Western Water & Land, Inc.

April 2, 2021

Mr. Scott Hall
Reality Specialist
U.S. BLM Grand Junction Field Office
2815 H Road
Grand Junction, CO 81506

RE: COC 038492: Logan Wash Mine Evaporation Pond – 2020 Water Quality Results

Dear Mr. Hall:

Western Water & Land, Inc. (WWL) on behalf of Occidental Oil Shale, Inc. (OOSI) and Glenn Springs Holdings, Inc. (GSHI), provides this letter report documenting work completed at the OOSI Logan Wash Mine Evaporation Pond and Settling Pond (Pond Facility) in 2020. This facility is authorized under Right-of-Way COC 038492. The work includes biannual sampling of the Evaporation Pond water as required by the Bureau of Land Management (BLM) letter dated September 22, 2017. Subsequent reports will be provided to BLM annually to document on-going sampling of the Evaporation Pond water.

BACKGROUND

Logan Wash Mine is an inactive oil shale mine permitted under the Colorado Division of Reclamation, Mining and Safety (DRMS) (permit number M-1977-424). The mine is undergoing final reclamation. The Pond Facility is located on U.S. Bureau of Land Management (BLM) land located in the SE ¼, of the SW ¼, of Section 29, Township 7 South, Range 97 West, 6th Principal Meridian (See Figure 1). The mine site is located at N ½, Township 7 South, Range 97 West, 6th Principal Meridian.

The Pond Facility consists of a 0.14-acre Settling Pond and 4-acre Evaporation Pond (see Attachment A for photographs of the Pond Facility). Retort water draining from the inactive Logan Wash Mine is conveyed to the facility by way of a 4-inch diameter buried polyvinyl chloride (PVC) pipeline, which discharges into the Settling Pond. Per BLM ROW stipulation, bird netting was installed over the Settling Pond in January and February, 2019.

The water is detained in the Settling Pond to allow any settling of solids prior to flowing into the Evaporation Pond. The water delivered to the Settling Pond has a total dissolved solids (TDS) concentration ranging from approximately 6,000 to 10,000 mg/L (since 2017), contains dissolved concentrations of petroleum hydrocarbons, and rarely, has light petroleum sheens. The TDS concentrations of the Evaporation Pond fluctuate substantially, ranging from 32,000 mg/L (February, 2012) to 138,000 mg/L (May, 2020). The increase in salinity is a result of repeated and continuous evaporation of water off the Evaporation Pond, which leaves behind the precipitated salts in the process. Decreases in salinity are associated with greater retort water influx, usually during spring runoff, and dilution from monsoonal rain influx.

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The Pond Facility was originally constructed in 1984. In 2018, under a renewed BLM right-of-way (ROW) grant, the ponds were relined with new high density polyethylene (HDPE) geomembrane liners.

The original ROW was granted by the BLM on August 27, 1984 (COC38492). The renewed ROW was made effective in 2014 (the date of termination of the initial ROW) and terminates on December 31, 2044. OOSI is required to comply with written stipulations provided within the ROW grant which include the installation of bird netting on the Settling Pond and biannual sampling of the Evaporation Pond water.

POND MONITORING AND INSPECTIONS

Regular inspections and monitoring of the Pond Facility were conducted in 2020 on an approximate monthly frequency. Inspections included the following:

- Wildlife fence integrity and security
- Evidence of animal/bird entry
- Pond liner integrity
- Leak detection sumps
- Leak detection vault
- Rain gauge
- Settling Pond bird netting integrity

Protective bird netting was installed over the Settling Pond in 2019 in accordance with BLM stipulations. Inspections and monitoring of the Pond Facility in 2020 showed no integrity issues with the wildlife fencing, pond liners, or bird netting. Leak detection sumps in the Settling Pond and Evaporation Pond were dry. No evidence of animal access to or egress from the pond was observed.

WATER ANALYSIS

Water samples were collected from the Evaporation Pond on May 26, 2020, and October 7, 2020, and were analyzed for general chemistry, metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) as shown in Table 1. No oil or oil sheen were observed in the Evaporation Pond during sampling events or any other field inspections. Also shown in Table 1 are results from the Lower Manhole from June 4, 2020, and October 7, 2020. Normally, the Lower Manhole and Evaporation Pond samples are collected on the same day; however, a retort pipeline plug that occurred on May 26th, 2020 prohibited a sample being collected until a later date. Retort water flowing through the Lower Manhole travels approximately 200 feet before discharging into the Settling Pond. Water in the Settling Pond flows over a concrete baffle prior to spilling into the Evaporation Pond. Discharