-1R-4.5-4.6-1013	10/8/2013	4.5-4.6	<6.7	47.3	<101	<0.0274	<0.0685	<0.0685	<0.205	---
MW-5D	MW-5D-4.9-5.9-1013	10/7/2013	4.9-5.9	**412**	**2,580**	<84.9	<0.0237	<0.0592	<0.0592	<0.178	---
MW-5D	MW-5D-35-35.2-1013	10/7/2013	35-35.2	**117**	54.9	<87.8	<0.0282	<0.0706	<0.0706	<0.212	---
MW-9	MW-90-4.4-4.5-1013	10/15/2013	4.4-4.5	<4.9	<21.2	<84.2	<0.0229	<0.0573	<0.0573	<0.172	---
MW-9	MW-9-4.4-4.5-1013	10/15/2013	4.4-4.5	<8.1	<21.1	<84.4	<0.0221	<0.0553	<0.0553	<0.166	---
MW-10	S.11145847-101119-EM-MW-10-6.0	10/11/2019	6	<8.1	<16.8	<11.2	<0.0050	<0.010	<0.010	<0.010	---
MW-10	S.11145847-101119-EM-MW-10-15.0	10/11/2019	15	<7.3	<20.5	<13.7	<0.0050	<0.010	<0.010	<0.010	---
MW-11	S.11145847-101119-EM-MW-11-6.0	10/11/2019	6	<7.7	<18.8	<12.5	<0.0050	<0.010	<0.010	<0.010	---
MW-11	S.11145847-101119-EM-MW-11-15.0	10/11/2019	15	<5.7	<16.3	<10.8	<0.0050	<0.010	<0.010	<0.010	---
MW-12	S.11145847-100919-EM-MW-12-5.0[b]	10/9/2019	5	**320**[1M,E,SS]	755	<11.1	<0.026	<0.015	<0.022	<0.043	0.044
MW-12	S.11145847-101019-EM-MW-12-31.0	10/10/2019	31	<5.4[2M]	<16.3	45.2	<0.005	<0.010	<0.010	<0.010	---
MW-12	S.11145847-101019-EM-MW-12-44.0	10/10/2019	44	<6.7	<16.6	<11.1	<0.005	<0.010	<0.010	<0.010	---
B-1	S.11145847-101119-EM-B-1-6.0[b]	10/11/2019	6	**765**[G+]	**2,050**	<11.4	<0.029	<0.017	<0.024	<0.030	2.08
B-1	S.11145847-101119-EM-B-1-10.0	10/11/2019	10	<7.6	<17.4	<11.6	<0.0050	<0.010	<0.010	<0.010	---
B-2	S.11145847-101119-EM-B-2-6.0[b]	10/11/2019	6	**511**[G+]	1,630	11.4	<0.025	<0.015	<0.021	<0.026	0.314
B-2	S.11145847-101119-EM-B-2-10.0	10/11/2019	10	<5.5	<15.6	<10.4	<0.005	<0.010	<0.010	<0.010	---
B-3	S.11145847-101019-EM-B-3-6.0[b]	10/10/2019	6	**432**[D6]	951	148	<0.030	<0.018	<0.025	<0.032	2.37
B-4	S.11145847-101119-EM-B-4-6.3[G+]	10/11/2019	6.3	**116**	101	<10.9	<0.0050	<0.010	<0.010	<0.010	---
B-4	S.11145847-101119-EM-B-4-10.0	10/11/2019	10	**151**	276	<10.3	<0.023	<0.014	<0.020	<0.038	---
B-4	S.11145847-101219-DT-B-4-35.0	10/12/2019	35	51.2	<17.6	<11.7	<0.023	<0.056	<0.056	<0.017	<0.23
B-4	S.11145847-101219-DT-B-4-40.0	10/12/2019	40	<5.2	<15.6	<10.4	<0.021	<0.054	<0.054	<0.16	<0.21

Notes:

Model Toxics Control Act (MTCA) Method A cleanup level not established per Department of Ecology Cleanup Levels and Risk Calculation data tables (August 2015). Cleanup level protective of groundwater for soil within the vadose zone is utilized for comparison.

Bold values equal or exceed MTCA Method A Cleanup Level.

All results in milligrams per kilogram (mg/kg) unless otherwise indicated.
ND = Not detected above the laboratory reporting limit

-- = Not analyzed

< = Less than the stated laboratory reporting limit

ft bgs = feet below ground surface

Shading indicates the soil sample has been overexcavated.

TPH as Gasoline-range organics (TPHg) analyzed by Northwest Method NWTPH-Gx.

TPH as Diesel-range organics (TPHd) analyzed by Northwest Method NWTPH-Dx.

TPH as Heavy Oil-range organics (TPHo) analyzed by Northwest Method NWTPH-Dx.

Benzene, toluene, ethylbenzene, total xylenes (BTEX) analyzed by Unitied States Environmental Protection Agency (USEPA) Method 8260B or 8021B

Naphthalene analyzed by USEPA Methods 8021B, 8270D, and/or 8260.

[a] Soil sample was additionally analyzed for polycyclic aromatic hydrocarbons by EPA Method 8270D. Toxicity Equivalaency Factor (TEF) was calculated for reported concentrations over laboratory reporting limits and compared to the MTCA Method A cleanup level of 0.1 mg/kg

[b] Soil sample was additionally analyzed for hexane by USEPA method 8260, volatile petroleum hydrocarbons and extractable petroleum hydrocarbons via methods NW-VPH and NW-EPH, respectively. See laboratory report in Appendix D for results.

[1M] Result confimred by second analysis performed outside of holding time

[E] Analyte concentration exceeded the calibration range. The reported result is estimated.

[SS] This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

[2M] Sample preserved in lab; results are from sample aliquot taken from a glass jar with headspace.

[D6] The precision betweent eh sample and sampl duplicate exceeded laboratory control limits.

[G+] Late peacks present outside the GRO window.

Table 2A

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
		MTCA Method A Cleanup Levels				800 ug/L	500 ug/L	500 ug/L	5 ug/L	1000 ug/L	700 ug/L	1000 ug/L	160 ug/L
MP-1	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---
MP-1	11/30/01	N	---	---	---	---	**50,300**	<750	<0.50	<2.0	<1.0	<1.5	**990**
MP-1	03/25/02	N	---	---	---	---	**9,650**	<750	<0.50	<2.0	1.9	23	**599**
MP-1	06/04/02	N	---	---	---	---	**39,700**	<500	<0.50	<2.0	1.9	<1.5	**353**
MP-1	08/20/02	N	---	---	---	---	**19,100**	<500	<0.50	<2.0	1.1	13	**223**
MP-1	10/29/02	N	---	---	---	---	**20,900**	<500	<0.50	<2.0	1.2	13	**413**
MP-1	02/19/03	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	4.2	62
MP-1	06/05/03	N	---	---	---	---	**9,950**	<500	<0.50	<2.0	<1.0	<1.5	**268**
MP-1	09/09/03	N	---	---	---	---	**8,430**	<500	<0.50	<2.0	<1.0	17	**459**
MP-1	12/10/03	N	---	---	---	---	**13,600**	<500	<0.50	<2.0	<1.0	5.9	**184**
MP-1	06/03/04	N	---	---	---	---	**16,800**	<500	<0.50	<2.0	<1.0	9.5	**246**
MP-1	12/01/04	N	---	---	---	---	**14,800**	<500	<0.50	<2.0	1.7	16	**246**
MP-1	06/03/05	N	---	---	---	---	**17,400**	<500	<0.50	<2.0	3.1	29	**178**
MP-1	11/21/05	N	---	---	---	---	**9,900**	500	<0.50	<2.0	<1.0	17	32
MP-1	06/15/06	N	---	---	---	---	**11,200**	<500	<0.50	<2.0	<1.0	18	<20
MP-1	12/19/06	N	---	---	---	---	**2,700**	<500	<0.50	<2.0	<1.0	7.2	114
MP-1	05/30/07	N	---	---	---	---	**6,100**	<500	<0.50	<2.0	<1.0	19	120
MP-1	10/30/07	Removed from sampling schedule due to well obstruction											
MP-1	02/02/11	---	2,354.90	3.96	2350.94	---	---	---	---	---	---	---	---
MP-1	04/26/11	---	2,354.90	4.20	2350.70	---	---	---	---	---	---	---	---
MP-1	07/12/11	---	2,354.90	DRY	---	---	---	---	---	---	---	---	---
MP-1	10/28/11	---	2,354.90	Obstruction in Well at 4.59 Feet			---	---	---	---	---	---	---
MP-1R	10/12/13	N	2,354.78	4.86	2349.92	**3,210**	**1,200**	<400	<1.0	<1.0	<1.0	13.9	16.3
MP-1R	03/11/14	N	2,354.78	2.15	2352.63	**1,260**	500	500	<1.0	<1.0	<1.0	<3.0	<4.0
MP-1R	03/11/14	FD	---	---	---	**1,300**	**520**	**640**	<1.0	<1.0	<1.0	<3.0	<4.0
MP-1R	06/03/14	N	2,354.78	4.95	2349.83	**3,890**	**1,400**	<420	<1.0	<1.0	<1.0	13.5	10.6

Table 2A

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MP-1R	04/06/17	N	2,354.78	3.58	2351.20	430	290	110 J	<0.5	<0.5	<0.5	<0.5	<1.0
MP-1R	04/06/17	FD	---	---	---	450	250	80 J	<0.5	<0.5	<0.5	<0.5	<1.0
MP-1R	09/14/17	N	2,354.78	4.79	2,349.99	**2,200**	**1,400**	140 J	<1	<1	<1	<1	5
MP-1R	03/21/18	N	2354.78	3.88	2350.90	540	280	<260	---	---	---	---	---
MP-1R	06/21/18	N	2354.78	4.79	2349.99	**1,900**	**1,500**	<270	---	---	---	---	---
MP-1R	06/21/18	FD	---	---	---	**1,900**	**1,400**	<260	---	---	---	---	---
MP-1R	09/21/18	N	2354.78	4.91	2349.87	**1,600**	**1,400**	<270	---	---	---	---	---
MP-1R	12/06/18	N	2354.78	4.27	2350.51	**2,800**	**1,400**	<260	---	---	---	---	---
MP-1R	03/06/19	N	2354.78	4.31	2350.47	700	360	<260	---	---	---	---	---
MP-1R	03/06/19	FD	2354.78	4.31	2350.47	710	380	<260	---	---	---	---	---
MP-1R	05/21/19	N	2354.78	4.20	2350.58	**1,200**	**1,200**	<250	---	---	---	---	---
MP-1R	05/21/19	FD	2354.78	4.20	2350.58	**1,300**	**1,300**	<270	---	---	---	---	---
MP-1R	08/21/19	N	2354.78	4.61	2350.17	**2,700**	**1,200**	<270	---	---	---	---	---
MP-1R	10/30/19	N	2354.78	4.42	2350.36	**2,900**	**1,600**	<260	---	---	---	---	---
MW-2	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---
MW-2	03/25/02	N	---	---	---	---	**19,800**	<750	<0.50	<2.0	<1.0	11	**216**
MW-2	06/04/02	N	---	---	---	---	**22,100**	<500	<0.50	<2.0	<1.0	8.2	**1,320**
MW-2	08/20/02	N	---	---	---	---	**4,970**	<500	<0.50	<2.0	<1.0	6.7	156
MW-2	10/29/02	N	---	---	---	---	**13,700**	<500	<0.50	<2.0	<1.0	6.1	**199**
MW-2	10/29/02	FD	---	---	---	---	**15,400**	<500	<0.50	<2.0	<1.0	9.3	**328**
MW-2	02/19/03	N	---	---	---	---	**10,400**	<500	<0.50	<2.0	<1.0	<1.5	140
MW-2	06/05/03	N	---	---	---	---	**4,570**	<500	<0.50	<2.0	<1.0	2.0	134
MW-2	06/05/03	FD	---	---	---	---	**4,320**	<500	<0.50	<2.0	<1.0	2.4	**182**
MW-2	09/09/03	N	---	---	---	---	**2,560**	<500	<0.50	<2.0	<1.0	<1.5	**203**
MW-2	09/09/03	FD	---	---	---	---	**2,440**	<500	<0.50	<2.0	<1.0	<1.5	**204**
MW-2	12/10/03	N	---	---	---	---	**42,100**	<500	<0.50	<2.0	<1.0	<1.5	**282**

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-2	06/03/04	N	---	---	---	---	**6,000**	<500	<0.50	2.6	<1.0	6.0	**162**
MW-2	06/03/04	FD	---	---	---	---	**6,500**	<500	<0.50	2.1	<1.0	5.4	**170**
MW-2	12/01/04	N	---	---	---	---	**2,410**	<500	<0.50	<2.0	<1.0	5.2	38
MW-2	06/03/05	N	---	---	---	---	**2,810**	<500	<0.50	<2.0	<1.0	<1.5	129
MW-2	06/03/05	FD	---	---	---	---	**2,910**	<500	<0.50	<2.0	<1.0	5.2	129
MW-2	11/21/05	N	---	---	---	---	**3,440**	<500	<0.50	<2.0	<1.0	<1.5	24
MW-2	11/21/05	FD	---	---	---	---	**3,680**	500	<0.50	<2.0	<1.0	<1.5	23
MW-2	06/15/06	N	---	---	---	---	**2,750**	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-2	06/16/06	FD	---	---	---	---	**11,200**	<500	<0.50	<2.0	<1.0	18	<20
MW-2	12/19/06	N	---	---	---	---	**2,340**	<500	<0.50	<2.0	<1.0	2.6	95
MW-2	05/30/07	N	---	---	---	---	**2,790**	<500	<0.50	<2.0	<1.0	1.7	98
MW-2	10/30/07	N	---	---	---	**2,600**	**1,800**	140	<0.50	<0.70	<0.80	<0.80	<1.0
MW-2	06/24/08	N	---	---	---	**1,600**	**830**	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-2	12/03/08	N	---	---	---	**1,800**	**700**	<69	<0.50	<0.70	<0.80	<0.80	<1.0
MW-2	06/03/09	N	---	---	---	**1,730**	**620**	<58	<0.12	<0.21	<0.20	<0.15	---
MW-2	11/10/09	N	---	---	---	**2,230**	**821**	<379	<1.0	<1.0	<1.0	<3.0	3.2
MW-2	02/02/10	N	---	---	---	**1,450**	**940**	<388	<1.0	<1.0	<1.0	<3.0	3.9
MW-2	05/18/10	N	---	---	---	**1,330**	**1,870**	<392	<1.0	<1.0	<1.0	<3.0	<1.0
MW-2	08/09/10	N	---	---	---	**1,200**	**831**	<396	<1.0	<1.0	<1.0	<3.0	---
MW-2	11/01/10	N	---	---	---	**1,680**	**2,080**	<388	<1.0	<1.0	<1.0	<3.0	---
MW-2	02/02/11	N	---	---	---	**1,700**	**1,170**	<385	<1.0	<1.0	<1.0	<3.0	---
MW-2	04/26/11	N	---	---	---	**3,280**	**562**	<392	<1.0	<1.0	<1.0	<3.0	---
MW-2	07/12/11	N	---	---	---	**1,020**	**700**	<408	<1.0	<1.0	<1.0	<3.0	---
MW-2	10/27/11	N	---	---	---	**2,000**	**920**	<410	<1.0	<1.0	<1.0	<3.0	---
MW-2	07/02/12	N	2,354.55	4.83	2349.72	**1,960**	**580**	<380	<1.0	<1.0	<1.0	<3.0	<1.0
MW-2	10/10/12	N	2,354.55	5.06	2349.49	**1,500**	**680**	<840	<1.0	<1.0	<1.0	<3.0	7.4
MW-2	03/13/13	N	2,354.55	4.61	2349.94	**1,060**	**620**	<420	<1.0	<1.0	<1.0	<3.0	<4.0

Table 2A

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-2	05/15/13	N	2,354.55	5.09	2349.46	**1,220**	**990**	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-2	08/06/13	N	2,354.55	4.68	2350.51	**924**	**560**	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-2	10/11/13	N	2,355.19	5.19	2350.00	**833**	**910**	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-2	03/11/14	N	2,355.19	3.21	2351.98	**1,900**	**910**	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-2	06/03/14	N	2,355.19	5.10	2350.09	**1,870**	**610**	<420	<1.0	<1.0	<1.0	<3.0	<4.0
MW-2	04/06/17	N	2,355.19	4.18	2351.01	**1,500**	**1,200**	<73	<0.5	<0.5	<0.5	<0.5	2.0
MW-2	09/14/17	N	2,355.19	4.89	2,350.30	**1,200**	**720**	<260	<1	<1	<1	<1	<4
MW-2	03/21/18	N	2355.19	4.45	2350.74	**940**	380	<250	---	---	---	---	---
MW-2	06/21/18	N	2355.19	4.78	2350.41	**1,000**	**540**	<280	---	---	---	---	---
MW-2	09/21/18	N	2355.19	5.02	2350.17	**810**	**740**	<270	---	---	---	---	---
MW-2	12/06/18	N	2355.19	4.57	2350.62	**1,400**	**510**	<250	---	---	---	---	---
MW-2	12/06/18	FD	2355.19	4.57	2350.62	**1,400**	400	<260	---	---	---	---	---
MW-2	03/06/19	N	2355.19	4.70	2350.49	**1,300**	410	<270	---	---	---	---	---
MW-2	05/21/19	N	2355.19	4.36	2350.83	**1,200**	**620**	<260	---	---	---	---	---
MW-2	08/21/19	N	2355.19	4.55	2350.64	**1,500**	**540**	<260	---	---	---	---	---
MW-2	10/30/19	N	2355.19	4.49	2350.70	**1,800**	**700**	<310	---	---	---	---	---
MW-2	10/30/19	FD	2355.19	4.49	2350.70	**1,700**	**690**	<280	---	---	---	---	---
MW-3	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	03/25/02	N	---	---	---	---	<250	<750	<0.50	<2.0	<1.0	<1.5	<20
MW-3	06/04/02	N	---	---	---	---	267	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	08/02/02	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	10/29/02	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	02/19/03	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	06/05/03	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	09/09/03	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	12/10/03	N	---	---	---	---	<250	<500	<1.5	<2.0	<1.0	<1.5	<20

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-3	06/03/04	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	12/01/04	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	06/03/05	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	11/21/05	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	06/15/06	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	12/19/06	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	05/30/07	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-3	10/30/07	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	06/24/08	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	12/03/08	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	06/03/09	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	11/10/09	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	02/02/10	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	05/18/10	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	08/09/10	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	11/01/10	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	02/02/11	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	04/26/11	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	07/12/11	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	10/27/11	NS	---	---	---	---	---	---	---	---	---	---	---
MW-3	07/02/12	N	2,355.18	4.92	2350.26	NS	---	---	---	---	---	---	---
MW-3	10/11/12	N	2,355.18	5.17	2350.01	<50	<160	<820	<1.0	<1.0	<1.0	<3.0	<1.0
MW-3	03/13/13	NS	2,355.18	4.68	2350.50	---	---	---	---	---	---	---	---
MW-3	05/15/13	N	2,355.18	5.16	2350.02	<100	<390	<390	<1.0	<1.0	<1.0	<3.0	<4.0
MW-3	08/06/13	NS	2,355.18	4.64	2350.80	---	---	---	---	---	---	---	---
MW-3	10/11/13	N	2,355.44	5.28	2350.16	<100	<420	<420	<1.0	<1.0	<1.0	<3.0	<4.0
MW-3	03/11/14	NS	2,355.44	3.52	2351.92	---	---	---	---	---	---	---	---

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-3	06/03/14	N	2,355.44	4.98	2350.46	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-3	04/06/17	N	2,355.44	4.28	2351.16	<50	<28	<66	<0.5	<0.5	<0.5	<0.5	<1.0
MW-3	09/14/17	N	2,355.44	4.89	2,350.55	<250	<100	<260	<1	<1	<1	<1	<4
MW-3	12/06/18	NS	2355.44	---	---	---	---	---	---	---	---	---	---
MW-3	03/06/19	NS	2355.44	---	---	---	---	---	---	---	---	---	---
MW-3	05/21/19	NS	2355.44	---	---	---	---	---	---	---	---	---	---
MW-3	08/21/19	NS	2355.44	---	---	---	---	---	---	---	---	---	---
MW-3	10/30/19	NS	2355.44	---	---	---	---	---	---	---	---	---	---
MW-4	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---
MW-4	03/25/02	N	---	---	---	---	**10,600**	<750	1.1	3.2	<1.0	1.9	**526**
MW-4	03/26/02	N	---	---	---	---	**5,770**	<750	<0.50	<2.0	<1.0	<1.5	**344**
MW-4	06/04/02	N	---	---	---	---	**11,400**	<500	<0.50	<2.0	<1.0	<1.5	**432**
MW-4	06/05/02	N	---	---	---	---	**12,500**	<500	<0.50	<2.0	1.1	1.6	**278**
MW-4	08/20/02	N	---	---	---	---	**1,500**	<500	<0.50	<2.0	<1.0	<1.5	43
MW-4	10/29/02	N	---	---	---	---	**2,220**	<500	<0.50	<2.0	<1.0	<1.5	72
MW-4	02/19/03	N	---	---	---	---	**1,570**	<500	<0.50	<2.0	<1.0	<1.5	22
MW-4	06/05/03	N	---	---	---	---	**720**	<500	<0.50	<2.0	<1.0	<1.5	40
MW-4	09/09/03	N	---	---	---	---	**890**	<500	<0.50	<2.0	<1.0	<1.5	61
MW-4	12/10/03	N	---	---	---	---	**2,750**	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-4	06/03/04	N	---	---	---	---	**710**	<500	<0.50	<2.0	<1.0	<1.5	41
MW-4	12/01/04	N	---	---	---	---	**620**	<500	0.69	<2.0	<1.0	<1.5	22
MW-4	06/03/05	N	---	---	---	---	370	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-4	11/21/05	N	---	---	---	---	**920**	<500	<0.50	<2.0	<1.0	<1.5	27
MW-4	06/15/06	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-4	12/19/06	N	---	---	---	---	360	<500	<0.50	<2.0	<1.0	<1.5	31
MW-4	12/19/06	FD	---	---	---	---	380	<500	<0.50	<2.0	<1.0	<1.5	27

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-4	05/30/07	N	---	---	---	---	449	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-4	05/30/07	FD	---	---	---	---	445	<500	<0.50	<2.0	<1.0	<1.5	27
MW-4	10/30/07	N	---	---	---	700	---	---	<0.50	<0.70	<0.80	<0.80	1.0
MW-4	10/30/07	FD	---	---	---	660	**650**	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-4	06/24/08	N	---	---	---	190	200	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-4	12/03/08	N	---	---	---	330	200	<66	<0.50	<0.70	<0.80	<0.80	<1.0
MW-4	06/03/09	N	---	---	---	193	120	<59	<0.12	<0.21	<0.20	<0.15	---
MW-4	11/10/09	N	---	---	---	380	363	<381	<1.0	<1.0	<1.0	<3.0	2.9
MW-4	02/02/10	N	---	---	---	162	286	<388	<1.0	<1.0	<1.0	<3.0	2.7
MW-4	05/18/10	N	---	---	---	227	**650**	<392	<1.0	<1.0	<1.0	<3.0	<1.0
MW-4	08/09/10	N	---	---	---	156	123	<385	<1.0	<1.0	<1.0	<3.0	---
MW-4	11/01/10	N	---	---	---	374	277	<388	<1.0	<1.0	<1.0	<3.0	---
MW-4	02/02/11	N	---	---	---	137	201	<392	<1.0	<1.0	<1.0	<3.0	---
MW-4	04/26/11	N	---	---	---	**1,010**	185	<392	<1.0	<1.0	<1.0	<3.0	---
MW-4	07/12/11	N	---	---	---	510	210 J	<392	<1.0	<1.0	<1.0	<3.0	---
MW-4	10/27/11	N	---	---	---	173	340	<380	<1.0	<1.0	<1.0	<3.0	---
MW-4	07/02/12	N	2,356.37	5.85	2350.52	241	180	<380	<1.0	<1.0	<1.0	<3.0	<1.0
MW-4	10/09/12	N	2,356.37	6.15	2350.22	113	<160	<810	<1.0	<1.0	<1.0	<3.0	5.1
MW-4	03/13/13	N	2,356.37	5.62	2350.75	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	<4.0
MW-4	05/15/13	N	2,356.37	6.05	2350.32	136	<390	<390	<1.0	<1.0	<1.0	<3.0	<4.0
MW-4	08/06/13	N	2,356.37	5.68	2350.76	120	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-4	10/09/13	N	2,356.44	6.17	2350.27	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	<4.0
MW-4	03/11/14	N	2,356.44	4.70	2351.74	192	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-4	06/03/14	N	2,356.44	5.93	2350.51	277	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-4	04/03/17	N	2,356.44	5.09	2351.35	J200	190	<75	<0.5	<0.5	<0.5	<0.5	<1.0
MW-4	09/14/17	N	2,356.44	6.27	2,350.17	270	260	<260	<1	<1	<1	<1	<4
MW-4	03/21/18	NS	2356.44	5.47	2350.97	---	---	---	---	---	---	---	---

Table 2A

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-4	06/21/18	NS	2356.44	5.80	2350.64	---	---	---	---	---	---	---	---
MW-4	09/21/18	NS	2356.44	6.07	2350.37	---	---	---	---	---	---	---	---
MW-4	12/06/18	NS	2356.44	5.61	2350.83	---	---	---	---	---	---	---	---
MW-4	03/06/19	NS	2356.44	5.76	2350.68	---	---	---	---	---	---	---	---
MW-4	05/21/19	NS	2356.44	5.47	2350.97	---	---	---	---	---	---	---	---
MW-4	08/21/19	NS	2356.44	5.69	2350.75	---	---	---	---	---	---	---	---
MW-4	10/30/19	NS	2356.44	5.75	2350.69	---	---	---	---	---	---	---	---
MW-5	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---
MW-5	03/25/02	N	---	---	---	---	**1,360**	<750	**19.1**	121	16	123	27
MW-5	06/04/02	N	---	---	---	---	**2,720**	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	08/20/02	N	---	---	---	---	**774**	<500	<0.50	<2.0	<1.0	1.6	<20
MW-5	10/29/02	N	---	---	---	---	**2,580**	<500	<0.50	<2.0	<1.0	<1.5	56
MW-5	02/19/03	N	---	---	---	---	**1,510**	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	06/05/03	N	---	---	---	---	**596**	<500	<0.50	<2.0	<1.0	<1.5	28
MW-5	09/09/03	N	---	---	---	---	---	---	<0.50	<2.0	<1.0	<1.5	40
MW-5	12/10/03	N	---	---	---	---	**5,040**	**800**	<0.50	<2.0	<1.0	<1.5	<20
MW-5	06/03/04	N	---	---	---	---	360	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	12/01/04	N	---	---	---	---	**4,600**	<500	1.8	<2.0	<1.0	<1.5	28
MW-5	06/03/05	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	11/21/05	N	---	---	---	---	**2,150**	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	06/15/06	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	12/19/06	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	05/30/07	N	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-5	10/30/07	N	---	---	---	250	**2,500**	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-5	06/24/08	N	---	---	---	<50	170	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-5	12/03/08	N	---	---	---	240	73	<68	<0.50	<0.70	<0.80	<0.80	<1.0

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800	500	500	5	1000	700	1000	160
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-5	06/03/09	N	---	---	---	<13	<36	<59	<0.12	<0.21	<0.20	<0.15	------
MW-5	11/10/09	N	---	---	---	<50	315	<381	<1.0	<1.0	<1.0	<3.0	<1.0
MW-5	02/02/10	N	---	---	---	<50	81	<388	<1.0	<1.0	<1.0	<3.0	<1.0
MW-5	05/18/10	N	---	---	---	<50	126	<396	<1.0	<1.0	<1.0	<3.0	<1.0
MW-5	08/09/10	NS	---	---	---	---	---	---	---	---	---	---	---
MW-5	11/01/10	N	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-5	02/02/11	N	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-5	04/26/11	N	---	---	---	<50	<77	<385	<1.0	<1.0	<1.0	<3.0	---
MW-5	07/12/11	N	---	---	---	<50	<78	<392	<1.0 UJ	<1.0 UJ	<1.0 UJ	<3.0 UJ	---
MW-5	10/27/11	N	---	---	---	<50	**990**	<400	<1.0	<1.0	<1.0	<3.0	---
MW-5	07/02/12	N	2,354.81	4.73	2350.08	<50	<78	<390	<1.0	<1.0	<1.0	<3.0	<1.0
MW-5	10/09/12	N	2,354.81	5.06	2349.75	<50	<170	<830	<1.0	<1.0	<1.0	<3.0	<1.0
MW-5	03/13/13	N	2,354.81	4.51	2350.30	<100	<420	<420	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5	05/15/13	N	2,354.81	5.01	2349.80	<100	<390	<390	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5	08/06/13	N	2,354.81	4.67	2350.44	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5	10/09/13	N	2,355.11	5.05	2350.06	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5	03/11/14	N	2,355.11	3.40	2351.71	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5	06/03/14	N	2,355.11	5.05	2350.06	<100	<420	<420	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5	04/03/17	N	2,355.11	3.95	2351.16	<50	<30	<69	<0.5	<0.5	<0.5	<0.5	<1.0
MW-5	09/14/17	N	2,355.11	4.89	2,350.22	<250	<100	<260	<1	<1	<1	<1	<4
MW-5	03/21/18	NS	2355.11	4.39	2350.72	---	---	---	---	---	---	---	---
MW-5	06/21/18	NS	2355.11	4.84	2350.27	---	---	---	---	---	---	---	---
MW-5	09/21/18	NS	2355.11	4.97	2350.14	---	---	---	---	---	---	---	---
MW-5	12/06/18	NS	2355.11	4.55	2350.56	---	---	---	---	---	---	---	---
MW-5	03/06/19	NS	2355.11	---	---	---	---	---	---	---	---	---	---
MW-5	05/21/19	NS	2355.11	4.47	2350.64	---	---	---	---	---	---	---	---
MW-5	08/21/19	NS	2355.11	4.66	2350.45	---	---	---	---	---	---	---	---

Table 2A

Summary of Groundwater Monitoring Data - Shallow Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphthalene
			MTCA Method A Cleanup Levels			800 ug/L	500 ug/L	500 ug/L	5 ug/L	1000 ug/L	700 ug/L	1000 ug/L	160 ug/L
MW-5	10/30/19	NS	2355.11	4.69	2350.42	---	---	---	---	---	---	---	---
MW-10	10/30/19	NS	---	Dry	---	---	---	---	---	---	---	---	---
MW-11	10/30/19	NS	---	Dry	---	---	---	---	---	---	---	---	---

Notes:
Model Toxics Control Act (MTCA) Method A cleanup level not established per Department of Ecology Cleanup Levels and Risk Calculation data tables (August 2015). Clear
Bold values equal or exceed MTCA Method A Cleanup Level.
All results in micrograms per liter (µg/L) unless otherwise indicated.
ft = feet
-- = Not measured/Not analyzed
< = Less than the stated laboratory reporting limit
SPH = Liquid-phase hydrocarbon thickness
Top of Casing (TOC) in feet above mean sea level;survey data provided by others.
Depth to water (DTW) measured in feet.
Groundwater elevation (GWE) based on referenced TOC elevation in feet.
Total petroleum hydrocarbon as gasoline (TPH-G) analyzed by Northwest Method NWTPH-Gx.
Total petroleum hydrocarbons as diesel (TPH-D) analyzed by Norhtwest Method NWTPH-Dx.
Total Petroleum hydrocarbons as oil (TPH-O) analyzed by Northwest Method NWTPH-Dx
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) and Naphthalene analyzed by USEPA Method 8260B.
J = Concentration is between the method detection limit (MDL) and the limit of quantitation (LOQ) and is therefore estimated.
NS = No sample collected
N = Sample collected
FD = Field Duplicate

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-1	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	03/25/02	N	---	---	---	---	---	274	<750	<0.50	<2.0	<1.0	<1.5	<20
MW-1	06/04/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	08/20/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	10/29/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	02/19/03	N	---	---	---	---	---	**9,310**	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	02/19/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	06/05/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	09/09/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	12/10/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	06/03/04	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	12/01/04	N	---	---	---	---	---	<250	<500	3.6	<2.0	1.5	2.0	<20
MW-1	06/03/05	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	11/21/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	06/15/06	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	12/19/06	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	05/30/07	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-1	10/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	06/24/08	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	12/03/08	N	---	---	---	---	<50	<29	<68	<0.50	<0.7	<0.80	<0.80	<1.0
MW-1	06/03/09	N	---	---	---	---	<13	<35	<58	<0.12	<0.21	<0.20	<0.15	---
MW-1	11/10/09	N	---	---	---	---	<50	80	<383	<1.0M0	<1.0	<1.0	<3.0	<1.0
MW-1	02/02/10	N	---	---	---	---	<50	<77	<385	<1.0	<1.0	<1.0	<3.0	<1.0
MW-1	05/18/10	N	---	---	---	---	<50	<76	<379	<1.0	<1.0	<1.0	<3.0	<1.0
MW-1	08/09/10	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
MW-1	11/01/10	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-1	02/02/11	N	---	---	---	---	<50	<77	<385	<1.0	<1.0	<1.0	<3.0	---
MW-1	04/26/11	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-1	07/12/11	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
MW-1	10/27/11	N	---	---	---	---	<50	<78	<390	<1.0	< 1.0	<1.0	<3.0	---
MW-1	10/27/11	FD	---	---	---	---	<50	<78	<390	<1.0	<1.0	<1.0	<3.0	---

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-1	07/02/12	N	2,354.55	31.90	---	2322.65	<50	<86	<430	<1.0	<1.0	<1.0	<3.0	<1.0
MW-1	07/02/12	FD	---	---	---	---	<50	<82	<410	<1.0	<1.0	<1.0	<3.0	<1.0
MW-1	10/10/12	N	2,354.55	36.02	---	2318.53	<50	<160	<810	<1.0	<1.0	<1.0	<3.0	<1.0
MW-1	10/10/12	FD	---	---	---	---	<50	<160	<800	<1.0	<1.0	<1.0	<3.0	<1.0
MW-1	03/13/13	FD	---	---	---	---	<100	<460	<460	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	05/15/13	N	2,354.55	32.62	---	2321.93	<100	<430	<430	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	05/15/13	FD	---	---	---	---	<100	<390	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	08/06/13	N	2,354.55	34.22	---	2320.38	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	08/06/13	FD	---	---	---	---	<100	<430	<430	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	10/11/13	N	2,354.60	35.79	---	2318.81	<100	<430	<430	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	10/11/13	FD	---	---	---	---	<100	<430	<430	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	03/11/14	N	2,354.60	35.45	---	2319.15	<100	<400	500	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	06/03/14	N	2,354.60	33.90	---	2320.70	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	06/03/14	FD	---	---	---	---	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-1	04/06/17	N	2,354.60	27.10	---	2327.50	<50	<29	<68	<0.5	<0.5	<0.5	<0.5	<1.0
MW-1	09/14/17	N	2,354.60	33.15	---	2,321.45	<250	<110	<270	<1	<1	<1	<1	<4
MW-1	03/21/18	NS	2354.60	29.56	---	2325.04	---	---	---	---	---	---	---	---
MW-1	06/21/18	NS	2354.60	30.57	---	2324.03	---	---	---	---	---	---	---	---
MW-1	09/21/18	NS	2354.60	33.80	---	2320.80	---	---	---	---	---	---	---	---
MW-1	12/06/18	NS	2354.60	35.37	---	2319.23	---	---	---	---	---	---	---	---
MW-1	03/06/19	NS	2354.60	32.63	---	2321.97	---	---	---	---	---	---	---	---
MW-1	05/21/19	NS	2354.60	30.75	---	2323.85	---	---	---	---	---	---	---	---
MW-1	08/21/19	NS	2354.60	33.25	---	2321.35	---	---	---	---	---	---	---	---
MW-1	10/30/19	NS	2354.60	34.69	---	2319.91	---	---	---	---	---	---	---	---
MW-5D	10/11/13	N	2,355.03	35.57	---	2319.46	614	**1,100**	<450	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5D	03/11/14	N	2,355.03	35.48	---	2319.55	<100	<400	**700**	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5D	06/03/14	N	2,355.03	33.73	---	2321.30	128	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-5D	09/14/17	N	2,355.03	32.48	---	2,322.55	<250	**560**	<250	<1	<1	<1	<1	<4
MW-5D	03/21/18	N	2355.03	29.02	---	2326.01	69 J	370	<260	---	---	---	---	---
MW-5D	03/21/18	FD	2355.03	29.02	---	2326.01	57 J	**1,600 ***	**2,400 ***	---	---	---	---	---

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-5D	06/21/18	N	2355.03	30.01	---	2325.02	<250	**670**	<260	---	---	---	---	---
MW-5D	09/21/18	N	2355.03	33.51	---	2321.52	81 J	160	<280	---	---	---	---	---
MW-5D	09/21/18	FD	2355.03	33.51	---	2321.52	<250	220	<270	---	---	---	---	---
MW-5D	12/06/18	N	2355.03	35.21	---	2319.82	<250	72 J	<260	---	---	---	---	---
MW-5D	03/06/19	N	2355.03	32.46	---	2322.57	<250	110	<260	---	---	---	---	---
MW-5D	05/21/19	N	2355.03	30.46	---	2324.57	---	---	---	---	---	---	---	---
MW-5D	08/21/19	N	2355.03	32.94	---	2322.09	<250	220	<260	---	---	---	---	---
MW-5D	08/21/19	FD	2355.03	32.94	---	2322.09	<250	250	<260	---	---	---	---	---
MW-5D	10/30/19	N	2355.03	34.50	---	2320.53	<250	130	<270	---	---	---	---	---
MW-6	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	03/25/02	N	---	---	---	---	---	<250	<750	<0.50	<2.0	<1.0	<1.5	<20
MW-6	06/04/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	08/20/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	10/29/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	02/19/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	06/05/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	09/09/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	12/10/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	06/03/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	12/01/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	06/03/05	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	11/21/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	06/15/06	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	12/19/06	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	05/30/07	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-6	10/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	06/24/08	N	---	---	---	---	<50	<75	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-6	12/03/08	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	06/03/09	N	---	---	---	---	<13	<35	<58	<0.12	<0.21	<0.20	<0.15	---
MW-6	11/10/09	N	---	---	---	---	<50	135	<396	<1.0	<1.0	<1.0	<3.0	<1.0

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-6	02/02/10	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	<1.0
MW-6	05/18/10	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	<1.0
MW-6	08/09/10	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
MW-6	11/01/10	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-6	02/02/11	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
MW-6	04/26/11	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-6	07/12/11	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
MW-6	10/27/11	N	---	---	---	---	<50	<78	<390	<1.0	<1.0	<1.0	<3.0	---
MW-6	07/02/12	N	2,355.87	32.83	---	2323.04	<50	<82	<410	<1.0	<1.0	<1.0	<3.0	<1.0
MW-6	10/09/12	N	2,355.87	35.71	---	2320.16	<50	<160	<800	<1.0	<1.0	<1.0	<3.0	<1.0
MW-6	03/13/13	N	2,355.87	32.45	---	2323.42	<100	<420	<420	<1.0	<1.0	<1.0	<3.0	<4.0
MW-6	05/15/13	N	2,355.87	33.07	---	2322.80	<100	<420	<420	<1.0	<1.0	<1.0	<3.0	<4.0 UJ
MW-6	08/06/13	N	2,355.87	34.91	---	2321.02	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	<4.0
MW-6	10/11/13	N	2,355.93	38.50	---	2317.43	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	<4.0
MW-6	03/11/14	N	2,355.93	36.59	---	2319.34	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-6	06/03/14	N	2,355.93	34.65	---	2321.28	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-6	04/03/17	N	2,355.93	27.98	---	2327.95	<50	<30	<70	<0.5	<0..5	<0.5	<0.5	<1.0
MW-6	09/14/17	N	2,355.93	33.26	---	2,322.67	<250	<110	<260	<1	<1	<1	<1	<4
MW-6	03/21/18	NS	2355.93	30.08	---	2325.85	---	---	---	---	---	---	---	---
MW-6	06/21/18	NS	2355.93	30.93	---	2325.00	---	---	---	---	---	---	---	---
MW-6	09/21/18	NS	2355.93	34.40	---	2321.53	---	---	---	---	---	---	---	---
MW-6	12/06/18	NS	2355.93	36.13	---	2319.80	---	---	---	---	---	---	---	---
MW-6	03/06/19	NS	2355.93	33.36	---	2322.57	---	---	---	---	---	---	---	---
MW-6	05/21/19	NS	2355.93	31.18	---	2324.75	---	---	---	---	---	---	---	---
MW-6	08/21/19	NS	2355.93	33.84	---	2322.09	---	---	---	---	---	---	---	---
MW-6	10/30/19	NS	2355.93	35.45	---	2320.48	---	---	---	---	---	---	---	---
MW-7	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-7	03/25/02	N	---	---	---	---	---	**6,280**	<750	<0.50	<2.0	<1.0	25	154
MW-7	06/04/02	N	---	---	---	---	---	**13,100**	<500	<0.50	<2.0	<1.0	**14**	**221**
MW-7	08/21/02	N	---	---	---	---	---	**6,850**	<500	<0.50	<2.0	<1.0	<1.5	65

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-7	08/21/02	N	---	---	---	---	---	**6,100**	<500	0.82	4.0	1.9	13	92
MW-7	10/29/02	N	---	---	---	---	---	**5,460**	<500	0.70	<2.0	<1.0	**9**	**172**
MW-7	02/19/03	N	---	---	---	---	---	**7,390**	<500	<0.50	<2.0	<1.0	6	<20
MW-7	06/05/03	N	---	---	---	---	---	**770**	<500	0.99	<2.0	<1.0	<1.5	<20
MW-7	09/09/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-7	09/11/03	N	---	---	---	---	---	**1,250**	<500	<0.50	<2.0	4.7	30	81
MW-7	12/10/03	N	---	---	---	---	---	**7,120**	<500	<0.50	<2.0	1.2	15	114
MW-7	06/03/04	N	---	---	---	---	---	**1,000**	<500	<0.50	<2.0	<1.0	<1.5	48
MW-7	12/01/04	N	---	---	---	---	---	**1540**	<500	<0.50	<2.0	<1.0	<1.5	21
MW-7	06/03/05	N	---	---	---	---	---	**830**	<500	<0.50	<2.0	<1.0	<1.5	24
MW-7	11/21/05	N	---	---	---	---	---	**2,970**	<500	<0.50	<2.0	<1.0	<1.5	48
MW-7	06/15/06	N	---	---	---	---	---	**1,410**	<500	<0.50	<2.0	<1.0	<1.5	23
MW-7	12/19/06	N	---	---	---	---	---	**1,300**	<500	<0.50	6.42	2.74	9.43	24
MW-7	05/30/07	N	---	---	---	---	---	**961**	<500	0.71	<2.0	<1.0	<1.5	<20
MW-7	10/30/07	N	---	---	---	---	**2,700**	**14,000**	<4,700	<0.50	<0.70	<0.80	<0.80	<1.0
MW-7	06/24/08	N	---	---	---	---	**1,600**	**1,200**	<95	<0.50	<0.70	<0.80	<0.80	<1.0
MW-7	12/04/08	N	---	---	---	---	**1,400**	<29	<68	<0.50	<0.70	<0.80	<0.80	<1.0
MW-7	06/04/09	N	---	---	---	---	155	**560**	<58	<0.12	<0.21	<0.20	<0.15	---
MW-7	11/10/09	N	---	---	---	---	577	**7,600**	<388	<1.0	<1.0	<1.0	<3.0	2.7
MW-7	02/02/10	N	---	---	---	---	214	**2,000**	<377	<1.0	<1.0	<1.0	<3.0	2.4
MW-7	05/18/10	N	---	---	---	---	717	**16,900**	<400	<1.0	<1.0	<1.0	<3.0	<1.0
MW-7	08/09/10	N	---	---	---	---	**928**	**22,100**	<388	<1.0	<1.0	<1.0	<3.0	---
MW-7	11/01/10	N	---	---	---	---	**3,130**	**28,300**	<388	<1.0	<1.0	<1.0	<3.0	---
MW-7	02/02/11	N	---	---	---	---	704	**10,700**	<392	<1.0	<1.0	<1.0	<3.0	---
MW-7	04/26/11	N	---	---	---	---	**5,710**	**3,690**	<400	<1.0	<1.0	<1.0	<3.0	---
MW-7	07/12/11	N	---	---	---	---	278	**2,540**	<392	<1.0	<1.0	<1.0	<3.0	---
MW-7	10/26/11	N	---	---	---	---	**2,420**	**37,200**	<380	<1.0	<1.0	<1.0	<3.0	---
MW-7	07/02/12	N	2,356.25	31.84	---	2324.41	<50	78	<380	<1.0	<1.0	<1.0	<3.0	<1.0
MW-7	10/10/12	N	2,356.25	35.24	---	2321.01	207	350	<820	<1.0	<1.0	<1.0	<3.0	5.4
MW-7	03/13/13	N	2,356.25	31.94	---	2324.31	104	<440	<440	<1.0	<1.0	<1.0	<3.0	<4.0
MW-7	05/14/13	N	2,356.25	32.74	---	2323.51	< 100	<390	<400	<1.0	<1.0	<1.0	<3.0	<4.0

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-7	08/06/13	N	2,356.25	34.54	---	2321.77	250	<420	<420	<1.0	<1.0	<1.0	<3.0	<4.0
MW-7	10/12/13	N	2,356.31	36.11	---	2320.20	410	**600**	< 450	<1.0	<1.0	<1.0	<3.0	<4.0
MW-7	03/11/14	N	2,356.31	35.62	---	2320.69	448	430	**550**	<1.0	<1.0	<1.0	<3.0	<4.0
MW-7	06/04/14	N	2,356.31	34.37	---	2321.94	201	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-7	04/05/17	NS	2,356.31	26.25	---	2330.06	ORC sock stuck in well - unable to sample			---	---	---	---	---
MW-7	09/14/17	NS	2,356.31	33.17	---	2,323.14	ORC sock stuck in well - unable to sample			---	---	---	---	---
MW-7	03/21/18	NS	2356.31	29.59	---	2326.72	ORC sock stuck in well - unable to sample			---	---	---	---	---
MW-7	06/21/18	NS	2356.31	30.76	---	2325.55	ORC sock stuck in well - unable to sample			---	---	---	---	---
MW-7	09/21/18	NS	2356.31	34.13	---	2322.18	ORC sock stuck in well - unable to sample			---	---	---	---	---
MW-7	12/06/18	NS	2356.31	36.09	---	2320.22	---	---	---	---	---	---	---	---
MW-7	03/06/19	NS	2356.31	33.05	---	2323.26	---	---	---	---	---	---	---	---
MW-7	05/21/19	NS	2356.31	31.00	---	2325.31	---	---	---	---	---	---	---	---
MW-7	08/21/19	N	2356.31	33.67	---	2322.64	180 J	240	<310	---	---	---	---	---
MW-7	10/30/19	N	2356.31	35.36	---	2320.95	190 J	**1,000**	<260	---	---	---	---	---
MW-8	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	03/25/02	N	---	---	---	---	---	<250	<750	<0.50	<2.0	<1.0	<1.5	<20
MW-8	06/04/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	08/21/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	10/29/02	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	02/19/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	06/05/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	09/09/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	09/11/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	12/10/03	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	06/03/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	12/01/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	06/03/05	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	11/21/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	06/15/06	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	12/19/06	NS	---	---	---	---	---	---	---	---	---	---	---	---

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-8	05/30/07	N	---	---	---	---	---	<250	<500	<0.50	<2.0	<1.0	<1.5	<20
MW-8	10/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	06/24/08	N	---	---	---	---	<50	<75	<94	<0.50	<0.70	<0.80	<0.80	<1.0
MW-8	12/04/08	N	---	---	---	---	<50	**35,000**	<3,500	<0.50	<0.70	<0.80	<0.80	<1.0
MW-8	06/04/09	N	---	---	---	---	<13.4	<36	<59	<0.12	<0.21	<0.20	<0.15	---
MW-8	11/10/09	N	---	---	---	---	<50	<79	<396	<1.0	<1.0	<1.0	<3.0	<1.0
MW-8	02/02/10	N	---	---	---	---	<50	<76	<381	<1.0	<1.0	<1.0	<3.0	<1.0
MW-8	05/18/10	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	<1.0
MW-8	08/09/10	N	---	---	---	---	<50	<79	<396	<1.0	<1.0	<1.0	<3.0	---
MW-8	11/01/10	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-8	02/02/11	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
MW-8	04/26/11	N	---	---	---	---	<50	<80	<400	<1.0	<1.0	<1.0	<3.0	---
MW-8	07/12/11	N	---	---	---	---	<50	<77	<385	<1.0	<1.0	<1.0	<3.0	---
MW-8	10/26/11	N	---	---	---	---	<50	<76	<380	<1.0	<1.0	<1.0	<3.0	---
MW-8	07/02/12	N	2,356.57	32.36	---	2324.21	<50	<86	<430	<1.0	<1.0	<1.0	<3.0	<1.0
MW-8	10/10/12	N	2,356.57	35.56	---	2321.01	<50	<170	<830	<1.0	<1.0	<1.0	<3.0	<1.0
MW-8	03/13/13	N	2,356.57	32.66	---	2323.91	<100	<440	<440	<1.0	<1.0	<1.0	<3.0	<4.0
MW-8	05/14/13	N	2,356.57	33.12	---	2323.45	<100	<390	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-8	08/06/13	N	2,356.57	34.83	---	2321.77	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	<4.0
MW-8	10/12/13	N	2,356.60	36.36	---	2320.24	<100	<430	<430	<1.0	<1.0	<1.0	<3.0	<4.0
MW-8	03/11/14	N	2,356.60	36.98	---	2319.62	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-8	06/04/14	N	2,356.60	34.75	---	2321.85	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
MW-8	04/05/17	N	2,356.60	29.20	---	2327.40	<50	<30	<69	<0.5	<0.5	<0.5	<0.5	<1.0
MW-8	09/14/17	N	2,356.60	33.04	---	2,323.56	<250	<100	<250	<1	<1	<1	<1	<4
MW-8	03/21/18	NS	2356.60	30.79	---	2325.81	---	---	---	---	---	---	---	---
MW-8	06/21/18	NS	2356.60	31.11	---	2325.49	---	---	---	---	---	---	---	---
MW-8	09/21/18	NS	2356.60	34.24	---	2322.36	---	---	---	---	---	---	---	---
MW-8	12/06/18	NS	2356.60	36.15	---	2320.45	---	---	---	---	---	---	---	---
MW-8	03/06/19	NS	2356.60	33.58	---	2323.02	---	---	---	---	---	---	---	---
MW-8	05/21/19	NS	2356.60	31.44	---	2325.16	---	---	---	---	---	---	---	---
MW-8	08/21/19	NS	2356.60	33.42	---	2323.18	---	---	---	---	---	---	---	---

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800 ug/L	500 ug/L	500 ug/L	5 ug/L	1000 ug/L	700 ug/L	1000 ug/L	160 ug/L
MW-8	10/30/19	NS	2356.60	35.39	---	2321.21	---	---	---	---	---	---	---	---
MW-12	10/30/19	NS	---	34.46	---	---	---	---	---	---	---	---	---	---
						Off Property Groundwater Monitoring Wells								
95-MW-11B	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	03/25/02	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/04/02	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	10/29/02	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	02/19/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/05/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	09/09/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	12/10/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/03/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	12/01/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/03/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	11/21/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/15/06	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	12/19/06	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	05/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	10/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/24/08	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	12/03/08	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-11B	06/03/09	N	---	---	---	---	<13	<35	<58	<0.12	<0.21	<0.20	<0.15	---
95-MW-11B	11/10/09	N	---	---	---	---	<50	144	<381	<1.0	<1.0	<1.0	<3.0	<1.0
95-MW-11B	02/02/10	N	---	---	---	---	<50	<76	<381	<1.0	<1.0	<1.0	<3.0	<1.0
95-MW-11B	05/18/10	N	---	---	---	---	<50	<77	<385	<1.0	<1.0	<1.0	<3.0	<1.0
95-MW-11B	08/09/10	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
95-MW-11B	11/01/10	N	---	---	---	---	<50	<78	<388	<1.0	<1.0	<1.0	<3.0	---
95-MW-11B	02/02/11	N	---	---	---	---	<50	<79	<396	<1.0	<1.0	<1.0	<3.0	---
95-MW-11B	04/26/11	N	---	---	---	---	<50	<80	<400	<1.0	<1.0	<1.0	<3.0	---

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800	500	500	5	1000	700	1000	160
							ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
95-MW-11B	07/12/11	N	---	---	---	---	<50	<78	<392	<1.0	<1.0	<1.0	<3.0	---
95-MW-11B	10/26/11	N	---	---	---	---	<50	<75	<380	<1.0	<1.0	<1.0	<3.0	---
95-MW-11B	07/02/12	N	2,357.78	33.82	---	2323.96	<50	<77	<380	<1.0	<1.0	<1.0	<3.0	<1.0
95-MW-11B	10/10/12	N	2,357.78	37.18	---	2320.60	<50	<160	<810	<1.0	<1.0	<1.0	<3.0	<1.0
95-MW-11B	03/13/13	N	2,357.78	33.67	---	2324.11	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	<4.0
95-MW-11B	05/14/13	N	2,357.78	34.52	---	2323.26	<100	<450	<450	<1.0	<1.0	<1.0	<3.0	<4.0
95-MW-11B	08/06/13	N	2,357.78	36.34	---	2321.51	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	<4.0
95-MW-11B	10/12/13	N	2,357.85	37.96	---	2319.89	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	<4.0
95-MW-11B	03/12/14	N	2,357.85	38.10	---	2319.75	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
95-MW-11B	06/04/14	N	2,357.85	35.97	---	2321.88	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	<4.0
95-MW-11B	04/05/17	N	2,357.85	28.38	---	2329.47	<50	<30	<70	<0.5	<0.5	<0.5	<0.5	<1.0
95-MW-11B	09/14/17	N	2,357.85	34.78	---	2,323.07	<250	<110	<260	<1	<1	<1	<1	<4
95-MW-11B	03/21/18	NS	2357.85	31.19	---	2326.66	---	---	---	---	---	---	---	---
95-MW-11B	06/21/18	NS	2357.85	32.27	---	2325.58	---	---	---	---	---	---	---	---
95-MW-11B	09/21/18	NS	2357.85	34.76	---	2323.09	---	---	---	---	---	---	---	---
95-MW-11B	12/06/18	NS	2356.71	36.51	---	2320.20	---	---	---	---	---	---	---	---
95-MW-11B	03/06/19	NS	2356.71	33.42	---	2323.29	---	---	---	---	---	---	---	---
95-MW-11B	05/21/19	NS	2356.71	31.40	---	2325.31	---	---	---	---	---	---	---	---
95-MW-11B	08/21/19	NS	2356.71	34.13	---	2322.58	---	---	---	---	---	---	---	---
95-MW-11B	10/30/19	NS	2356.71	35.92	---	2320.79	---	---	---	---	---	---	---	---
95-MW-12B	08/20/01	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	03/25/02	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	06/04/02	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	10/29/02	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	02/19/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	06/05/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	09/09/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	12/10/03	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	06/03/04	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	12/01/04	NS	---	---	---	---	---	---	---	---	---	---	---	---

Table 2B

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Sample ID	Date	Sample Type	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	Naphalene
		MTCA Method A Cleanup Levels (Deep GW)					800 ug/L	500 ug/L	500 ug/L	5 ug/L	1000 ug/L	700 ug/L	1000 ug/L	160 ug/L
95-MW-12B	06/03/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	11/21/05	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	06/15/06	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	12/19/06	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	05/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	10/30/07	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	06/24/08	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	12/03/08	NS	---	---	---	---	---	---	---	---	---	---	---	---
95-MW-12B	06/03/09	N	---	---	---	---	<13	<35	<58	<0.12	<0.21	<0.20	<0.15	---
95-MW-12B	07/02/12	NS	2,355.02	30.85	---	2324.17	---	---	---	---	---	---	---	---
95-MW-12B	10/09/12	NS	2,355.02	34.24	---	2320.78	---	---	---	---	---	---	---	---
95-MW-12B	03/12/13	NS	2,355.02	30.72	---	2324.30	---	---	---	---	---	---	---	---
95-MW-12B	05/14/13	NS	2,355.02	31.56	---	2323.46	---	---	---	---	---	---	---	---
95-MW-12B	08/05/13	NS	2,355.02	33.36	---	2321.73	---	---	---	---	---	---	---	---
95-MW-12B	10/18/13	NS	2,355.09	35.00	---	2320.09	---	---	---	---	---	---	---	---
95-MW-12B	03/11/14	NS	2,355.09	34.99	---	2320.10	---	---	---	---	---	---	---	---
95-MW-12B	06/02/14	NS	2,355.09	33.03	---	2322.06	---	---	---	---	---	---	---	---
95-MW-12B	04/03/17	NS	2,355.09	26.35	---	2328.74	---	---	---	---	---	---	---	---
95-MW-12B	09/14/17	NS	2,355.09	31.76	---	2,323.33	---	---	---	---	---	---	---	---
95-MW-12B	03/21/18	NS	2355.09	28.18	---	2327.91	---	---	---	---	---	---	---	---
95-MW-12B	06/21/18	NS	2355.09	29.22	---	2325.87	---	---	---	---	---	---	---	---
95-MW-12B	09/21/18	NS	2355.09	32.81	---	2322.28	---	---	---	---	---	---	---	---
95-MW-12B	12/06/18	NS	2355.09	34.55	---	2320.54	---	---	---	---	---	---	---	---
95-MW-12B	03/06/19	NS	2355.09	32.62	---	2322.47	---	---	---	---	---	---	---	---
95-MW-12B	05/21/19	NS	2355.09	29.45	---	2325.64	---	---	---	---	---	---	---	---
95-MW-12B	08/21/19	NS	2355.09	32.15	---	2322.94	---	---	---	---	---	---	---	---

Summary of Groundwater Monitoring Data - Deep Zone
Yellowstone Pipeline
Geiger Correctional Facility
Spokane, Washington

Notes:

Model Toxics Control Act (MTCA) Method A cleanup level not established per Department of Ecology Cleanup Levels and Risk Calculation data tables (August 2015). Cleanup level

Bold values equal or exceed MTCA Method A Cleanup Level.

All results in micrograms per liter (µg/L) unless otherwise indicated.

ft = feet

-- = Not measured/Not analyzed

< = Less than the stated laboratory reporting limit

SPH = Liquid-phase hydrocarbon thickness

Top of Casing (TOC) in feet above mean sea level;survey data provided by others.

Depth to water (DTW) measured in feet.

Liquid-phase hydrocaron thickness in feet.

Groundwater elevation (GWE) based on referenced TOC elevation in feet.

Total petroleum hydrocarbon as gasoline (TPH-G) analyzed by Northwest Method NWTPH-Gx.

Total petroleum hydrocarbons as diesel (TPH-D) analyzed by Norhtwest Method NWTPH-Dx.

Total Petroleum hydrocarbons as oil (TPH-O) analyzed by Northwest Method NWTPH-Dx

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) and Naphthalene analyzed by USEPA Method 8260B.

J = Concentration is between the method detection limit (MDL) and the limit of quantitation (LOQ) and is therefore estimated.

NS = No sample collected

N = Sample collected

FD = Field Duplicate

Appendices

Appendix A
Summary of Previous Investigations and Remedial Activities

Appendix A Summary of Previous Investigations and Remedial Activities

2001 Subsurface Site Characterization: Beginning in March 2001, Maxim Technologies Inc. (Maxim) conducted a subsurface site characterization to investigate whether soil and groundwater impacts on the Geiger Heights Minimum Security Correctional Facility (Geiger Corrections) were caused by a release along the adjacent Yellowstone Pipeline (YPL). According to Maxim, Geiger Corrections was constructed in 1979 from buildings formerly belonging to the Geiger Air Force Base. A small release of aviation fuel was reported along the YPL on March 30, 1979, releasing approximately 42 gallons of fuel. The spilled fuel along with 50 gallons of perched groundwater was recovered and the pipeline was patched. In 1996, petroleum impacted soil and groundwater was encountered on the Geiger Corrections property during excavation for building footings. Building construction was ceased due to the discovery. In 1998, two heating oil underground storage tanks (USTs) with 8,000-10,000 gallon capacity were removed from the Geiger Corrections property. One of the two USTs had leaked from the manway cover; approximately 100 tons of petroleum impacted soil was removed from the UST excavation. At the final extent of excavation, impacted soil still remained in exceedance of cleanup levels. A concentration of greater than 10,000 milligrams per kilogram of total petroleum hydrocarbons as diesel (TPHd) was detected in soil. In 2000, the Spokane Airport Business Park (SABP), which owns the Geiger Corrections property and adjacent YPL right-of-way, informed YPL that they believed the YPL pipeline was the source of significant impacts on the Geiger Corrections property. On March 19 and 20, 2001, Maxim dug 12 test pits. The test pits were advanced until bedrock was encountered at approximately 5 to 6 feet below ground surface (feet bgs). A total of nine soil samples (including one field duplicate) were collected and analyzed for TPH as gasoline (TPHg), TPHd, TPH as oil (TPHo), benzene, toluene, ethylbenzene and total xylenes (BTEX), methyl tertiary butyl ether (MTBE), and polyaromatic hydrocarbons (PAHs) including naphthalenes. In addition, Maxim excavated a portion of the pipeline within the Geiger Corrections property to inspect the pipeline after petroleum impacts were identified in several of the test pits. The pipeline is approximately 4 feet bgs, approximately 1-2 feet above competent bedrock. Two additional test pits were excavated as well. Non aqueous phase liquid (NAPL) was encountered within a 60-foot section of the pipeline. A sample of the NAPL was collected along with two additional soil samples. The NAPL correlated with the section of pipeline that had leaked in 1979 and been patched. The pipeline was cut and removed, and a new section of pipe was welded into place. Line pressure testing was conducted and passed, and the trench was backfilled in March 24, 2001. Results of the NAPL sampling indicated a combination of weathered petroleum, consistent with the 1979 aviation fuel release, with a newer petroleum, consistent with the product in the pipeline at the time of the excavation. Soil analytical results indicated TPHg exceeding the Model Toxics Control Act (MTCA) Method A cleanup level in five of the samples, TPHd exceeding the MTCA Method A cleanup level in two of the samples, and naphthalenes exceeding the MTCA Method A cleanup level in one of the samples. Additional information is available in Maxim's Subsurface Site Characterization Report dated July 23, 2001.

2001 Remedial Excavation: Based on the results of the 2001 subsurface site characterization, a remedial soil excavation was conducted by Maxim in October 2001. Approximately 400 cubic yards of soil was removed and disposed of at a licensed Class II landfill. The excavation was advanced until approximately 8 feet bgs where bedrock was encountered. The excavation revealed a larger area of soil impacts than anticipated and therefore, 17 additional test pits were advanced to the west, south, and east of the excavation. One groundwater monitoring well (MP-1) was installed. The test pits revealed a scour fill deposit within the center of the Geiger Corrections property, which appeared to act as a preferential

pathway for petroleum migration. A total of 25 soil samples were collected from the pipeline excavation and the test pits. Samples were analyzed for TPHd, and TPHo; select samples were analyzed for BTEX and naphthalenes. Results indicated TPHd exceeding the MTCA Method A cleanup level in eight of the samples, and naphthalenes exceeding the MTCA Method A cleanup level in two of the samples. Additional information is available in Maxim's Remedial Excavation and Assessment Report dated January 2002.

2002 Additional Site Characterization: In March 2002, Maxim installed eight groundwater monitoring wells (MW-1 through MW-8). Four of the wells were installed at shallow depths within the scour fill deposit (MW-2, MW-3, MW-4, and MW-5), and four wells were installed within the deeper regional aquifer (MW-1, MW-6, MW-7, and MW-8). Soil samples were collected from each well location at varying depths and analyzed for TPHd, TPHo, BTEX, and naphthalenes. Results indicated naphthalene exceeding MTCA Method A cleanup levels in four of the 13 samples. No other concentrations exceeded cleanup levels. Additional information is available in Maxim's Additional Site Characterization Report dated May 2002.

2013 Site Investigation: In October 2013, AECOM decommissioned groundwater monitoring well MP-1, installed two groundwater monitoring wells (MP-1R and MW-5D) and attempted to install a third well (MW-9) at two different locations, but terminated the locations as borings only. Well MW-1R was installed within the shallow perched groundwater, and MW-5D was installed within the deeper regional aquifer. A total of five soil samples were collected and analyzed for TPHg, TPHd, TPHo, and BTEX. Results indicated that TPHg exceeded the MTCA Method A cleanup level in two of the samples, and TPHd exceeded the MTCA Method A cleanup level in one of the samples. Additional information is available in AECOM's Site Investigation Report dated February 2014.

Appendix B
Boring Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: B-1
DATE COMPLETED: 11 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Borehole	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE	SAMPLE PID (ppm)
0	TOPSOIL, organics, roots/grass	0.30						0
2	ML-SILT with sands/organics(roots), basalt/discontinuous, compact, brown							0
4								
5		5.00	BENTONITE CHIP					2.5
6	ML-SILT with organics (roots) compact, brown, moist	5.30	▽	B1-6.0				589
	SP-SAND with fine gravel, trace silt, dense, grey-black, mist, heavy odor							314
8	- wet at 6.00ft BGS							57.2
	ML-SILT, few sands/gravels, trace fractured bedrock, brown, moist	8.30						
10	END OF BOREHOLE @ 10.00ft BGS	10.00		B1-10.0				12.8
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 11145847-SC.GPJ GHD_Corp 22/10/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: B-2
DATE COMPLETED: 11 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Borehole	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE	SAMPLE PID (ppm)
0	CRUSHED ROCK, topsoil	0.30						0
	ML-SILTS with trace sands, basalt cobbles							0
2								0
4	ML-SILT with fractured bedrock, brown, moist	4.00						0
			BENTONITE CHIP					114
6	SP-SANDS, fine gravel, trace silt, dense, grey-black, moist, odor - wet at 6.00ft BGS	5.40	▽	B2-6.0				185
8								57
	BASALT BEDROCK, some silt filled fractures, brown, moist	8.50						
10	END OF BOREHOLE @ 10.00ft BGS	10.00		B2-10.0				12.2
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 11145847-SC.GPJ GHD_Corp 22/10/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: B-3
DATE COMPLETED: October 10, 2019
DRILLING METHOD: Hand Auger
FIELD PERSONNEL: E. Maise

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Borehole	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	TOPSOIL, organics, grass, roots	0.30	BENTONITE CHIP	1				0
2	ML-SILT, fractured basalt, roots, compact, brown, moist							
4								
6	- SP-SAND with silt, grey/brown, heavy odor at 6.0ft BGS	5.75		2 3				1.5 300
8	END OF BOREHOLE @ 5.8ft BGS							
10								
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11145847-SC.GPJ CRA_CORP.GDT 12/16/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: B-4
DATE COMPLETED: 11 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Borehole	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE	SAMPLE PID (ppm)
0	GRAVEL, topsoil, moist	0.30						0
	ML-SILT with sands and basalt, moist							0
2								0
	ML-CLAYEY SILT, few gravel, firm, brown, moist	3.00						78.5
4		4.50						
	SP-SANDS, few gravel, trace silt, dense, grey-black, moist, odor							
6	- wet at 6.30ft BGS	6.50	▽	B4-6.3				157
	BASALT/FRACTURED BASALT BEDROCK, silt filled fractures, brown-tan, moist, sour odor							
8								
10				B4-10.0				353
12								
14								447
16								
18								
20			BENTONITE CHIP					368
22								
24								326
26								
28	- brown-grey at 28.00ft BGS							78.7
30								56.5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

OVERBURDEN LOG 11145847-SC.GPJ GHD_Corp 22/10/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: B-4
DATE COMPLETED: 11 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Borehole	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)		SAMPLE PID (ppm)
								310
34	FRACTURED VESICULAR BASALT with clayey silt in fractures, brown-grey, moist, heavy odor	32.50		B4-35.0				350
36								
38	BASALT, grey-brown, moist	37.00						
40	END OF BOREHOLE @ 40.00ft BGS	40.00		B4-40.0				21.3
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: MW-10
DATE COMPLETED: 11 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	TOPSOIL	0.30
	ML-SILT with gravel, compact, brown, moist	
	WEATHERED GRANITE, few silt, trace clay, compact, micacious, white-brown, moist	3.00
	ML-CLAYEY SILT, soft, brown-red, moist, trace organics	8.90
	END OF BOREHOLE @ 15.00ft BGS	15.00

Monitoring Well: CONCRETE; BENTONITE; SAND

WELL DETAILS
Screened interval:
3.00 to 15.00ft BGS
Length: 12ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
1.00 to 2.00ft BGS
Material: BENTONITE
Sand Pack:
3.00 to 15.00ft BGS
Material: Sand 12/20

SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	PID (ppm)
			0
			0
			0.2
			1.1
MW-10-6.0			0.7
			0.5
			0.2
			1.3
MW-10-15			2.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 11145847-SC.GPJ GHD_Corp 22/10/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: MW-11
DATE COMPLETED: 11 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE	SAMPLE PID (ppm)
	TOPSOIL, grass/roots	0.30	CONCRETE					0
	ML-SILTS with basalt fragments, compact, brown, moist		BENTONITE					0
2								0.5
	SP-SANDS with silt/basalt, compact, brown, moist	3.50						
4		5.00						0.5
	ML-SANDY SILT, trace gravel, fine grained, dense, brown-tan, moist			MW11-6.0				
6								0.4
8			SAND					
	ML-CLAYEY SILT, few sands/gravel, soft, brown, moist	10.20						0.1
10		11.50						
	FRACTURED BASALT/BASALT BEDROCK, brown-grey, moist							0.0
12								
14		15.00		MW11-15.0				0.0
	END OF BOREHOLE @ 15.00ft BGS							
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

WELL DETAILS
Screened interval:
3.00 to 15.00ft BGS
Length: 12ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
1.00 to 2.00ft BGS
Material: BENTONITE
Sand Pack:
3.00 to 15.00ft BGS
Material: Sand 12/20

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (MW11-6.0)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: MW-12
DATE COMPLETED: 10 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE	SAMPLE PID (ppm)
0	GRAVEL/CRUSH ROCK, moist	0.30	CONCRETE					0
	ML-SILT with rocks, moist							
2								
	ML-SILTY INTERMITTENT BEDROCK, few sands/gravels, dense, brown-grey, moist	3.00						0
4	- black staining/heave odor at 4.00ft BGS							117
	- shallow groundwater at 5.00ft BGS		▽					360
6								
	ML-SILT, with intermittent bedrock, few sands/gravels, compact, brown, moist	7.80						29.5
8								
	BEDROCK/FRACTURED BEDROCK (BASALT)	9.60						14.3
10								
			BENTONITE					
12								
								12.0
14								
16								
18								
								1.7
20								
22								
24								
								0.8
26								
28								
	ML-SILT/FRACTURED BEDROCK, compact, brown, moist	30.20						1.3 10.3
30								
	VESICULAR BASALT BEDROCK, grey with silt fractures	32.00						1.5
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Geiger Corrections Facility
PROJECT NUMBER: 11145847
CLIENT: Phillips 66 Company
LOCATION: S. Spotted Rd and W. Will D Alton Rd, Spkane, WA

HOLE DESIGNATION: MW-12
DATE COMPLETED: 10 October 2019
DRILLING METHOD: Vac/Sonic
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)		SAMPLE PID (ppm)
36			SAND					0.8
38	ML-CLAYEY SILT, soft, grey-brown, moist	38.10						4.1
40	FRACTURED/DECOMPOSED BASALT, moist	40.00						2.8
42								1.1
	BASALT, brown -grey, moist	42.80						
44								0.7
46								
48								
	END OF BOREHOLE @ 49.00ft BGS	49.00						0.4
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

WELL DETAILS
Screened interval:
24.00 to 49.00ft BGS
Length: 25ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
2.00 to 23.00ft BGS
Material: BENTONITE
Sand Pack:
23.00 to 49.00ft BGS
Material: Sand 12/20

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

Appendix C
Field Sampling Logs

Well Gauging Details
Phillips 66 RM Site No. 6880
Geiger Corrections Center
Spokane, Washington

Well ID	Date Installed	Well Diameter (inches)	Well Depth (ft BTOC)	Screen Length (ft)	Screened Interval (ft BTOC)	Screen Slot Size	Sump Length (ft)	Date	DTW (ft BTOC)	DTP (ft BTOC)	DTB (ft BTOC)	Sample ID	Notes
MP-1	2001	2	8.5	5	3.5-8.5	0.02	0.5		—				Decomissioned
MP-1R	2013	2	13.5	10	3.5-13.5	0.02	0.5	3/6/19	4.31				
MW-1	2002	2	50.15	25	24.7-49.7	0.02	0.5		32.63				
MW-2	2002	2	14	10	3.5-13.5	0.02	0.5		4.70				
MW-3	2002	2	14	10	3.5-13.5	0.02	0.5		—				unable to access due to p'ision activities
MW-4	2002	2	13.51	10	3.0-13.0	0.02	0.5		5.76				
MW-5	2002	2	13.34	10	2.8-12.8	0.02	0.5		—				CNL due to plowed snow bank
MW-5D	2013	2	45	20	25.0-45.0	0.02	0.5		32.46				
MW-6	2002	2	41.52	20	21.0-41.0	0.02	0.5		33.36				
MW-7	2002	2	44.74	20	24.2-44.2	0.02	0.5		33.05		44.72	clear stuck sock!	obstruction @ 37.74 Sock stuck in well - Camera well 1Q19
MW-8	2002	2	47.12	20	26.6-46.6	0.02	0.5		33.58				
95-MW-11A	1990	2	99.5	10	84.95-94.5	0.01	5		34.11				
95-MW-11B	1990	2	49.05	20	24.7-44.7	0.01	5.25		33.42				
95-MW-12A	1990	2	81	10	68.1-78.1	0.01	2.25		31.62				
95-MW-12B	1990	2	49.72	20	25.0-45.0	0.01	5.25		31.85				

*** Gauge all wells on-Site
Sample 2019

Well Gauging Details
Phillips 66 RM Site No. 6880
Geiger Corrections Center
Spokane, Washington

Well ID	Date Installed	Well Diameter (inches)	Well Depth (ft BTOC)	Screen Length (ft)	Screened Interval (ft BTOC)	Screen Slot Size	Sump Length (ft)	Date	DTW (ft BTOC)	DTP (ft BTOC)	DTB (ft BTOC)	Sample ID	Notes
MP-1	2001	2	8.5	5	3.5-8.5	0.02	0.5	5.21.19	decommissioned.				
MP-1R	2013	2	13.5	10	3.5-13.5	0.02	0.5		4.20				
MW-1	2002	2	50.15	25	24.7-49.7	0.02	0.5		30.75				
MW-2	2002	2	14	10	3.5-13.5	0.02	0.5		4.36				
MW-3	2002	2	14	10	3.5-13.5	0.02	0.5		NO ACCESS IN		double	containment area.	
MW-4	2002	2	13.51	10	3.0-13.0	0.02	0.5		5.47	—	—		
MW-5	2002	2	13.34	10	2.8-12.8	0.02	0.5		4.47	—	—		Plant roots in well, gauged during MW-5D Development.
MW-5D	2013	2	45	20	25.0-45.0	0.02	0.5		30.46	—	45.28		develop
MW-6	2002	2	41.52	20	21.0-41.0	0.02	0.5		31.18	—	—		
MW-7	2002	2	44.74	20	24.2-44.2	0.02	0.5		31.00	—	44.66		~~Sock stuck in well~~ develop.
MW-8	2002	2	47.12	20	26.6-46.6	0.02	0.5		31.44	—			
95-MW-11A	1990	2	99.5	10	84.95-94.5	0.01	5		32.07	—			
95-MW-11B	1990	2	49.05	20	24.7-44.7	0.01	5.25		31.70	—			
95-MW-12A	1990	2	81	10	68.1-78.1	0.01	2.25		29.86	—			
95-MW-12B	1990	2	49.72	20	25.0-45.0	0.01	5.25		29.45	—			

Sampled 2018

Well Gauging Details
Phillips 66 RM Site No. 6880
Geiger Corrections Center
Spokane, Washington

Well ID	Date Installed	Well Diameter (inches)	Total Well Depth (ft BTOC)	Screen Length (ft)	Screened Interval (ft BTOC)	Screen Slot Size	Sump Length (ft)	Date	DTW (ft BTOC)	DTP (ft BTOC)
MP-1	2001	2	8.5	5	3.5-8.5	0.02	0.5	N/A		
MP-1R	2013	2	13.5	10	3.5-13.5	0.02	0.5	8/21/19	4.61	
MW-1	2002	2	50.15	25	24.7-49.7	0.02	0.5		33.25	
MW-2	2002	2	14	10	3.5-13.5	0.02	0.5		4.55	
MW-3	2002	2	14	10	3.5-13.5	0.02	0.5	No access		
MW-4	2002	2	13.51	10	3.0-13.0	0.02	0.5		5.69	
MW-5	2002	2	13.34	10	2.8-12.8	0.02	0.5		4.66	
MW-5D	2013	2	45	20	25.0-45.0	0.02	0.5		32.94	
MW-6	2002	2	41.52	20	21.0-41.0	0.02	0.5		33.84	
MW-7	2002	2	44.74	20	24.2-44.2	0.02	0.5		33.67	
MW-8	2002	2	47.12	20	26.6-46.6	0.02	0.5		33.42	
95-MW-11A	1990	2	99.5	10	84.95-94.5	0.01	5		34.87	
95-MW-11B	1990	2	49.05	20	24.7-44.7	0.01	5.25		34.13	

95-MW-12A	1990	2	81	10	68.1-78.1	0.01	2.25		32.66	
95-MW-12B	1990	2	49.72	20	25.0-45.0	0.01	5.25		32.15	
	Gauge all wells on-Site Sample 2019									

317-291-7032

Well Gauging Details
Phillips 66 RM Site No. 6880
Geiger Corrections Center
Spokane, Washington

Well ID	Date Installed	Well Diameter (inches)	Well Depth (ft BTOC)	Screen Length (ft)	Screened Interval (ft BTOC)	Screen Slot Size	Sump Length (ft)	Date	DTW (ft BTOC)	DTP (ft BTOC)	DTB (ft BTOC)	Sample ID	Notes
MP-1	2001	2	8.5	5	3.5-8.5	0.02	0.5	10/30/19	— Abandoned				
MP-1R	2013	2	13.5	10	3.5-13.5	0.02	0.5		4.42				
MW-1	2002	2	50.15	25	24.7-49.7	0.02	0.5		34.69				
MW-2	2002	2	14	10	3.5-13.5	0.02	0.5		4.49				
MW-3	2002	2	14	10	3.5-13.5	0.02	0.5		—	NO ACCESS			
MW-4	2002	2	13.51	10	3.0-13.0	0.02	0.5		5.75				
MW-5	2002	2	13.34	10	2.8-12.8	0.02	0.5		4.69				
MW-5D	2013	2	45	20	25.0-45.0	0.02	0.5		34.50				
MW-6	2002	2	41.52	20	21.0-41.0	0.02	0.5		35.45				
MW-7	2002	2	44.74	20	24.2-44.2	0.02	0.5		35.36				
MW-8	2002	2	47.12	20	26.6-46.6	0.02	0.5		35.39				
MW-10	2019	2	15	12	3.0-15.0	0.01	0.5		Dry				
MW-11	2019	2	15	12	3.0-15.0	0.01	0.5		Dry				
MW-12	2019	2	49	25	24.0-49.0	0.01	0.5		34.46				
95-MW-11A	1990	2	99.5	10	84.95-94.5	0.01	5		36.47				no bolts style manument
95-MW-11B	1990	2	49.05	20	24.7-44.7	0.01	5.25		35.92				need new well cap (wrong size) J-plug installed slightly to large
95-MW-12A	1990	2	81	10	68.1-78.1	0.01	2.25		34.36				no bolt style manument
95-MW-12B	1990	2	49.72	20	25.0-45.0	0.01	5.25		33.87				no bolt style manument needs new well cap/ broken

Gauge all wells on-Site
Sample 2019

Appendix D
Laboratory Analytical Reports

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GHD - P66
2055 Niagara Falls Blvd
Niagara Falls NY 14304

Report Date: November 25, 2019 22:20

Project: Geiger Corrections Center

Account #: 42241
Group Number: 2072174
PO Number: 34040807
Release Number: 11145847
State of Sample Origin: WA

Electronic Copy To	GHD	Attn: Jeffrey Cloud
Electronic Copy To	GHD	Attn: Eric Maise
Electronic Copy To	GHD	Attn: Moshghan Mansoori
Electronic Copy To	GHD	Attn: Rosemarie Borths

Respectfully Submitted,

Katherine A. Klinefelter

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
GW-11145847-103019-DT-MW7 Grab Groundwater	10/30/2019 13:00	1190048
GW-11145847-103019-DT-MW5D Grab Groundwater	10/30/2019 10:15	1190049
GW-11145847-103019-DT-MW2 Grab Groundwater	10/30/2019 08:50	1190050
GW-11145847-103019-DT-DUP Grab Groundwater	10/30/2019 09:00	1190051
GW-11145847-103019-AN-MP-1R Grab Groundwater	10/30/2019 09:02	1190052
Trip Blanks Water	10/30/2019	1190053

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: GW-11145847-103019-DT-MW7 Grab Groundwater
Geiger Corrections Center

Project Name: Geiger Corrections Center

Submittal Date/Time: 10/31/2019 10:27
Collection Date/Time: 10/30/2019 13:00

GHD - P66
ELLE Sample #: GW 1190048
ELLE Group #: 2072174
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	190	J	19	250	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
12899	DX DRO C12-C24	n.a.	1,000		46	100	1
12899	DX HRO C24-C40	n.a.	N.D.		100	260	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	19310A20A	11/07/2019 04:21	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	19310A20A	11/07/2019 04:20	Jeremy C Giffin	1
12899	DRO/DX Mini-extraction Master	ECY 97-602 NWTPH-Dx modified	1	193090028A	11/09/2019 07:26	Heather E Williams	1
12907	Mini-extraction DRO DX (water)	ECY 97-602 NWTPH-Dx 06/97	1	193090028A	11/06/2019 09:00	Joshua S Ruth	1

*=This limit was used in the evaluation of the final result

Sample Description: **GW-11145847-103019-DT-MW5D Grab Groundwater**
Geiger Corrections Center

Project Name: **Geiger Corrections Center**

Submittal Date/Time: 10/31/2019 10:27
Collection Date/Time: 10/30/2019 10:15

GHD - P66
ELLE Sample #: GW 1190049
ELLE Group #: 2072174
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
12899	DX DRO C12-C24	n.a.	130	48	110	1
12899	DX HRO C24-C40	n.a.	N.D.	110	270	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	19310A20A	11/07/2019 05:20	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	19310A20A	11/07/2019 05:19	Jeremy C Giffin	1
12899	DRO/DX Mini-extraction Master	ECY 97-602 NWTPH-Dx modified	1	193090028A	11/09/2019 07:48	Heather E Williams	1
12907	Mini-extraction DRO DX (water)	ECY 97-602 NWTPH-Dx 06/97	1	193090028A	11/06/2019 09:00	Joshua S Ruth	1

*=This limit was used in the evaluation of the final result

Sample Description: **GW-11145847-103019-DT-MW2 Grab Groundwater**
Geiger Corrections Center

Project Name: **Geiger Corrections Center**

Submittal Date/Time: 10/31/2019 10:27
Collection Date/Time: 10/30/2019 08:50

GHD - P66
ELLE Sample #: GW 1190050
ELLE Group #: 2072174
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	1,800	19	250	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
12899	DX DRO C12-C24	n.a.	700	55	120	1
12899	DX HRO C24-C40	n.a.	N.D.	120	310	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	19310A20A	11/07/2019 05:47	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	19310A20A	11/07/2019 05:46	Jeremy C Giffin	1
12899	DRO/DX Mini-extraction Master	ECY 97-602 NWTPH-Dx modified	1	193090028A	11/09/2019 08:11	Heather E Williams	1
12907	Mini-extraction DRO DX (water)	ECY 97-602 NWTPH-Dx 06/97	1	193090028A	11/06/2019 09:00	Joshua S Ruth	1

*=This limit was used in the evaluation of the final result

Sample Description: **GW-11145847-103019-DT-DUP Grab Groundwater**
Geiger Corrections Center

Project Name: **Geiger Corrections Center**

Submittal Date/Time: 10/31/2019 10:27
Collection Date/Time: 10/30/2019 09:00

GHD - P66
ELLE Sample #: GW 1190051
ELLE Group #: 2072174
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	1,700	19	250	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
12899	DX DRO C12-C24	n.a.	690	50	110	1
12899	DX HRO C24-C40	n.a.	N.D.	110	280	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	19310A20A	11/07/2019 06:15	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	19310A20A	11/07/2019 06:14	Jeremy C Giffin	1
12899	DRO/DX Mini-extraction Master	ECY 97-602 NWTPH-Dx modified	1	193090028A	11/09/2019 08:34	Heather E Williams	1
12907	Mini-extraction DRO DX (water)	ECY 97-602 NWTPH-Dx 06/97	1	193090028A	11/06/2019 09:00	Joshua S Ruth	1

*=This limit was used in the evaluation of the final result

Sample Description: **GW-11145847-103019-AN-MP-1R Grab Groundwater**
Geiger Corrections Center

Project Name: **Geiger Corrections Center**

Submittal Date/Time: 10/31/2019 10:27
Collection Date/Time: 10/30/2019 09:02

GHD - P66
ELLE Sample #: GW 1190052
ELLE Group #: 2072174
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	2,900	19	250	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
12899	DX DRO C12-C24	n.a.	1,600	46	100	1
12899	DX HRO C24-C40	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	19310A20A	11/07/2019 06:42	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	19310A20A	11/07/2019 06:41	Jeremy C Giffin	1
12899	DRO/DX Mini-extraction Master	ECY 97-602 NWTPH-Dx modified	1	193090028A	11/09/2019 08:56	Heather E Williams	1
12907	Mini-extraction DRO DX (water)	ECY 97-602 NWTPH-Dx 06/97	1	193090028A	11/06/2019 09:00	Joshua S Ruth	1

*=This limit was used in the evaluation of the final result

Sample Description: **Trip Blanks Water**
Geiger Corrections Center

Project Name: **Geiger Corrections Center**

Submittal Date/Time: 10/31/2019 10:27
Collection Date/Time: 10/30/2019

GHD - P66
ELLE Sample #: GW 1190053
ELLE Group #: 2072174
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	19310A20A	11/06/2019 21:56	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	19310A20A	11/06/2019 21:55	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

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Quality Control Summary

Client Name: GHD - P66 Group Number: 2072174
Reported: 11/25/2019 22:20

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: 19310A20A	Sample number(s): 1190048-1190053		
NWTPH-Gx water C7-C12	N.D.	19	250
Batch number: 193090028A	Sample number(s): 1190048-1190052		
DX DRO C12-C24	N.D.	45	100
DX HRO C24-C40	N.D.	100	250

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: 19310A20A	Sample number(s): 1190048-1190053								
NWTPH-Gx water C7-C12	1100	1131.04	1100	1142.59	103	104	64-131	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 193090028A	Sample number(s): 1190048-1190052								
DX DRO C12-C24	600.05	275.19	600.05	258.02	46	43	14-115	6	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 19310A20A

	Trifluorotoluene-F
1190048	73
1190049	84
1190050	70
1190051	70
1190052	85
1190053	75
Blank	86
LCS	93

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: GHD - P66 Group Number: 2072174
Reported: 11/25/2019 22:20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 19310A20A

	Trifluorotoluene-F
LCSD	78
Limits:	50-150

Analysis Name: DRO/DX Mini-extraction Master
Batch number: 193090028A

	Orthoterphenyl
1190048	77
1190049	83
1190050	86
1190051	87
1190052	82
Blank	65
LCS	77
LCSD	79
Limits:	50-150

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Phillips 66 Analysis Request/Chain of Custody

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Acct. # 42241 For Eurofins Lancaster Laboratories Environmental use only Group # 1072174 Sample # 119048-53

Instructions on reverse side correspond with circled numbers.

COC # 033892

SCR #: _____

Client Information

Site # / AOC # 11145847

Site Address Geiger Corrections

SAP PO # PSX PM

Consultant/Office GHD Lynnwood, WA

Consultant Project Mgr. M. Mansoori

Sampler D. Tyndall

State where samples were collected: WA

For Compliance: Yes ☐ No ☐

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Sediment	Water: Ground	Potable	Surface	NPDES	Oil	Air	Total # of Containers	Analyses Requested: NWTPH GX	NWTPH DX
GW-11145847-103019-DT-MW7	10/30	1300	X				X							X	X
MW5D		1015	X											X	X
MW2		0850	X											X	X
DUP		0900	X											X	X
AN-MP-1R	↓	0902	X											X	X
Trip blanks															

Preservation Codes

H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Remarks

Turnaround Time Requested (TAT) (please circle)
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Standard 5 day 72 hour 48 hour 24 hour

Data Package Options (please circle if required)

Full Validation Reduced Raw Data
TX TRRP MAMCP CTRCP NYASP A/B
NJFull NJRed Other: _____

EDD Needed? Yes (Format: _____) No

Relinquished by:	Date	Time	Received by:	Date	Time
D. Tyndall	10/30/19	1330 D.T.			

Relinquished by Commercial Carrier: UPS____ FedEx X Other____

Temperature upon receipt 0.7 °C

Custody Seals Intact? Yes No NA

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Sample Administration Receipt Documentation Log

Doc Log ID: 264841

Group Number(s): 2072174

Client: PHILLIPS 66

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Date:	10/31/2019
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	Washington		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	2
Samples Chilled:	Yes	Trip Blank Type:	HCl
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Julissa Rivera-Santa

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	192050133	0.7	IR	Wet	Y	Bagged	N

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Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Pace Analytical Services, LLC
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November 04, 2019

Moshghan Mansoori
GHD Services Inc.
20818 44th Avenue West
Suite 190
Lynnwood, WA 98036

RE: Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Dear Moshghan Mansoori:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Emily Blakeway, GHD Services, Inc.
Jeffrey Cloud, GHD Services Inc.

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10495370001	**S-11145847-100919-EM-MW-12-5.0**	Solid	10/09/19 14:20	10/12/19 09:00
10495370002	**S-11145847-101019-EM-MW-12-31.**	Solid	10/10/19 11:15	10/12/19 09:00
10495370003	**S-11145847-101019-EM-MW12-44.**	Solid	10/10/19 13:30	10/12/19 09:00
10495370004	**S-11145847-101019-EM-B-3-6.0**	Solid	10/10/19 15:30	10/12/19 09:00
10495370005	**S-11145847-101119-EM-B-2-6.0**	Solid	10/11/19 08:30	10/12/19 09:00
10495370006	**S-11145847-101119-EM-B-2-10.0**	Solid	10/11/19 08:45	10/12/19 09:00
10495370007	**S-11145847-101119-EM-B-1-6.0**	Solid	10/11/19 09:20	10/12/19 09:00
10495370008	**S-11145847-101119-EM-B-1-10.0**	Solid	10/11/19 09:30	10/12/19 09:00
10495370009	**S-11145847-101119-EM-MW-10-6.0**	Solid	10/11/19 10:45	10/12/19 09:00
10495370010	**S-11145847-101119-EM-MW-10-15.**	Solid	10/11/19 11:00	10/12/19 09:00
10495370011	**S-11145847-101119-EM-MW-11-6.0**	Solid	10/11/19 13:15	10/12/19 09:00
10495370012	**S-11145847-101119-EM-MW-11-15.**	Solid	10/11/19 13:30	10/12/19 09:00
10495370013	**S-11145847-101119-EM-B-4-6.3**	Solid	10/11/19 14:15	10/12/19 09:00
10495370014	**S-11145847-101119-EM-B-4-10.0**	Solid	10/11/19 14:30	10/12/19 09:00
10495370015	**Trip Blank**	Solid	10/11/19 00:00	10/12/19 09:00

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SAMPLE ANALYTE COUNT

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10495370001	**S-11145847-100919-EM-MW-12-5.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	CH3	21	PASI-M
10495370002	**S-11145847-101019-EM-MW-12-31.**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370003	**S-11145847-101019-EM-MW12-44.**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370004	**S-11145847-101019-EM-B-3-6.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	CH3	21	PASI-M
10495370005	**S-11145847-101119-EM-B-2-6.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	CH3	21	PASI-M
10495370006	**S-11145847-101119-EM-B-2-10.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370007	**S-11145847-101119-EM-B-1-6.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	CH3	21	PASI-M
10495370008	**S-11145847-101119-EM-B-1-10.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370009	**S-11145847-101119-EM-MW-10-6.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370010	**S-11145847-101119-EM-MW-10-15.**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370011	**S-11145847-101119-EM-MW-11-6.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10495370012	**S-11145847-101119-EM-MW-11-15.**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370013	**S-11145847-101119-EM-B-4-6.3**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
10495370014	**S-11145847-101119-EM-B-4-10.0**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS
Client: GHD Services Inc
Date: November 04, 2019

General Information:
14 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: 638055

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10494835001

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

- MSD (Lab ID: 3439573)
  - Diesel Fuel Range

R1: RPD value was outside control limits.

- MSD (Lab ID: 3439573)
  - Diesel Fuel Range

QC Batch: 638216

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10495370008

R1: RPD value was outside control limits.

- MSD (Lab ID: 3440061)
  - Diesel Fuel Range

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS
Client: GHD Services Inc
Date: November 04, 2019

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

Additional Comments:

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: November 04, 2019

General Information:
14 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with NWTPH-Gx with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 639918

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- DUP (Lab ID: 3447941)
  - TPH as Gas
- S-11145847-100919-EM-MW-12-5.0 (Lab ID: 10495370001)
  - TPH as Gas

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

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

QC Batch: 639918

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 3447947)
  - TPH as Gas

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: November 04, 2019

Additional Comments:

Analyte Comments:

QC Batch: 639918

1M: Result confirmed by second analysis performed outside of holding time.

- DUP (Lab ID: 3447941)
  - TPH as Gas
- S-11145847-100919-EM-MW-12-5.0 (Lab ID: 10495370001)
  - TPH as Gas

2M: Sample preserved in lab; results are from sample aliquot taken from a glass jar with headspace.

- S-11145847-101019-EM-MW-12-31. (Lab ID: 10495370002)
  - TPH as Gas

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DUP (Lab ID: 3447941)
  - TPH as Gas
- S-11145847-100919-EM-MW-12-5.0 (Lab ID: 10495370001)
  - TPH as Gas

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Method: **EPA 8270D by SIM**
Description: 8270D MSSV PAH by SIM
Client: GHD Services Inc
Date: November 04, 2019

General Information:
4 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: 638138

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10495312006

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

- MSD (Lab ID: 3439827)
  - Fluoranthene

R1: RPD value was outside control limits.

- MSD (Lab ID: 3439827)
  - Fluoranthene
  - Phenanthrene
  - Pyrene

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Method: **EPA 8270D by SIM**
Description: 8270D MSSV PAH by SIM
Client: GHD Services Inc
Date: November 04, 2019

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

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-100919-EM-MW-12-5.0 **Lab ID: 10495370001** Collected: 10/09/19 14:20 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	**755**	mg/kg	83.4	5	10/14/19 12:12	10/18/19 16:27	68334-30-5	
Motor Oil Range	ND	mg/kg	11.1	1	10/14/19 12:12	10/18/19 02:57		
Surrogates								
n-Triacontane (S)	85	%.	50-150	1	10/14/19 12:12	10/18/19 02:57	638-68-6	
o-Terphenyl (S)	80	%.	50-150	1	10/14/19 12:12	10/18/19 02:57	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**320**	mg/kg	11.1	2	10/23/19 08:29	10/23/19 12:47		1M,E,SS
Surrogates								
a,a,a-Trifluorotoluene (S)	77	%.	50-150	2	10/23/19 08:29	10/23/19 12:47	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**10.1**	%	0.10	1		10/24/19 12:59		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
1-Methylnaphthalene	**0.030**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	90-12-0	
2-Chloronaphthalene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	91-58-7	
2-Methylnaphthalene	**0.014**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	91-57-6	
Acenaphthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	83-32-9	
Acenaphthylene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	208-96-8	
Anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	207-08-9	
Chrysene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	53-70-3	
Fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	206-44-0	
Fluorene	**0.011**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	193-39-5	
Naphthalene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	91-20-3	
Phenanthrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	85-01-8	
Pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:07	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	90	%.	30-125	1	10/14/19 13:56	10/16/19 23:07	321-60-8	
p-Terphenyl-d14 (S)	85	%.	30-125	1	10/14/19 13:56	10/16/19 23:07	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101019-EM-MW-12-31. **Lab ID: 10495370002** Collected: 10/10/19 11:15 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	16.3	1	10/14/19 12:12	10/18/19 03:19	68334-30-5	
Motor Oil Range	**45.2**	mg/kg	10.9	1	10/14/19 12:12	10/18/19 03:19		
Surrogates								
n-Triacontane (S)	84	%.	50-150	1	10/14/19 12:12	10/18/19 03:19	638-68-6	
o-Terphenyl (S)	82	%.	50-150	1	10/14/19 12:12	10/18/19 03:19	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	5.4	1	10/23/19 08:29	10/24/19 02:17		2M
Surrogates								
a,a,a-Trifluorotoluene (S)	89	%.	50-150	1	10/23/19 08:29	10/24/19 02:17	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**8.1**	%	0.10	1		10/24/19 13:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101019-EM-MW12-44. **Lab ID: 10495370003** Collected: 10/10/19 13:30 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	16.6	1	10/14/19 12:12	10/18/19 03:30	68334-30-5	
Motor Oil Range	ND	mg/kg	11.1	1	10/14/19 12:12	10/18/19 03:30		
Surrogates								
n-Triacontane (S)	87	%.	50-150	1	10/14/19 12:12	10/18/19 03:30	638-68-6	
o-Terphenyl (S)	81	%.	50-150	1	10/14/19 12:12	10/18/19 03:30	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	6.7	1	10/23/19 08:29	10/24/19 00:19		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	50-150	1	10/23/19 08:29	10/24/19 00:19	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**10.5**	%	0.10	1		10/24/19 13:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101019-EM-B-3-6.0 **Lab ID: 10495370004** Collected: 10/10/19 15:30 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	**951**	mg/kg	92.3	5	10/14/19 12:12	10/18/19 16:49	68334-30-5	
Motor Oil Range	**148**	mg/kg	12.3	1	10/14/19 12:12	10/18/19 03:41		
Surrogates								
n-Triacontane (S)	89	%.	50-150	1	10/14/19 12:12	10/18/19 03:41	638-68-6	
o-Terphenyl (S)	77	%.	50-150	1	10/14/19 12:12	10/18/19 03:41	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**432**	mg/kg	32.1	5	10/23/19 08:29	10/24/19 22:48		D6
Surrogates								
a,a,a-Trifluorotoluene (S)	77	%.	50-150	5	10/23/19 08:29	10/24/19 22:48	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**18.8**	%	0.10	1		10/24/19 13:00		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
1-Methylnaphthalene	**1.3**	mg/kg	0.12	10	10/14/19 13:56	10/18/19 13:04	90-12-0	
2-Chloronaphthalene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	91-58-7	
2-Methylnaphthalene	**0.92**	mg/kg	0.12	10	10/14/19 13:56	10/18/19 13:04	91-57-6	
Acenaphthene	**0.057**	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	83-32-9	
Acenaphthylene	**0.027**	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	208-96-8	
Anthracene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	207-08-9	
Chrysene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	53-70-3	
Fluoranthene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	206-44-0	
Fluorene	**0.036**	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	193-39-5	
Naphthalene	**0.15**	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	91-20-3	
Phenanthrene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	85-01-8	
Pyrene	ND	mg/kg	0.012	1	10/14/19 13:56	10/16/19 23:28	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	66	%.	30-125	1	10/14/19 13:56	10/16/19 23:28	321-60-8	
p-Terphenyl-d14 (S)	87	%.	30-125	1	10/14/19 13:56	10/16/19 23:28	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-B-2-6.0 **Lab ID: 10495370005** Collected: 10/11/19 08:30 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx	Preparation Method: EPA 3550						
Diesel Fuel Range	**1630**	mg/kg	167	10	10/14/19 12:12	10/18/19 17:00	68334-30-5	
Motor Oil Range	**11.4**	mg/kg	11.1	1	10/14/19 12:12	10/18/19 03:52		
Surrogates								
n-Triacontane (S)	86	%.	50-150	1	10/14/19 12:12	10/18/19 03:52	638-68-6	
o-Terphenyl (S)	79	%.	50-150	1	10/14/19 12:12	10/18/19 03:52	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx	Preparation Method: NWTPH-Gx						
TPH as Gas	**511**	mg/kg	27.2	5	10/24/19 14:31	10/25/19 03:50		G+
Surrogates								
a,a,a-Trifluorotoluene (S)	74	%.	50-150	5	10/24/19 14:31	10/25/19 03:50	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**11.2**	%	0.10	1		10/24/19 13:00		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM	Preparation Method: EPA 3550						
1-Methylnaphthalene	**0.15**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	90-12-0	
2-Chloronaphthalene	**0.026**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	91-58-7	
2-Methylnaphthalene	**0.068**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	91-57-6	
Acenaphthene	**0.025**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	83-32-9	
Acenaphthylene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	208-96-8	
Anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	207-08-9	
Chrysene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	53-70-3	
Fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	206-44-0	
Fluorene	**0.040**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	193-39-5	
Naphthalene	**0.096**	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	91-20-3	
Phenanthrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	85-01-8	
Pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/16/19 23:49	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	80	%.	30-125	1	10/14/19 13:56	10/16/19 23:49	321-60-8	
p-Terphenyl-d14 (S)	87	%.	30-125	1	10/14/19 13:56	10/16/19 23:49	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-B-2-10.0 **Lab ID: 10495370006** Collected: 10/11/19 08:45 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	15.6	1	10/14/19 12:12	10/18/19 04:03	68334-30-5	
Motor Oil Range	ND	mg/kg	10.4	1	10/14/19 12:12	10/18/19 04:03		
Surrogates								
n-Triacontane (S)	75	%.	50-150	1	10/14/19 12:12	10/18/19 04:03	638-68-6	
o-Terphenyl (S)	76	%.	50-150	1	10/14/19 12:12	10/18/19 04:03	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	5.5	1	10/24/19 14:31	10/25/19 19:11		
Surrogates								
a,a,a-Trifluorotoluene (S)	98	%.	50-150	1	10/24/19 14:31	10/25/19 19:11	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**3.8**	%	0.10	1		10/24/19 13:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-B-1-6.0 **Lab ID: 10495370007** Collected: 10/11/19 09:20 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	**2050**	mg/kg	172	10	10/14/19 12:12	10/18/19 17:11	68334-30-5	
Motor Oil Range	ND	mg/kg	11.4	1	10/14/19 12:12	10/18/19 04:14		
Surrogates								
n-Triacontane (S)	89	%.	50-150	1	10/14/19 12:12	10/18/19 04:14	638-68-6	
o-Terphenyl (S)	79	%.	50-150	1	10/14/19 12:12	10/18/19 04:14	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**765**	mg/kg	26.4	5	10/24/19 14:31	10/25/19 02:26		G+
Surrogates								
a,a,a-Trifluorotoluene (S)	75	%.	50-150	5	10/24/19 14:31	10/25/19 02:26	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**12.6**	%	0.10	1		10/24/19 13:59		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
1-Methylnaphthalene	**0.50**	mg/kg	0.23	20	10/14/19 13:56	10/21/19 18:50	90-12-0	
2-Chloronaphthalene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	91-58-7	
2-Methylnaphthalene	**1.4**	mg/kg	0.11	10	10/14/19 13:56	10/18/19 13:25	91-57-6	
Acenaphthene	**0.13**	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	83-32-9	
Acenaphthylene	**0.063**	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	208-96-8	
Anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	207-08-9	
Chrysene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	53-70-3	
Fluoranthene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	206-44-0	
Fluorene	**0.081**	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	193-39-5	
Naphthalene	**0.18**	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	91-20-3	
Phenanthrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	85-01-8	
Pyrene	ND	mg/kg	0.011	1	10/14/19 13:56	10/17/19 00:10	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	58	%.	30-125	1	10/14/19 13:56	10/17/19 00:10	321-60-8	
p-Terphenyl-d14 (S)	89	%.	30-125	1	10/14/19 13:56	10/17/19 00:10	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-B-1-10.0 **Lab ID: 10495370008** Collected: 10/11/19 09:30 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	17.4	1	10/14/19 17:40	10/22/19 01:16	68334-30-5	R1
Motor Oil Range	ND	mg/kg	11.6	1	10/14/19 17:40	10/22/19 01:16		
Surrogates								
n-Triacontane (S)	93	%.	50-150	1	10/14/19 17:40	10/22/19 01:16	638-68-6	
o-Terphenyl (S)	87	%.	50-150	1	10/14/19 17:40	10/22/19 01:16	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	7.6	1	10/24/19 14:31	10/25/19 01:19		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	50-150	1	10/24/19 14:31	10/25/19 01:19	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**13.8**	%	0.10	1		10/24/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-MW-10-6.0 **Lab ID: 10495370009** Collected: 10/11/19 10:45 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	16.8	1	10/14/19 17:40	10/22/19 01:50	68334-30-5	
Motor Oil Range	ND	mg/kg	11.2	1	10/14/19 17:40	10/22/19 01:50		
Surrogates								
n-Triacontane (S)	89	%.	50-150	1	10/14/19 17:40	10/22/19 01:50	638-68-6	
o-Terphenyl (S)	88	%.	50-150	1	10/14/19 17:40	10/22/19 01:50	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	8.1	1	10/24/19 14:31	10/25/19 01:36		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	50-150	1	10/24/19 14:31	10/25/19 01:36	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**12.0**	%	0.10	1		10/24/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-MW-10-15. **Lab ID: 10495370010** Collected: 10/11/19 11:00 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	20.5	1	10/14/19 17:40	10/22/19 02:01	68334-30-5	
Motor Oil Range	ND	mg/kg	13.7	1	10/14/19 17:40	10/22/19 02:01		
Surrogates								
n-Triacontane (S)	91	%.	50-150	1	10/14/19 17:40	10/22/19 02:01	638-68-6	
o-Terphenyl (S)	87	%.	50-150	1	10/14/19 17:40	10/22/19 02:01	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	7.3	1	10/24/19 14:31	10/25/19 01:53		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	50-150	1	10/24/19 14:31	10/25/19 01:53	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**27.1**	%	0.10	1		10/24/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-MW-11-6.0 **Lab ID: 10495370011** Collected: 10/11/19 13:15 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	18.8	1	10/14/19 17:40	10/22/19 02:13	68334-30-5	
Motor Oil Range	ND	mg/kg	12.5	1	10/14/19 17:40	10/22/19 02:13		
Surrogates								
n-Triacontane (S)	90	%.	50-150	1	10/14/19 17:40	10/22/19 02:13	638-68-6	
o-Terphenyl (S)	86	%.	50-150	1	10/14/19 17:40	10/22/19 02:13	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	7.7	1	10/24/19 14:31	10/25/19 00:45		
Surrogates								
a,a,a-Trifluorotoluene (S)	89	%.	50-150	1	10/24/19 14:31	10/25/19 00:45	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**20.1**	%	0.10	1		10/24/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-MW-11-15. **Lab ID: 10495370012** Collected: 10/11/19 13:30 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	ND	mg/kg	16.3	1	10/14/19 17:40	10/22/19 02:25	68334-30-5	
Motor Oil Range	ND	mg/kg	10.8	1	10/14/19 17:40	10/22/19 02:25		
Surrogates								
n-Triacontane (S)	88	%.	50-150	1	10/14/19 17:40	10/22/19 02:25	638-68-6	
o-Terphenyl (S)	83	%.	50-150	1	10/14/19 17:40	10/22/19 02:25	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	5.7	1	10/24/19 14:31	10/25/19 04:57		
Surrogates								
a,a,a-Trifluorotoluene (S)	89	%.	50-150	1	10/24/19 14:31	10/25/19 04:57	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**8.0**	%	0.10	1		10/24/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-B-4-6.3 **Lab ID: 10495370013** Collected: 10/11/19 14:15 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	**101**	mg/kg	16.4	1	10/14/19 17:40	10/22/19 02:36	68334-30-5	
Motor Oil Range	ND	mg/kg	10.9	1	10/14/19 17:40	10/22/19 02:36		
Surrogates								
n-Triacontane (S)	85	%.	50-150	1	10/14/19 17:40	10/22/19 02:36	638-68-6	
o-Terphenyl (S)	82	%.	50-150	1	10/14/19 17:40	10/22/19 02:36	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	**116**	mg/kg	27.3	5	10/24/19 14:31	10/25/19 04:24		G+
Surrogates								
a,a,a-Trifluorotoluene (S)	76	%.	50-150	5	10/24/19 14:31	10/25/19 04:24	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**9.5**	%	0.10	1		10/24/19 14:00		

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Sample: S-11145847-101119-EM-B-4-10.0 **Lab ID: 10495370014** Collected: 10/11/19 14:30 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	**276**	mg/kg	15.5	1	10/14/19 17:40	10/22/19 02:47	68334-30-5	
Motor Oil Range	ND	mg/kg	10.3	1	10/14/19 17:40	10/22/19 02:47		
Surrogates								
n-Triacontane (S)	86	%.	50-150	1	10/14/19 17:40	10/22/19 02:47	638-68-6	
o-Terphenyl (S)	84	%.	50-150	1	10/14/19 17:40	10/22/19 02:47	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	**151**	mg/kg	23.7	5	10/25/19 12:53	10/25/19 15:30		
Surrogates								
a,a,a-Trifluorotoluene (S)	79	%.	50-150	5	10/25/19 12:53	10/25/19 15:30	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**3.6**	%	0.10	1		10/24/19 14:01		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 639918 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10495370001, 10495370002, 10495370003, 10495370004

METHOD BLANK: 3447703 Matrix: Solid
Associated Lab Samples: 10495370001, 10495370002, 10495370003, 10495370004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/23/19 11:23	
a,a,a-Trifluorotoluene (S)	%.	92	50-150	10/23/19 11:23	

METHOD BLANK: 3447704 Matrix: Solid
Associated Lab Samples: 10495370001, 10495370002, 10495370003, 10495370004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/23/19 19:16	
a,a,a-Trifluorotoluene (S)	%.	89	50-150	10/23/19 19:16	

LABORATORY CONTROL SAMPLE & LCSD: 3447705 3447706

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	48.9	46.8	98	94	69-125	4	20	
a,a,a-Trifluorotoluene (S)	%.				102	101	50-150			

SAMPLE DUPLICATE: 3447941

Parameter	Units	10495370001 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	320	378	17	30	1M,E,SS
a,a,a-Trifluorotoluene (S)	%.	77	75			

SAMPLE DUPLICATE: 3447947

Parameter	Units	10495370004 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	432	644	39	30	D6
a,a,a-Trifluorotoluene (S)	%.	77	74			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 640671 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10495370005, 10495370006, 10495370007, 10495370008, 10495370009, 10495370010, 10495370011, 10495370012, 10495370013

METHOD BLANK: 3450953 Matrix: Solid
Associated Lab Samples: 10495370005, 10495370006, 10495370007, 10495370008, 10495370009, 10495370010, 10495370011, 10495370012, 10495370013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/24/19 18:20	
a,a,a-Trifluorotoluene (S)	%.	98	50-150	10/24/19 18:20	

METHOD BLANK: 3450954 Matrix: Solid
Associated Lab Samples: 10495370005, 10495370006, 10495370007, 10495370008, 10495370009, 10495370010, 10495370011, 10495370012, 10495370013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/24/19 23:38	
a,a,a-Trifluorotoluene (S)	%.	90	50-150	10/24/19 23:38	

LABORATORY CONTROL SAMPLE & LCSD: 3450955 3450956

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	42.3	43.5	85	87	69-125	3	20	
a,a,a-Trifluorotoluene (S)	%.				99	100	50-150			

SAMPLE DUPLICATE: 3450991

Parameter	Units	10495370005 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	511	540	5	30	
a,a,a-Trifluorotoluene (S)	%.	74	75			

SAMPLE DUPLICATE: 3450992

Parameter	Units	10495370011 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	ND	ND		30	
a,a,a-Trifluorotoluene (S)	%.	89	89			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 640880 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10495370014

METHOD BLANK: 3452020 Matrix: Solid
Associated Lab Samples: 10495370014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/25/19 13:27	
a,a,a-Trifluorotoluene (S)	%.	101	50-150	10/25/19 13:27	

LABORATORY CONTROL SAMPLE & LCSD: 3452022 3452023

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	41.7	46.2	83	92	69-125	10	20	
a,a,a-Trifluorotoluene (S)	%.				101	109	50-150			

SAMPLE DUPLICATE: 3452137

Parameter	Units	10495370014 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	151	163	7	30	
a,a,a-Trifluorotoluene (S)	%.	79	85			

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 640489 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight / %M by ASTM D2974
Associated Lab Samples: 10495370001, 10495370002, 10495370003, 10495370004, 10495370005, 10495370006

SAMPLE DUPLICATE: 3450295

Parameter	Units	10495305001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.0	11.5	5	30	

SAMPLE DUPLICATE: 3450824

Parameter	Units	10495639003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.6	9.8	2	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 640503 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight / %M by ASTM D2974
Associated Lab Samples: 10495370007, 10495370008, 10495370009, 10495370010, 10495370011, 10495370012, 10495370013, 10495370014

SAMPLE DUPLICATE: 3450357

Parameter	Units	10495375018 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	27.1	27.8	3	30	

SAMPLE DUPLICATE: 3450895

Parameter	Units	10495370011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.1	19.6	3	30	

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 638138 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA 3550 Analysis Description: 8270D Solid PAH by SIM MSSV
Associated Lab Samples: 10495370001, 10495370004, 10495370005, 10495370007

METHOD BLANK: 3439824 Matrix: Solid
Associated Lab Samples: 10495370001, 10495370004, 10495370005, 10495370007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.010	10/16/19 11:11	
2-Chloronaphthalene	mg/kg	ND	0.010	10/16/19 11:11	
2-Methylnaphthalene	mg/kg	ND	0.010	10/16/19 11:11	
Acenaphthene	mg/kg	ND	0.010	10/16/19 11:11	
Acenaphthylene	mg/kg	ND	0.010	10/16/19 11:11	
Anthracene	mg/kg	ND	0.010	10/16/19 11:11	
Benzo(a)anthracene	mg/kg	ND	0.010	10/16/19 11:11	
Benzo(a)pyrene	mg/kg	ND	0.010	10/16/19 11:11	
Benzo(b)fluoranthene	mg/kg	ND	0.010	10/16/19 11:11	
Benzo(g,h,i)perylene	mg/kg	ND	0.010	10/16/19 11:11	
Benzo(k)fluoranthene	mg/kg	ND	0.010	10/16/19 11:11	
Chrysene	mg/kg	ND	0.010	10/16/19 11:11	
Dibenz(a,h)anthracene	mg/kg	ND	0.010	10/16/19 11:11	
Fluoranthene	mg/kg	ND	0.010	10/16/19 11:11	
Fluorene	mg/kg	ND	0.010	10/16/19 11:11	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.010	10/16/19 11:11	
Naphthalene	mg/kg	ND	0.010	10/16/19 11:11	
Phenanthrene	mg/kg	ND	0.010	10/16/19 11:11	
Pyrene	mg/kg	ND	0.010	10/16/19 11:11	
2-Fluorobiphenyl (S)	%.	89	30-125	10/16/19 11:11	
p-Terphenyl-d14 (S)	%.	95	30-125	10/16/19 11:11	

LABORATORY CONTROL SAMPLE: 3439825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.033	0.025	76	33-125	
2-Chloronaphthalene	mg/kg	0.033	0.027	82	47-125	
2-Methylnaphthalene	mg/kg	0.033	0.025	76	49-125	
Acenaphthene	mg/kg	0.033	0.028	84	46-125	
Acenaphthylene	mg/kg	0.033	0.028	85	44-125	
Anthracene	mg/kg	0.033	0.028	84	62-125	
Benzo(a)anthracene	mg/kg	0.033	0.031	93	53-125	
Benzo(a)pyrene	mg/kg	0.033	0.027	80	62-125	
Benzo(b)fluoranthene	mg/kg	0.033	0.028	85	51-125	
Benzo(g,h,i)perylene	mg/kg	0.033	0.026	78	58-125	
Benzo(k)fluoranthene	mg/kg	0.033	0.026	79	59-125	
Chrysene	mg/kg	0.033	0.030	90	59-125	
Dibenz(a,h)anthracene	mg/kg	0.033	0.027	80	60-125	
Fluoranthene	mg/kg	0.033	0.029	86	67-125	
Fluorene	mg/kg	0.033	0.028	84	51-125	

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

LABORATORY CONTROL SAMPLE: 3439825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Indeno(1,2,3-cd)pyrene	mg/kg	0.033	0.026	78	59-125	
Naphthalene	mg/kg	0.033	0.025	75	47-125	
Phenanthrene	mg/kg	0.033	0.027	80	61-125	
Pyrene	mg/kg	0.033	0.030	89	52-125	
2-Fluorobiphenyl (S)	%.			83	30-125	
p-Terphenyl-d14 (S)	%.			89	30-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3439826 3439827

Parameter	Units	10495312006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	ND	0.039	0.039	0.030	0.029	77	74	30-125	4	30	
2-Chloronaphthalene	mg/kg	ND	0.039	0.039	0.031	0.030	80	78	38-125	2	30	
2-Methylnaphthalene	mg/kg	ND	0.039	0.039	0.030	0.029	78	75	30-125	4	30	
Acenaphthene	mg/kg	ND	0.039	0.039	0.033	0.031	85	80	30-125	6	30	
Acenaphthylene	mg/kg	ND	0.039	0.039	0.035	0.032	90	82	30-125	9	30	
Anthracene	mg/kg	ND	0.039	0.039	0.036	0.034	92	87	30-131	5	30	
Benzo(a)anthracene	mg/kg	0.013	0.039	0.039	0.049	0.038	91	63	30-126	25	30	
Benzo(a)pyrene	mg/kg	0.012	0.039	0.039	0.040	0.034	72	55	30-150	18	30	
Benzo(b)fluoranthene	mg/kg	0.017	0.039	0.039	0.045	0.035	73	47	30-150	25	30	
Benzo(g,h,i)perylene	mg/kg	ND	0.039	0.039	0.036	0.031	92	81	30-150	13	30	
Benzo(k)fluoranthene	mg/kg	ND	0.039	0.039	0.038	0.033	98	86	30-150	14	30	
Chrysene	mg/kg	0.014	0.039	0.039	0.046	0.037	82	60	30-150	21	30	
Dibenz(a,h)anthracene	mg/kg	ND	0.039	0.039	0.030	0.030	78	77	30-143	1	30	
Fluoranthene	mg/kg	0.030	0.039	0.039	0.066	0.038	91	20	30-143	53	30	M1,R1
Fluorene	mg/kg	ND	0.039	0.039	0.034	0.032	88	82	30-138	6	30	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.039	0.039	0.035	0.031	89	80	30-150	11	30	
Naphthalene	mg/kg	ND	0.039	0.039	0.030	0.028	76	73	30-125	4	30	
Phenanthrene	mg/kg	ND	0.039	0.039	0.052	0.032	133	83	30-142	46	30	R1
Pyrene	mg/kg	0.026	0.039	0.039	0.062	0.038	94	32	30-149	49	30	R1
2-Fluorobiphenyl (S)	%.						83	81	30-125			
p-Terphenyl-d14 (S)	%.						87	88	30-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 638055 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3550 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 10495370001, 10495370002, 10495370003, 10495370004, 10495370005, 10495370006, 10495370007

METHOD BLANK: 3439570 Matrix: Solid
Associated Lab Samples: 10495370001, 10495370002, 10495370003, 10495370004, 10495370005, 10495370006, 10495370007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	ND	15.0	10/17/19 23:52	
Motor Oil Range	mg/kg	ND	10.0	10/17/19 23:52	
n-Triacontane (S)	%.	87	50-150	10/17/19 23:52	
o-Terphenyl (S)	%.	82	50-150	10/17/19 23:52	

LABORATORY CONTROL SAMPLE: 3439571

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	43.1	86	50-150	
Motor Oil Range	mg/kg	50	44.2	88	50-150	
n-Triacontane (S)	%.			90	50-150	
o-Terphenyl (S)	%.			86	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3439572 3439573

Parameter	Units	10494835001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	116	53.8	53.8	157	220	76	193	50-150	33	30	M1,R1
Motor Oil Range	mg/kg	ND	53.8	53.8	50.1	50.0	88	88	50-150	0	30	
n-Triacontane (S)	%.						88	82	50-150			
o-Terphenyl (S)	%.						83	85	50-150			

SAMPLE DUPLICATE: 3439962

Parameter	Units	10495370001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/kg	755	769	2	30	
Motor Oil Range	mg/kg	ND	ND		30	
n-Triacontane (S)	%.	85	79			
o-Terphenyl (S)	%.	80	78			

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

QC Batch: 638216 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3550 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 10495370008, 10495370009, 10495370010, 10495370011, 10495370012, 10495370013, 10495370014

METHOD BLANK: 3440058 Matrix: Solid
Associated Lab Samples: 10495370008, 10495370009, 10495370010, 10495370011, 10495370012, 10495370013, 10495370014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	ND	15.0	10/21/19 23:44	
Motor Oil Range	mg/kg	ND	10.0	10/21/19 23:44	
n-Triacontane (S)	%.	86	50-150	10/21/19 23:44	
o-Terphenyl (S)	%.	86	50-150	10/21/19 23:44	

LABORATORY CONTROL SAMPLE: 3440059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	44.9	90	50-150	
Motor Oil Range	mg/kg	50	47.4	95	50-150	
n-Triacontane (S)	%.			90	50-150	
o-Terphenyl (S)	%.			90	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3440060 3440061

Parameter	Units	10495370008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	ND	58	57.3	49.2	67.3	76	108	50-150	31	30	R1
Motor Oil Range	mg/kg	ND	58	57.3	55.1	57.1	86	90	50-150	4	30	
n-Triacontane (S)	%.						90	91	50-150			
o-Terphenyl (S)	%.						91	91	50-150			

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1M	Result confirmed by second analysis performed outside of holding time.
2M	Sample preserved in lab; results are from sample aliquot taken from a glass jar with headspace.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
G+	Late peaks present outside the GRO window.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10495370001	S-11145847-100919-EM-MW-12-5.0	EPA 3550	638055	NWTPH-Dx	639298
10495370002	S-11145847-101019-EM-MW-12-31.	EPA 3550	638055	NWTPH-Dx	639298
10495370003	S-11145847-101019-EM-MW12-44.	EPA 3550	638055	NWTPH-Dx	639298
10495370004	S-11145847-101019-EM-B-3-6.0	EPA 3550	638055	NWTPH-Dx	639298
10495370005	S-11145847-101119-EM-B-2-6.0	EPA 3550	638055	NWTPH-Dx	639298
10495370006	S-11145847-101119-EM-B-2-10.0	EPA 3550	638055	NWTPH-Dx	639298
10495370007	S-11145847-101119-EM-B-1-6.0	EPA 3550	638055	NWTPH-Dx	639298
10495370008	S-11145847-101119-EM-B-1-10.0	EPA 3550	638216	NWTPH-Dx	639889
10495370009	S-11145847-101119-EM-MW-10-6.0	EPA 3550	638216	NWTPH-Dx	639889
10495370010	S-11145847-101119-EM-MW-10-15.	EPA 3550	638216	NWTPH-Dx	639889
10495370011	S-11145847-101119-EM-MW-11-6.0	EPA 3550	638216	NWTPH-Dx	639889
10495370012	S-11145847-101119-EM-MW-11-15.	EPA 3550	638216	NWTPH-Dx	639889
10495370013	S-11145847-101119-EM-B-4-6.3	EPA 3550	638216	NWTPH-Dx	639889
10495370014	S-11145847-101119-EM-B-4-10.0	EPA 3550	638216	NWTPH-Dx	639889
10495370001	S-11145847-100919-EM-MW-12-5.0	NWTPH-Gx	639918	NWTPH-Gx	640345
10495370002	S-11145847-101019-EM-MW-12-31.	NWTPH-Gx	639918	NWTPH-Gx	640345
10495370003	S-11145847-101019-EM-MW12-44.	NWTPH-Gx	639918	NWTPH-Gx	640345
10495370004	S-11145847-101019-EM-B-3-6.0	NWTPH-Gx	639918	NWTPH-Gx	640345
10495370005	S-11145847-101119-EM-B-2-6.0	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370006	S-11145847-101119-EM-B-2-10.0	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370007	S-11145847-101119-EM-B-1-6.0	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370008	S-11145847-101119-EM-B-1-10.0	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370009	S-11145847-101119-EM-MW-10-6.0	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370010	S-11145847-101119-EM-MW-10-15.	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370011	S-11145847-101119-EM-MW-11-6.0	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370012	S-11145847-101119-EM-MW-11-15.	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370013	S-11145847-101119-EM-B-4-6.3	NWTPH-Gx	640671	NWTPH-Gx	640698
10495370014	S-11145847-101119-EM-B-4-10.0	NWTPH-Gx	640880	NWTPH-Gx	640906
10495370001	S-11145847-100919-EM-MW-12-5.0	ASTM D2974	640489		
10495370002	S-11145847-101019-EM-MW-12-31.	ASTM D2974	640489		
10495370003	S-11145847-101019-EM-MW12-44.	ASTM D2974	640489		
10495370004	S-11145847-101019-EM-B-3-6.0	ASTM D2974	640489		
10495370005	S-11145847-101119-EM-B-2-6.0	ASTM D2974	640489		
10495370006	S-11145847-101119-EM-B-2-10.0	ASTM D2974	640489		
10495370007	S-11145847-101119-EM-B-1-6.0	ASTM D2974	640503		
10495370008	S-11145847-101119-EM-B-1-10.0	ASTM D2974	640503		
10495370009	S-11145847-101119-EM-MW-10-6.0	ASTM D2974	640503		
10495370010	S-11145847-101119-EM-MW-10-15.	ASTM D2974	640503		
10495370011	S-11145847-101119-EM-MW-11-6.0	ASTM D2974	640503		
10495370012	S-11145847-101119-EM-MW-11-15.	ASTM D2974	640503		
10495370013	S-11145847-101119-EM-B-4-6.3	ASTM D2974	640503		
10495370014	S-11145847-101119-EM-B-4-10.0	ASTM D2974	640503		
10495370001	S-11145847-100919-EM-MW-12-5.0	EPA 3550	638138	EPA 8270D by SIM	638638
10495370004	S-11145847-101019-EM-B-3-6.0	EPA 3550	638138	EPA 8270D by SIM	638638
10495370005	S-11145847-101119-EM-B-2-6.0	EPA 3550	638138	EPA 8270D by SIM	638638

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11145847 Geiger Corrections Ce
Pace Project No.: 10495370

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10495370007	**S-11145847-101119-EM-B-1-6.0**	EPA 3550	638138	EPA 8270D by SIM	638638

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD Services Inc	Report To:	Moshghan Mansoori	Attention:	Jeffrey Cloud ; apinvoices360@ghd.com
Address:	20818 44th Avenue West	Copy To:	Emily Blakeway@ghd.com; Jeffrey.cloud@ghd.com	Company Name:	GHD Services, Inc. - 340
	Lynnwood WA 98036			Address:	2055 Niagara Falls Blvd., Niagara Falls, NY 14304
Email:	moshghan.mansoori@ghd.com	Purchase Order #		Pace Quote:	
Phone:	(425)563-5616 Fax	Project Name:	Geiger Corrections Center	Pace Project Manager:	jennifer.gross@pacelabs.com
Requested Due Date:	Standard (10 Days)	Project #:	11145847	Pace Profile #:	40446 / 2

Regulatory Agency

State / Location

WO# : 10495370

10495370

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF BOTTLES	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	NWTPH-HCID	NWTPH-Gx	8260 BTEX	8260 Naphthalene	8260 n-hexane	PAH 8270 by SIM	NWETPH	NWVPH	Residual Chlorine	Additional Comments
1	S-11145847-100919-EM-MW-12-5.0	SL	G	10/9	1420				10	X					X	X			X	X	X	X	X	X	X		~~to~~ 5 col
2	S-11145847-101019-EM-MW-12-31.0	SL	G	10/10	1115				6	X					X	X			X	X	X	X					w2
3	S-11145847-101019-EM-MW12-44.0	SL	G	10/10	1330				6	X					X	X			X	X	X	X					w3
4	S-11145847-101019-EM-B-3-6.0	SL	G	10/10	1530				10	X					X	X			X	X	X	X	X	X	X		w4
5	S-11145847-101119-EM-B-2-6.0	SL	G	10/11	0830				10	X					X	X			X	X	X	X	X	X	X		w5
6	S-11145847-101119-EM-B-2-10.0	SL	G	10/11	0845				6	X					X	X			X	X	X	X					w6
7	S-11145847-101119-EM-B-1-6.0	SL	G	10/11	0920				10	X					X	X			X	X	X	X	X	X	X		w7
8	S-11145847-101119-EM-B-1-10.0	SL	G	10/11	0930				6	X					X	X			X	X	X	X					w8
9	S-11145847-101119-EM-MW-10-6.0	SL	G	10/11	1045				6	X					X	X			X	X	X	X					w9
10	S-11145847-101119-EM-MW-10-15.0	SL	G	10/11	1100				6	X					X	X			X	X	X	X					d10
11	S-11145847-101119-EM-MW-11-6.0	SL	G	10/11	1315				6	X					X	X			X	X	X	X					d11
12	S-11145847-101119-EM-MW-11-15.0	SL	G	10/11	1330				6	X					X	X			X	X	X	X					d12

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
11145847-2019 Pace DSOW Soil Waste 11145847 PM Geiger	Eric Maise	10/11/19	1600		10/11/19	9:00	1.2	Y	N	Y
							1.0			
							0.7			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Maise

SIGNATURE of SAMPLER: Eric Maise DATE Signed: 10/10/19

Temp in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 2 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD Services Inc	Report To:	Moshghan Mansoori	Attention:	Jeffrey Cloud | apinvoices360@ghd.com
Address:	20818 44th Avenue West	Copy To:	Emily.Blakeway@ghd.com; Jeffrey.cloud@ghd.com	Company Name:	GHD Services, Inc. - 340
	Lynnwood, WA 98036			Address:	2055 Niagara Falls Blvd. Niagara Falls, NY 14304
Email:	moshghan.mansoori@ghd.com	Purchase Order #:		Pace Quote:	
Phone:	(425)563-5616 Fax	Project Name:	~~Enterprise Delivery Facility~~ Bieger Collections	Pace Project Manager:	jennifer.gross@pacelabs.com
Requested Due Date:	Standard (10 Days)	Project #:	11145847 ~~11145849~~	Pace Profile #:	~~40447/2~~ 40446/2

Regulatory Agency
State / Location
WA / Spokane

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	NWTPH-DX	NWTPH-Gx	8260 BTEX	8260 n-hexane /Naphthalene	PAH 8270 by SIM	NWTPH	NWTPH	Residual Chlorine (Y/N)	
1	S-11145847-101119-EM-B-4-6.3	SL	G	10/11	1415				6	X					X				X	X	X						d13
2	S-11145847-101119-EM-B-4-10.0	SL	G	10/11	1430				6	X					X				X	X	X						d14
3	trip blanks								2						X						X						d15
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
11145849-2019 Pace SSOW Soil Waste | 11145849-PH-Fair	GHD	10/11	1600		10/12/19	9:10	1.2	Y	N	Y
							1.0			
							0.7			

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	Eric Maise	
SIGNATURE of SAMPLER:		DATE Signed: 10/11/19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 23Aug2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.29**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD

Project #: **WO#: 10495370**

PM: JMG **Due Date: 10/28/19**

CLIENT: GHD_WA

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exceptions** ☐

Tracking Number: 7475 9399 9215; 9204 9190

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ T1(0461) ☐ T2(1336) ☒ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.2, 1.0, 0.7 °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 0.7, 1.2, 1.0 °C

Average Corrected Temp (no temp blank only): ☐ See Exceptions _____ °C ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/Other:_____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No

Date/Initials of Person Examining Contents: 10/12/19

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☐ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other_____				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 123118-3

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ Jenni Gross _____ **Date:** 10/14/19

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

Labeled by: [illegible]

October 25, 2019

Ms. Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414

Dear Ms. Gross,

On October 18th, 4 samples were received by our laboratory and assigned our laboratory project number EV19100131. The project was identified as your 10495370 - 11145847 Geiger Corrections. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE:	10/25/2019
		ALS JOB#:	EV19100131
		ALS SAMPLE#:	EV19100131-01
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/9/2019 2:20:00 PM
CLIENT SAMPLE ID	S-11145847-100919-EM-MW-12-5.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aliphatics	NWVPH	**9.6**	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aromatics	NWVPH	**38**	5.0	1	MG/KG	10/19/2019	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	10/19/2019	KLS
>C10-C12 Aliphatics	NWEPH	**250**	5.0	1	MG/KG	10/21/2019	EBS
>C12-C16 Aliphatics	NWEPH	**530**	5.0	1	MG/KG	10/21/2019	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	10/21/2019	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	10/21/2019	EBS
>C10-C12 Aromatics	NWEPH	**6.3**	5.0	1	MG/KG	10/22/2019	EBS
>C12-C16 Aromatics	NWEPH	**80**	5.0	1	MG/KG	10/22/2019	EBS
>C16-C21 Aromatics	NWEPH	**12**	5.0	1	MG/KG	10/22/2019	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	10/22/2019	EBS
% Solids	SM2540G	**94.0**	1.00	1	%	10/19/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT - Aliphatic	NWVPH	**75.6**	10/19/2019	KLS
TFT - Aromatic	NWVPH	**104**	10/19/2019	KLS
TFT - Hexane	NWVPH	**74.9**	10/19/2019	KLS
C25	NWEPH	**97.4**	10/21/2019	EBS
p-Terphenyl	NWEPH	**83.7**	10/22/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/25/2019 EV19100131 EV19100131-02
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/10/2019 3:30:00 PM
CLIENT SAMPLE ID	S-11145847-101019-EM-B-3-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aromatics	NWVPH	**95**	5.0	1	MG/KG	10/19/2019	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	10/19/2019	KLS
>C10-C12 Aliphatics	NWEPH	**290**	5.0	1	MG/KG	10/21/2019	EBS
>C12-C16 Aliphatics	NWEPH	**660**	5.0	1	MG/KG	10/21/2019	EBS
>C16-C21 Aliphatics	NWEPH	**7.4**	5.0	1	MG/KG	10/21/2019	EBS
>C21-C34 Aliphatics	NWEPH	**21**	5.0	1	MG/KG	10/21/2019	EBS
>C10-C12 Aromatics	NWEPH	**37**	5.0	1	MG/KG	10/22/2019	EBS
>C12-C16 Aromatics	NWEPH	**150**	5.0	1	MG/KG	10/22/2019	EBS
>C16-C21 Aromatics	NWEPH	**17**	5.0	1	MG/KG	10/22/2019	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	10/22/2019	EBS
% Solids	SM2540G	**82.4**	1.00	1	%	10/19/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT - Aliphatic	NWVPH	**66.6**	10/19/2019	KLS
TFT - Aromatic	NWVPH	**72.8**	10/19/2019	KLS
TFT - Hexane	NWVPH	**66.8**	10/19/2019	KLS
C25	NWEPH	**97.1**	10/21/2019	EBS
p-Terphenyl	NWEPH	**88.7**	10/22/2019	EBS

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/25/2019 EV19100131 EV19100131-03
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 8:30:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-2-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aromatics	NWVPH	**130**	5.0	1	MG/KG	10/19/2019	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	10/19/2019	KLS
>C10-C12 Aliphatics	NWEPH	**990**	5.0	1	MG/KG	10/21/2019	EBS
>C12-C16 Aliphatics	NWEPH	**1500**	5.0	1	MG/KG	10/21/2019	EBS
>C16-C21 Aliphatics	NWEPH	**7.5**	5.0	1	MG/KG	10/21/2019	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	10/21/2019	EBS
>C10-C12 Aromatics	NWEPH	**62**	5.0	1	MG/KG	10/22/2019	EBS
>C12-C16 Aromatics	NWEPH	**290**	5.0	1	MG/KG	10/22/2019	EBS
>C16-C21 Aromatics	NWEPH	**31**	5.0	1	MG/KG	10/22/2019	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	10/22/2019	EBS
% Solids	SM2540G	**87.4**	1.00	1	%	10/19/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT - Aliphatic	NWVPH	**78.4**	10/19/2019	KLS
TFT - Aromatic	NWVPH	**103**	10/19/2019	KLS
TFT - Hexane	NWVPH	**78.8**	10/19/2019	KLS
C25	NWEPH	**100**	10/21/2019	EBS
p-Terphenyl	NWEPH	**81.3**	10/22/2019	EBS

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/25/2019 EV19100131 EV19100131-04
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 9:20:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-1-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	10/19/2019	KLS
>C8-C10 Aromatics	NWVPH	**210**	5.0	1	MG/KG	10/19/2019	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	10/19/2019	KLS
>C10-C12 Aliphatics	NWEPH	**630**	5.0	1	MG/KG	10/22/2019	EBS
>C12-C16 Aliphatics	NWEPH	**920**	5.0	1	MG/KG	10/22/2019	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	10/22/2019	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	10/22/2019	EBS
>C10-C12 Aromatics	NWEPH	**80**	5.0	1	MG/KG	10/22/2019	EBS
>C12-C16 Aromatics	NWEPH	**260**	5.0	1	MG/KG	10/22/2019	EBS
>C16-C21 Aromatics	NWEPH	**25**	5.0	1	MG/KG	10/22/2019	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	10/22/2019	EBS
% Solids	SM2540G	**90.2**	1.00	1	%	10/19/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT - Aliphatic	NWVPH	**73.2**	10/19/2019	KLS
TFT - Aromatic	NWVPH	**100**	10/19/2019	KLS
TFT - Hexane	NWVPH	**73.1**	10/19/2019	KLS
C25	NWEPH	**94.0**	10/22/2019	EBS
p-Terphenyl	NWEPH	**88.2**	10/22/2019	EBS

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE:	10/25/2019
		ALS SDG#:	EV19100131
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Jennifer Gross		
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections		

LABORATORY BLANK RESULTS

MB-101819S - Batch R349129 - Soil by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	MG/KG	5.0	10/18/2019	KLS
>C6-C8 Aliphatics	NWVPH	U	MG/KG	5.0	10/18/2019	KLS
>C8-C10 Aliphatics	NWVPH	U	MG/KG	5.0	10/18/2019	KLS
>C8-C10 Aromatics	NWVPH	U	MG/KG	5.0	10/18/2019	KLS
Hexane	NWVPH	U	MG/KG	0.20	10/18/2019	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-101919S - Batch 146809 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	10/21/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS SDG#: WDOE ACCREDITATION:	10/25/2019 EV19100131 C601
CLIENT CONTACT:	Jennifer Gross		
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R349129 - Soil by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics - BS	NWVPH	**82.4**			70	130	10/18/2019	KLS
C5-C6 Aliphatics - BSD	NWVPH	**85.1**	**3**		70	130	10/18/2019	KLS
>C6-C8 Aliphatics - BS	NWVPH	**121**			70	130	10/18/2019	KLS
>C6-C8 Aliphatics - BSD	NWVPH	**118**	**3**		70	130	10/18/2019	KLS
>C8-C10 Aliphatics - BS	NWVPH	**115**			70	130	10/18/2019	KLS
>C8-C10 Aliphatics - BSD	NWVPH	**113**	**1**		70	130	10/18/2019	KLS
>C8-C10 Aromatics - BS	NWVPH	**96.8**			70	130	10/18/2019	KLS
>C8-C10 Aromatics - BSD	NWVPH	**97.3**	**1**		70	130	10/18/2019	KLS
Hexane - BS	NWVPH	**95.5**			70	130	10/18/2019	KLS
Hexane - BSD	NWVPH	**95.3**	**0**		70	130	10/18/2019	KLS

ALS Test Batch ID: 146809 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
>C10-C12 Aliphatics - BS	NWEPH	**94.7**			70	130	10/21/2019	EBS
>C10-C12 Aliphatics - BSD	NWEPH	**98.8**	**4**		70	130	10/21/2019	EBS
>C12-C16 Aliphatics - BS	NWEPH	**101**			70	130	10/21/2019	EBS
>C12-C16 Aliphatics - BSD	NWEPH	**108**	**6**		70	130	10/21/2019	EBS
>C16-C21 Aliphatics - BS	NWEPH	**101**			70	130	10/21/2019	EBS
>C16-C21 Aliphatics - BSD	NWEPH	**108**	**7**		70	130	10/21/2019	EBS
>C21-C34 Aliphatics - BS	NWEPH	**86.8**			70	130	10/21/2019	EBS
>C21-C34 Aliphatics - BSD	NWEPH	**96.8**	**11**		70	130	10/21/2019	EBS
>C10-C12 Aromatics - BS	NWEPH	**86.4**			70	130	10/21/2019	EBS
>C10-C12 Aromatics - BSD	NWEPH	**90.9**	**5**		70	130	10/21/2019	EBS
>C12-C16 Aromatics - BS	NWEPH	**93.3**			70	130	10/21/2019	EBS
>C12-C16 Aromatics - BSD	NWEPH	**95.4**	**2**		70	130	10/21/2019	EBS
>C16-C21 Aromatics - BS	NWEPH	**99.3**			70	130	10/21/2019	EBS
>C16-C21 Aromatics - BSD	NWEPH	**99.1**	**0**		70	130	10/21/2019	EBS
>C21-C34 Aromatics - BS	NWEPH	**83.2**			70	130	10/21/2019	EBS
>C21-C34 Aromatics - BSD	NWEPH	**90.7**	**9**		70	130	10/21/2019	EBS

APPROVED BY

Laboratory Director

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ALS Group USA, Corp dba ALS Environmental

EV19100131

Chain of Custody

PASI Minnesota Laboratory

Pace Analytical®
www.pacelabs.com

Workorder: 10495370 **Workorder Name:** 11145847 Geiger Corrections Ce **Results Requested By:** 10/28/2019

Report / Invoice To	Subcontract To
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426 Email: jennifer.gross@pacelabs.com	Test America 5755 8th Street East Tacoma, WA 98424 253-922-2310 P.O. 10495370

State of Sample Origin: WA

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: MeOH VG9M	Unpreserved JGCU					Requested Analysis: NW-VPH	NW-EPH	Dry Weight										LAB USE ONLY
1	S-11145847-100919-EM-MW-12-5.0	10/9/2019 14:20	10495370001	Solid	2	1					X	X	X										
2	S-11145847-101019-EM-B-3-6.0	10/10/2019 15:30	10495370004	Solid	2	1					X	X	X										
3	S-11145847-101119-EM-B-2-6.0	10/11/2019 08:30	10495370005	Solid	2	1					X	X	X										
4	S-11145847-101119-EM-B-1-6.0	10/11/2019 09:20	10495370007	Solid	2	1					X	X	X										
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1				10/15/19 1000
2		10-17-19		10-18-19 958
3				

Comments

Report in mg/kg
GHD EQuIS EDD required

Cooler Temperature on Receipt 1.8 °C | Custody Seal (Y) or N | Received on Ice (Y) or N | Samples Intact (Y) or N

Therm. ID: A2 Cor: 2.3° Unc: 3.0°
Cooler Dsc: M B FedEx: P10.
Packing: Bulk UPS:
Cust. Seal: Yes No Lab Cour:
Blue Ice, Wet, Dry, None Other:

October 23, 2019

Ms. Jennifer Gross
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414

Dear Ms. Gross,

On October 18th, 14 samples were received by our laboratory and assigned our laboratory project number EV19100128. The project was identified as your 10495370 - 11145847 Geiger Corrections. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-01
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/9/2019 2:20:00 PM
CLIENT SAMPLE ID	S-11145847-100919-EM-MW-12-5.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.28	1	MG/KG	10/22/2019	DLC
Benzene	EPA-8260	U	0.026	1	MG/KG	10/22/2019	DLC
Toluene	EPA-8260	U	0.015	1	MG/KG	10/22/2019	DLC
Ethylbenzene	EPA-8260	U	0.022	1	MG/KG	10/22/2019	DLC
m,p-Xylene	EPA-8260	U	0.043	1	MG/KG	10/22/2019	DLC
o-Xylene	EPA-8260	U	0.027	1	MG/KG	10/22/2019	DLC
Naphthalene	EPA-8260	U	0.020	1	MG/KG	10/22/2019	DLC
% Solids	SM2540G	**89.6**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**94.5**	10/22/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-02
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/10/2019 11:15:00 AM
CLIENT SAMPLE ID	S-11145847-101019-EM-MW-12-31.	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	**0.018**	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**91.6**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**85.0**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-03
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/10/2019 1:30:00 PM
CLIENT SAMPLE ID	S-11145847-101019-EM-MW12-44.	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**88.7**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**94.2**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-04
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/10/2019 3:30:00 PM
CLIENT SAMPLE ID	S-11145847-101019-EM-B-3-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.32	1	MG/KG	10/22/2019	DLC
Benzene	EPA-8260	U	0.030	1	MG/KG	10/22/2019	DLC
Toluene	EPA-8260	U	0.018	1	MG/KG	10/22/2019	DLC
Ethylbenzene	EPA-8260	U	0.025	1	MG/KG	10/22/2019	DLC
m,p-Xylene	EPA-8260	U	0.050	1	MG/KG	10/22/2019	DLC
o-Xylene	EPA-8260	U	0.032	1	MG/KG	10/22/2019	DLC
Naphthalene	EPA-8260	**1.2**	0.023	1	MG/KG	10/22/2019	DLC
% Solids	SM2540G	**81.2**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**73.6**	10/22/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-05
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 8:30:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-2-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.27	1	MG/KG	10/22/2019	DLC
Benzene	EPA-8260	U	0.025	1	MG/KG	10/22/2019	DLC
Toluene	EPA-8260	U	0.015	1	MG/KG	10/22/2019	DLC
Ethylbenzene	EPA-8260	U	0.021	1	MG/KG	10/22/2019	DLC
m,p-Xylene	EPA-8260	U	0.042	1	MG/KG	10/22/2019	DLC
o-Xylene	EPA-8260	U	0.026	1	MG/KG	10/22/2019	DLC
Naphthalene	EPA-8260	**0.20**	0.019	1	MG/KG	10/22/2019	DLC
% Solids	SM2540G	**87.3**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**82.0**	10/22/2019	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-06
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 8:45:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-2-10.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**96.0**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**99.7**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-07
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 9:20:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-1-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.31	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.029	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.017	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.024	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.048	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.030	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	**0.46**	0.022	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**86.3**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**66.4 SQ2**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.
SQ2 - Spike outside of control limits due to matrix effect.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-08
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 9:30:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-1-10.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**85.5**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**95.1**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-09
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 10:45:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-MW-10-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**86.5**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**102**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-10
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 11:00:00 AM
CLIENT SAMPLE ID	S-11145847-101119-EM-MW-10-15.	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**69.4**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**97.3**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-11
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 1:15:00 PM
CLIENT SAMPLE ID	S-11145847-101119-EM-MW-11-6.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**78.8**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**92.6**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-12
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 1:30:00 PM
CLIENT SAMPLE ID	S-11145847-101119-EM-MW-11-15.	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**87.9**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**91.2**	10/21/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-13
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 2:15:00 PM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-4-6.3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	10/21/2019	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	10/21/2019	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	10/21/2019	DLC
% Solids	SM2540G	**90.0**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**68.2 SQ2**	10/21/2019	DLC

SQ2 - Spike outside of control limits due to matrix effect.
U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS JOB#: ALS SAMPLE#:	10/23/2019 EV19100128 EV19100128-14
CLIENT CONTACT:	Jennifer Gross	DATE RECEIVED:	10/18/2019
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections	COLLECTION DATE:	10/11/2019 2:30:00 PM
CLIENT SAMPLE ID	S-11145847-101119-EM-B-4-10.0	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexane	EPA-8260	U	0.25	1	MG/KG	10/22/2019	DLC
Benzene	EPA-8260	U	0.023	1	MG/KG	10/22/2019	DLC
Toluene	EPA-8260	U	0.014	1	MG/KG	10/22/2019	DLC
Ethylbenzene	EPA-8260	U	0.020	1	MG/KG	10/22/2019	DLC
m,p-Xylene	EPA-8260	U	0.038	1	MG/KG	10/22/2019	DLC
o-Xylene	EPA-8260	U	0.024	1	MG/KG	10/22/2019	DLC
Naphthalene	EPA-8260	**0.15**	0.018	1	MG/KG	10/22/2019	DLC
% Solids	SM2540G	**96.0**	1.00	1	%	10/21/2019	CCN

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Toluene-d8	EPA-8260	**109**	10/22/2019	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS SDG#: WDOE ACCREDITATION:	10/23/2019 EV19100128 C601
CLIENT CONTACT:	Jennifer Gross		
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections		

LABORATORY BLANK RESULTS

MB-102119S - Batch 146666 - Soil by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene	EPA-8260	U	MG/KG	0.010	10/21/2019	DLC
Hexane	EPA-8260	U	MG/KG	0.010	10/21/2019	DLC
Benzene	EPA-8260	U	MG/KG	0.0050	10/21/2019	DLC
Toluene	EPA-8260	U	MG/KG	0.010	10/21/2019	DLC
Ethylbenzene	EPA-8260	U	MG/KG	0.010	10/21/2019	DLC
m,p-Xylene	EPA-8260	U	MG/KG	0.020	10/21/2019	DLC
o-Xylene	EPA-8260	U	MG/KG	0.010	10/21/2019	DLC
Naphthalene	EPA-8260	U	MG/KG	0.010	10/21/2019	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414	DATE: ALS SDG#: WDOE ACCREDITATION:	10/23/2019 EV19100128 C601
CLIENT CONTACT:	Jennifer Gross		
CLIENT PROJECT:	10495370 - 11145847 Geiger Corrections		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 146666 - Soil by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene - BS	EPA-8260	**99.6**			70	130	10/21/2019	DLC
1,1-Dichloroethene - BSD	EPA-8260	**97.2**	**2**		70	130	10/21/2019	DLC
Hexane - BS	EPA-8260	**103**			50	150	10/21/2019	DLC
Hexane - BSD	EPA-8260	**100**	**3**		50	150	10/21/2019	DLC
Benzene - BS	EPA-8260	**96.5**			75	138	10/21/2019	DLC
Benzene - BSD	EPA-8260	**96.8**	**0**		75	138	10/21/2019	DLC
Toluene - BS	EPA-8260	**108**			71.6	122.1	10/21/2019	DLC
Toluene - BSD	EPA-8260	**108**	**0**		71.6	122.1	10/21/2019	DLC
Ethylbenzene - BS	EPA-8260	**95.1**			50	150	10/21/2019	DLC
Ethylbenzene - BSD	EPA-8260	**97.5**	**2**		50	150	10/21/2019	DLC
m,p-Xylene - BS	EPA-8260	**95.8**			50	150	10/21/2019	DLC
m,p-Xylene - BSD	EPA-8260	**96.5**	**1**		50	150	10/21/2019	DLC
o-Xylene - BS	EPA-8260	**93.8**			50	150	10/21/2019	DLC
o-Xylene - BSD	EPA-8260	**95.4**	**2**		50	150	10/21/2019	DLC
Naphthalene - BS	EPA-8260	**93.8**			50	150	10/21/2019	DLC
Naphthalene - BSD	EPA-8260	**95.3**	**2**		50	150	10/21/2019	DLC

APPROVED BY

Laboratory Director

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Chain of Custody

EV19100128

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Workorder: 10495370 **Workorder Name:** 11145847 Geiger Corrections Ce **Results Requested By:** 10/28/2019

Report / Invoice To	Subcontract To
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426 Email: jennifer.gross@pacelabs.com	ALS 8620 Holly Drive, Suite 100 Everett, WA 98208 425-356-2600 P.O. 10495370

State of Sample Origin: WA

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers						Requested Analysis													LAB USE ONLY
					NAOH	MeOH	Unpreserved VG9B	JGFU			8260 volatiles BTEX/Naphthalene	hexane & dry weight												
1	S-11145847-100919-EM-MW-12-5.0	10/9/2019 14:20	10495370001	Solid			2	1			X	X												
2	S-11145847-101019-EM-MW-12-31.	10/10/2019 11:15	10495370002	Solid			2	1			X	X												
3	S-11145847-101019-EM-MW12-44.	10/10/2019 13:30	10495370003	Solid			2	1			X	X												
4	S-11145847-101019-EM-B-3-6.0	10/10/2019 15:30	10495370004	Solid			2	1			X	X												
5	S-11145847-101119-EM-B-2-6.0	10/11/2019 08:30	10495370005	Solid			2	1			X	X												
6	S-11145847-101119-EM-B-2-10.0	10/11/2019 08:45	10495370006	Solid			2	1			X	X												
7	S-11145847-101119-EM-B-1-6.0	10/11/2019 09:20	10495370007	Solid			2	1			X	X												
8	S-11145847-101119-EM-B-1-10.0	10/11/2019 09:30	10495370008	Solid			2	1			X	X												
9	S-11145847-101119-EM-MW-10-6.0	10/11/2019 10:45	10495370009	Solid			2	1			X	X												
10	S-11145847-101119-EM-MW-10-15.	10/11/2019 11:00	10495370010	Solid			2	1			X	X												
11	S-11145847-101119-EM-MW-11-6.0	10/11/2019 13:15	10495370011	Solid			2	1			X	X												
12	S-11145847-101119-EM-MW-11-15.	10/11/2019 13:30	10495370012	Solid			2	1			X	X												
13	S-11145847-101119-EM-B-4-6.3	10/11/2019 14:15	10495370013	Solid			2	1			X	X												
14	S-11145847-101119-EM-B-4-10.0	10/11/2019 14:30	10495370014	Solid			2	1			X	X												
15	Trip Blank	10/11/2019 00:00	10495370015	Solid			2	1			X	X												No trip blank received SM
16																								
17																								
18																								
19																								

10/18/19 - No trip blank received SM

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible] DACB	10.17.19 1555	Shawn Robinson ALS	10/18/19
2				09:15
3				

Comments

Report in mg/kg
GHD EQuIS EDD Required

Cooler Temperature on Receipt 3.9 °C	Custody Seal (Y) or N	Received on Ice (Y) or N	Samples Intact (Y) or N

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

November 27, 2019

Moshghan Mansoori
GHD Services Inc.
20818 44th Avenue West
Suite 190
Lynnwood, WA 98036

RE: Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Dear Moshghan Mansoori:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on November 27, 2019 to update the qualifiers for method 8260 on Pace sample 10495374002.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Emily Blakeway, GHD Services, Inc.
Jeffrey Cloud, GHD Services Inc.

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CERTIFICATIONS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10495374001	**S-11145847-101119-EM-WASTE**	Solid	10/11/19 15:00	10/12/19 09:00
10495374002	**TRIP BLANK**	Solid	10/11/19 00:00	10/12/19 09:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10495374001	**S-11145847-101119-EM-WASTE**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	7	PASI-M
10495374002	**TRIP BLANK**	EPA 8260B	CD2	7	PASI-M

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS
Client: GHD Services Inc
Date: November 27, 2019

General Information:
1 sample was analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: 638216

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10495370008

R1: RPD value was outside control limits.

- MSD (Lab ID: 3440061)
  - Diesel Fuel Range

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: November 27, 2019

General Information:
1 sample was analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with NWTPH-Gx with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

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

Additional Comments:

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Method: **EPA 8260B**
Description: 8260B MSV 5035 Low Level
Client: GHD Services Inc
Date: November 27, 2019

General Information:
1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

H1: Analysis conducted outside the recognized method holding time.
- TRIP BLANK (Lab ID: 10495374002)

Sample Preparation:
The samples were prepared in accordance with EPA 5035 Low with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: 642317

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

Additional Comments:

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Method: **EPA 8260B**
Description: 8260B MSV UST
Client: GHD Services Inc
Date: November 27, 2019

General Information:
1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Sample: S-11145847-101119-EM-WASTE **Lab ID: 10495374001** Collected: 10/11/19 15:00 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx		Preparation Method: EPA 3550					
Diesel Fuel Range	**115**	mg/kg	18.5	1	10/14/19 17:40	10/22/19 02:59	68334-30-5	
Motor Oil Range	ND	mg/kg	12.3	1	10/14/19 17:40	10/22/19 02:59		
Surrogates								
n-Triacontane (S)	89	%.	50-150	1	10/14/19 17:40	10/22/19 02:59	638-68-6	
o-Terphenyl (S)	88	%.	50-150	1	10/14/19 17:40	10/22/19 02:59	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	**119**	mg/kg	32.2	5	10/25/19 12:53	10/25/19 16:04		
Surrogates								
a,a,a-Trifluorotoluene (S)	79	%.	50-150	5	10/25/19 12:53	10/25/19 16:04	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**19.4**	%	0.10	1		10/24/19 14:01		
8260B MSV UST	Analytical Method: EPA 8260B		Preparation Method: EPA 5035/5030B					
Benzene	ND	mg/kg	0.027	1	10/24/19 17:11	10/25/19 04:26	71-43-2	
Ethylbenzene	ND	mg/kg	0.066	1	10/24/19 17:11	10/25/19 04:26	100-41-4	
Toluene	ND	mg/kg	0.066	1	10/24/19 17:11	10/25/19 04:26	108-88-3	
Xylene (Total)	ND	mg/kg	0.20	1	10/24/19 17:11	10/25/19 04:26	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-125	1	10/24/19 17:11	10/25/19 04:26	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	10/24/19 17:11	10/25/19 04:26	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125	1	10/24/19 17:11	10/25/19 04:26	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Sample: TRIP BLANK **Lab ID: 10495374002** Collected: 10/11/19 00:00 Received: 10/12/19 09:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B		Preparation Method: EPA 5035 Low					
Benzene	ND	mg/kg	0.0040	1	10/31/19 19:02	10/31/19 22:11	71-43-2	
Ethylbenzene	ND	mg/kg	0.0040	1	10/31/19 19:02	10/31/19 22:11	100-41-4	
Toluene	ND	mg/kg	0.0040	1	10/31/19 19:02	10/31/19 22:11	108-88-3	
Xylene (Total)	ND	mg/kg	0.012	1	10/31/19 19:02	10/31/19 22:11	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	75-125	1	10/31/19 19:02	10/31/19 22:11	17060-07-0	H1
Toluene-d8 (S)	101	%.	75-125	1	10/31/19 19:02	10/31/19 22:11	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125	1	10/31/19 19:02	10/31/19 22:11	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

QC Batch: 640880 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10495374001

METHOD BLANK: 3452020 Matrix: Solid
Associated Lab Samples: 10495374001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/25/19 13:27	
a,a,a-Trifluorotoluene (S)	%.	101	50-150	10/25/19 13:27	

LABORATORY CONTROL SAMPLE & LCSD: 3452022 3452023

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	41.7	46.2	83	92	69-125	10	20	
a,a,a-Trifluorotoluene (S)	%.				101	109	50-150			

SAMPLE DUPLICATE: 3452137

Parameter	Units	10495370014 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	151	163	7	30	
a,a,a-Trifluorotoluene (S)	%.	79	85			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

QC Batch: 640503
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Associated Lab Samples: 10495374001

SAMPLE DUPLICATE: 3450357

Parameter	Units	10495375018 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	27.1	27.8	3	30	

SAMPLE DUPLICATE: 3450895

Parameter	Units	10495370011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.1	19.6	3	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

QC Batch: 642317 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035 Low Analysis Description: 8260B MSV 5035 Low Level
Associated Lab Samples: 10495374002

METHOD BLANK: 3458788 Matrix: Solid
Associated Lab Samples: 10495374002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0040	10/31/19 21:32	
Ethylbenzene	mg/kg	ND	0.0040	10/31/19 21:32	
Toluene	mg/kg	ND	0.0040	10/31/19 21:32	
Xylene (Total)	mg/kg	ND	0.012	10/31/19 21:32	
1,2-Dichloroethane-d4 (S)	%.	96	75-125	10/31/19 21:32	
4-Bromofluorobenzene (S)	%.	102	75-125	10/31/19 21:32	
Toluene-d8 (S)	%.	101	75-125	10/31/19 21:32	

LABORATORY CONTROL SAMPLE & LCSD: 3458790 3458791

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	mg/kg	0.02	0.019	0.018	94	92	71-129	2	20	
Ethylbenzene	mg/kg	0.02	0.019	0.019	95	97	72-125	2	20	
Toluene	mg/kg	0.02	0.020	0.020	98	100	70-125	2	20	
Xylene (Total)	mg/kg	0.06	0.058	0.058	96	96	72-125	0	20	
1,2-Dichloroethane-d4 (S)	%.				95	93	75-125			
4-Bromofluorobenzene (S)	%.				100	98	75-125			
Toluene-d8 (S)	%.				101	100	75-125			

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

QC Batch: 640662
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV UST
Associated Lab Samples: 10495374001

METHOD BLANK: 3450932 Matrix: Solid
Associated Lab Samples: 10495374001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.020	10/24/19 23:43	
Ethylbenzene	mg/kg	ND	0.050	10/24/19 23:43	
Toluene	mg/kg	ND	0.050	10/24/19 23:43	
Xylene (Total)	mg/kg	ND	0.15	10/24/19 23:43	
1,2-Dichloroethane-d4 (S)	%.	106	75-125	10/24/19 23:43	
4-Bromofluorobenzene (S)	%.	103	75-125	10/24/19 23:43	
Toluene-d8 (S)	%.	102	75-125	10/24/19 23:43	

LABORATORY CONTROL SAMPLE: 3450933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	1	0.91	91	48-125	
Ethylbenzene	mg/kg	1	0.93	93	51-125	
Toluene	mg/kg	1	0.88	88	51-125	
Xylene (Total)	mg/kg	3	2.8	92	52-125	
1,2-Dichloroethane-d4 (S)	%.			103	75-125	
4-Bromofluorobenzene (S)	%.			99	75-125	
Toluene-d8 (S)	%.			96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3450934 3450935

Parameter	Units	10495825018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	1.3	1.3	1.3	1.4	101	110	63-136	8	30	
Ethylbenzene	mg/kg	ND	1.3	1.3	1.4	1.5	106	117	64-142	11	30	
Toluene	mg/kg	ND	1.3	1.3	1.3	1.5	101	114	61-141	12	30	
Xylene (Total)	mg/kg	ND	3.9	3.9	4.3	4.6	111	118	67-145	7	30	
1,2-Dichloroethane-d4 (S)	%.						100	99	75-125			
4-Bromofluorobenzene (S)	%.						102	104	75-125			
Toluene-d8 (S)	%.						96	97	75-125			

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

QC Batch: 638216 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3550 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 10495374001

METHOD BLANK: 3440058 Matrix: Solid
Associated Lab Samples: 10495374001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	ND	15.0	10/21/19 23:44	
Motor Oil Range	mg/kg	ND	10.0	10/21/19 23:44	
n-Triacontane (S)	%.	86	50-150	10/21/19 23:44	
o-Terphenyl (S)	%.	86	50-150	10/21/19 23:44	

LABORATORY CONTROL SAMPLE: 3440059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	44.9	90	50-150	
Motor Oil Range	mg/kg	50	47.4	95	50-150	
n-Triacontane (S)	%.			90	50-150	
o-Terphenyl (S)	%.			90	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3440060 3440061

Parameter	Units	10495370008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	ND	58	57.3	49.2	67.3	76	108	50-150	31	30	R1
Motor Oil Range	mg/kg	ND	58	57.3	55.1	57.1	86	90	50-150	4	30	
n-Triacontane (S)	%.						90	91	50-150			
o-Terphenyl (S)	%.						91	91	50-150			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALIFIERS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 642318

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

ANALYTE QUALIFIERS

H1	Analysis conducted outside the recognized method holding time.
R1	RPD value was outside control limits.

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(612)607-1700

METHOD CROSS REFERENCE TABLE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5035 Low Level	Solid	SW-846 8260B	SW-846 5035A/5030B
8260B MSV UST	Solid	SW-846 8260B	SW-846 5035A

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Minneapolis, MN 55414
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495374

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10495374001	**S-11145847-101119-EM-WASTE**	EPA 3550	638216	NWTPH-Dx	639889
10495374001	**S-11145847-101119-EM-WASTE**	NWTPH-Gx	640880	NWTPH-Gx	640906
10495374001	**S-11145847-101119-EM-WASTE**	ASTM D2974	640503		
10495374002	**TRIP BLANK**	EPA 5035 Low	642317	EPA 8260B	642318
10495374001	**S-11145847-101119-EM-WASTE**	EPA 5035/5030B	640662	EPA 8260B	640745

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

WO# : 10495374

10495374

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	GHD Services Inc.	Report To:	Moshgnan Mansoori	Attention:	Jeffrey Cloud | apinvoices360@ghd.com
Address:	20818 44th Avenue West	Copy To:	Emily.Blakeway@ghd.com; Jeffrey.cloud@ghd.com	Company Name:	GHD Services, Inc. - 340
	Lynnwood, WA 98036			Address:	2055 Niagara Falls Blvd., Niagara Falls, NY 14304
Email:	moshgnan.mansoori@ghd.com	Purchase Order #:		Pace Quote:	
Phone:	(425)563-5616 Fax	Project Name:	Geiger Corrections Center	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:	Standard (10 Days)	Project #:	11145847	Pace Profile #:	40446 / 2

Regulatory Agency

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	NWTPH-DX	NWTPHGx	8260 BTEX	8260 Naphthalene	8260 n-hexane	PAH 8270 by SIM	NWEPH	NWWPH	Residual Chlorine (Y/N)	
1	S-11145847-101119-EM-WASTE-LC			10/11	1500				6	X				X	X			X	X	X								001
2	trip blanks								2					X					X										002
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
11145847-2019 Pace SSOW Soil Waste 11145847 Mr Geiger	GHD	10/11/19	16:00		10/11/19	9:00	0.7	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Maise

SIGNATURE of SAMPLER: DATE Signed: 10/11/19

Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 23Aug2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.29**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD

Project #: **WO#: 10495374**

PM: JMG **Due Date: 10/28/19**

CLIENT: GHD_WA

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exceptions** ☐

Tracking Number: 7475 9399 9215; 9204 9190

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ T1(0461) ☐ T2(1336) ☒ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.2, 1.0, 0.7 °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 0.7, 1.2, 1.0 °C

Average Corrected Temp (no temp blank only): ☐ See Exceptions _____ °C ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/Other:_____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

Date/Initials of Person Examining Contents: CMF 10/12/19

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☐ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☒ Yes ☒ Yes	☐ No ☐ No		8.
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other_____	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 123118-3

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Shaun Davis **Date:** 10/15/19

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

Labeled by: CMF 10/12/19

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

November 27, 2019

Moshghan Mansoori
GHD Services Inc.
20818 44th Avenue West
Suite 190
Lynnwood, WA 98036

RE: Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Dear Moshghan Mansoori:
Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on November 27, 2019 to update the qualifiers for method 8260 on Pace sample 10495480003.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Emily Blakeway, GHD Services, Inc.
Jeffrey Cloud, GHD Services Inc.

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10495480001	**S-11145847-101219-DT-B4-35.0'**	Solid	10/12/19 08:45	10/15/19 08:40
10495480002	**S-11145847-101219-DT-B4-40.0'**	Solid	10/12/19 09:15	10/15/19 08:40
10495480003	**Trip Blank**	Solid	10/12/19 09:15	10/15/19 08:40

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10495480001	**S-11145847-101219-DT-B4-35.0'**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	8	PASI-M
10495480002	**S-11145847-101219-DT-B4-40.0'**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	MJD	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	8	PASI-M
10495480003	**Trip Blank**	EPA 8260B	CD2	8	PASI-M

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PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS
Client: GHD Services Inc
Date: November 27, 2019

General Information:
2 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: 638801

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10495480001

R1: RPD value was outside control limits.

- MSD (Lab ID: 3442297)
  - Diesel Fuel Range
  - Motor Oil Range

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

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: November 27, 2019

General Information:
2 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with NWTPH-Gx with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

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

Additional Comments:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Method: **EPA 8260B**
Description: 8260B MSV 5035 Low Level
Client: GHD Services Inc
Date: November 27, 2019

General Information:
1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

H1: Analysis conducted outside the recognized method holding time.
- Trip Blank (Lab ID: 10495480003)

Sample Preparation:
The samples were prepared in accordance with EPA 5035 Low with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: 642317

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

Additional Comments:

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

PROJECT NARRATIVE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Method: **EPA 8260B**
Description: 8260B MSV UST
Client: GHD Services Inc
Date: November 27, 2019

General Information:
2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Sample: S-11145847-101219-DT-B4-35.0' **Lab ID: 10495480001** Collected: 10/12/19 08:45 Received: 10/15/19 08:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	17.6	1	10/16/19 19:18	10/19/19 20:49	68334-30-5	R1
Motor Oil Range	ND	mg/kg	11.7	1	10/16/19 19:18	10/19/19 20:49		R1
Surrogates								
n-Triacontane (S)	89	%.	50-150	1	10/16/19 19:18	10/19/19 20:49	638-68-6	
o-Terphenyl (S)	79	%.	50-150	1	10/16/19 19:18	10/19/19 20:49	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**51.2**	mg/kg	6.3	1	10/25/19 12:53	10/25/19 17:29		
Surrogates								
a,a,a-Trifluorotoluene (S)	103	%.	50-150	1	10/25/19 12:53	10/25/19 17:29	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**15.2**	%	0.10	1		10/25/19 11:48		
8260B MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	mg/kg	0.023	1	10/24/19 17:11	10/25/19 03:48	71-43-2	
Ethylbenzene	ND	mg/kg	0.056	1	10/24/19 17:11	10/25/19 03:48	100-41-4	
Naphthalene	ND	mg/kg	0.23	1	10/24/19 17:11	10/25/19 03:48	91-20-3	
Toluene	ND	mg/kg	0.056	1	10/24/19 17:11	10/25/19 03:48	108-88-3	
Xylene (Total)	ND	mg/kg	0.17	1	10/24/19 17:11	10/25/19 03:48	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-125	1	10/24/19 17:11	10/25/19 03:48	17060-07-0	
Toluene-d8 (S)	97	%.	75-125	1	10/24/19 17:11	10/25/19 03:48	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-125	1	10/24/19 17:11	10/25/19 03:48	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Sample: S-11145847-101219-DT-B4-40.0' **Lab ID: 10495480002** Collected: 10/12/19 09:15 Received: 10/15/19 08:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	15.6	1	10/16/19 19:18	10/19/19 21:23	68334-30-5	
Motor Oil Range	ND	mg/kg	10.4	1	10/16/19 19:18	10/19/19 21:23		
Surrogates								
n-Triacontane (S)	89	%.	50-150	1	10/16/19 19:18	10/19/19 21:23	638-68-6	
o-Terphenyl (S)	82	%.	50-150	1	10/16/19 19:18	10/19/19 21:23	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	ND	mg/kg	5.2	1	10/25/19 12:53	10/25/19 17:46		
Surrogates								
a,a,a-Trifluorotoluene (S)	99	%.	50-150	1	10/25/19 12:53	10/25/19 17:46	98-08-8	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974							
Percent Moisture	**4.7**	%	0.10	1		10/25/19 11:48		
8260B MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	mg/kg	0.021	1	10/24/19 17:11	10/25/19 04:44	71-43-2	
Ethylbenzene	ND	mg/kg	0.054	1	10/24/19 17:11	10/25/19 04:44	100-41-4	
Naphthalene	ND	mg/kg	0.21	1	10/24/19 17:11	10/25/19 04:44	91-20-3	
Toluene	ND	mg/kg	0.054	1	10/24/19 17:11	10/25/19 04:44	108-88-3	
Xylene (Total)	ND	mg/kg	0.16	1	10/24/19 17:11	10/25/19 04:44	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-125	1	10/24/19 17:11	10/25/19 04:44	17060-07-0	
Toluene-d8 (S)	101	%.	75-125	1	10/24/19 17:11	10/25/19 04:44	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125	1	10/24/19 17:11	10/25/19 04:44	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Sample: Trip Blank **Lab ID: 10495480003** Collected: 10/12/19 09:15 Received: 10/15/19 08:40 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B		Preparation Method: EPA 5035 Low					
Benzene	ND	mg/kg	0.0040	1	10/31/19 19:02	10/31/19 22:30	71-43-2	
Ethylbenzene	ND	mg/kg	0.0040	1	10/31/19 19:02	10/31/19 22:30	100-41-4	
Naphthalene	ND	mg/kg	0.010	1	10/31/19 19:02	10/31/19 22:30	91-20-3	
Toluene	ND	mg/kg	0.0040	1	10/31/19 19:02	10/31/19 22:30	108-88-3	
Xylene (Total)	ND	mg/kg	0.012	1	10/31/19 19:02	10/31/19 22:30	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	75-125	1	10/31/19 19:02	10/31/19 22:30	17060-07-0	H1
Toluene-d8 (S)	100	%.	75-125	1	10/31/19 19:02	10/31/19 22:30	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1	10/31/19 19:02	10/31/19 22:30	460-00-4	

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

QC Batch: 640880 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10495480001, 10495480002

METHOD BLANK: 3452020 Matrix: Solid
Associated Lab Samples: 10495480001, 10495480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	10/25/19 13:27	
a,a,a-Trifluorotoluene (S)	%.	101	50-150	10/25/19 13:27	

LABORATORY CONTROL SAMPLE & LCSD: 3452022 3452023

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	41.7	46.2	83	92	69-125	10	20	
a,a,a-Trifluorotoluene (S)	%.				101	109	50-150			

SAMPLE DUPLICATE: 3452137

Parameter	Units	10495370014 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	151	163	7	30	
a,a,a-Trifluorotoluene (S)	%.	79	85			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

QC Batch: 640792
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Associated Lab Samples: 10495480001, 10495480002

SAMPLE DUPLICATE: 3451670

Parameter	Units	10495429001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	31.0	27.6	12	30	

SAMPLE DUPLICATE: 3451858

Parameter	Units	12137161004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.8	2.7	5	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

QC Batch: 642317 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035 Low Analysis Description: 8260B MSV 5035 Low Level
Associated Lab Samples: 10495480003

METHOD BLANK: 3458788 Matrix: Solid
Associated Lab Samples: 10495480003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0040	10/31/19 21:32	
Ethylbenzene	mg/kg	ND	0.0040	10/31/19 21:32	
Naphthalene	mg/kg	ND	0.010	10/31/19 21:32	
Toluene	mg/kg	ND	0.0040	10/31/19 21:32	
Xylene (Total)	mg/kg	ND	0.012	10/31/19 21:32	
1,2-Dichloroethane-d4 (S)	%.	96	75-125	10/31/19 21:32	
4-Bromofluorobenzene (S)	%.	102	75-125	10/31/19 21:32	
Toluene-d8 (S)	%.	101	75-125	10/31/19 21:32	

LABORATORY CONTROL SAMPLE & LCSD: 3458790 3458791

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	mg/kg	0.02	0.019	0.018	94	92	71-129	2	20	
Ethylbenzene	mg/kg	0.02	0.019	0.019	95	97	72-125	2	20	
Naphthalene	mg/kg	0.02	0.019	0.019	93	95	71-125	2	20	
Toluene	mg/kg	0.02	0.020	0.020	98	100	70-125	2	20	
Xylene (Total)	mg/kg	0.06	0.058	0.058	96	96	72-125	0	20	
1,2-Dichloroethane-d4 (S)	%.				95	93	75-125			
4-Bromofluorobenzene (S)	%.				100	98	75-125			
Toluene-d8 (S)	%.				101	100	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

QC Batch: 640662 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV UST
Associated Lab Samples: 10495480001, 10495480002

METHOD BLANK: 3450932 Matrix: Solid
Associated Lab Samples: 10495480001, 10495480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.020	10/24/19 23:43	
Ethylbenzene	mg/kg	ND	0.050	10/24/19 23:43	
Naphthalene	mg/kg	ND	0.20	10/24/19 23:43	
Toluene	mg/kg	ND	0.050	10/24/19 23:43	
Xylene (Total)	mg/kg	ND	0.15	10/24/19 23:43	
1,2-Dichloroethane-d4 (S)	%.	106	75-125	10/24/19 23:43	
4-Bromofluorobenzene (S)	%.	103	75-125	10/24/19 23:43	
Toluene-d8 (S)	%.	102	75-125	10/24/19 23:43	

LABORATORY CONTROL SAMPLE: 3450933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	1	0.91	91	48-125	
Ethylbenzene	mg/kg	1	0.93	93	51-125	
Naphthalene	mg/kg	1	0.90	90	51-125	
Toluene	mg/kg	1	0.88	88	51-125	
Xylene (Total)	mg/kg	3	2.8	92	52-125	
1,2-Dichloroethane-d4 (S)	%.			103	75-125	
4-Bromofluorobenzene (S)	%.			99	75-125	
Toluene-d8 (S)	%.			96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3450934 3450935

Parameter	Units	10495825018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	1.3	1.3	1.3	1.4	101	110	63-136	8	30	
Ethylbenzene	mg/kg	ND	1.3	1.3	1.4	1.5	106	117	64-142	11	30	
Naphthalene	mg/kg	ND	1.3	1.3	1.5	1.7	116	129	63-148	10	30	
Toluene	mg/kg	ND	1.3	1.3	1.3	1.5	101	114	61-141	12	30	
Xylene (Total)	mg/kg	ND	3.9	3.9	4.3	4.6	111	118	67-145	7	30	
1,2-Dichloroethane-d4 (S)	%.						100	99	75-125			
4-Bromofluorobenzene (S)	%.						102	104	75-125			
Toluene-d8 (S)	%.						96	97	75-125			

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

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

QC Batch: 638801 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3550 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 10495480001, 10495480002

METHOD BLANK: 3442294 Matrix: Solid
Associated Lab Samples: 10495480001, 10495480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	ND	15.0	10/19/19 20:26	
Motor Oil Range	mg/kg	ND	10.0	10/19/19 20:26	
n-Triacontane (S)	%.	78	50-150	10/19/19 20:26	
o-Terphenyl (S)	%.	80	50-150	10/19/19 20:26	

LABORATORY CONTROL SAMPLE: 3442295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	47.5	95	50-150	
Motor Oil Range	mg/kg	50	49.9	100	50-150	
n-Triacontane (S)	%.			91	50-150	
o-Terphenyl (S)	%.			87	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3442296 3442297

Parameter	Units	10495480001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	ND	58.9	58.7	79.3	51.1	117	70	50-150	43	30	R1
Motor Oil Range	mg/kg	ND	58.9	58.7	58.4	42.8	93	67	50-150	31	30	R1
n-Triacontane (S)	%.						87	68	50-150			
o-Terphenyl (S)	%.						83	64	50-150			

SAMPLE DUPLICATE: 3442990

Parameter	Units	10495375014 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/kg	ND	ND		30	
Motor Oil Range	mg/kg	13.4	6.3J		30	
n-Triacontane (S)	%.	84	84			
o-Terphenyl (S)	%.	84	82			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALIFIERS

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 642318

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

ANALYTE QUALIFIERS

H1	Analysis conducted outside the recognized method holding time.
R1	RPD value was outside control limits.

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(612)607-1700

METHOD CROSS REFERENCE TABLE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5035 Low Level	Solid	SW-846 8260B	SW-846 5035A/5030B
8260B MSV UST	Solid	SW-846 8260B	SW-846 5035A

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11145847 Geiger Corrections Ct-Revised Report
Pace Project No.: 10495480

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10495480001	**S-11145847-101219-DT-B4-35.0'**	EPA 3550	638801	NWTPH-Dx	639645
10495480002	**S-11145847-101219-DT-B4-40.0'**	EPA 3550	638801	NWTPH-Dx	639645
10495480001	**S-11145847-101219-DT-B4-35.0'**	NWTPH-Gx	640880	NWTPH-Gx	640906
10495480002	**S-11145847-101219-DT-B4-40.0'**	NWTPH-Gx	640880	NWTPH-Gx	640906
10495480001	**S-11145847-101219-DT-B4-35.0'**	ASTM D2974	640792		
10495480002	**S-11145847-101219-DT-B4-40.0'**	ASTM D2974	640792		
10495480003	**Trip Blank**	EPA 5035 Low	642317	EPA 8260B	642318
10495480001	**S-11145847-101219-DT-B4-35.0'**	EPA 5035/5030B	640662	EPA 8260B	640745
10495480002	**S-11145847-101219-DT-B4-40.0'**	EPA 5035/5030B	640662	EPA 8260B	640745

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD Services Inc	Report To:	Moshghan Mansoori	Attention:	Jeffrey Cloud | apinvoices360@ghd.com
Address:	20818 44th Avenue West	Copy To:	Emily.Blakeway@ghd.com; Jeffrey.cloud@ghd.com	Company Name:	GHD Services, Inc. - 340
	Lynnwood, WA 98036			Address:	2055 Niagara Falls Blvd., Niagara Falls, NY 14304
Email:	moshghan.mansoori@ghd.com	Purchase Order #:		Pace Quote:	
Phone:	(425)563-5616 Fax	Project Name:	Geiger Corrections Center	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:	Standard (10 Days)	Project #:	11145847	Pace Profile #:	40446 / 2

Regulatory Agency

State / Location: WA / Spokane

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	NWTPH-DX	NWTPH-Gx	8260 BTEX	8260 Naphthalene	8260 n-hexane	PAH 8270 by SIM	NWTPH	NWVPH	Residual Chlorine (Y/N)	
1	S-11145847-101219-DT-B4-35.0'	S	G	10/12	0845														X	X	X							001
2	S-11145847-101219-DT-B4-40.0'	S	G	10/12	0915														X	X	X							002
3	Trip blank																				X							003
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

WO# : 10495480

10495480

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
11145847 2019 Pace SS/GW Soil Waste | 11145847-PH-Geiger	D. Tvdeen / GHD			pace	10.15.19	840	1.4°C Y Y Y

SAMPLER NAME AND SIGNATURE: D. Tvdeen

PRINT Name of SAMPLER: D. Tvdeen

SIGNATURE of SAMPLER: DATE Signed: 10/12/19

SAMPLE CONDITIONS: Received on Ice (Y/N) | Custody Seals Intact (Y/N) | Samples Intact (Y/N)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 23Aug2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.29**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD Services Inc

Project #: **WO#: 10495480**

PM: JMG **Due Date: 10/29/19**

CLIENT: GHD_WA

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exceptions** ☐

Tracking Number: 7475 9399 9156

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ T1(0461) ☐ T2(1336) ☒ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.4 °C

Average Corrected Temp (no temp blank only): ☐ See Exceptions ____ °C ☐ 1 Container

Correction Factor: TRUE **Cooler Temp Corrected w/temp blank:** 1.4 °C

USDA Regulated Soil: (☐ N/A, water sample/Other:) **Date/Initials of Person Examining Contents:** AM 10.15.19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased):

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Emily Date/Time: 10/15/19

Comments/Resolution: Client added naphthalene by 8260.

Project Manager Review: Shannon Davis **Date:** 10/15/19

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

Labeled by: AM (2)

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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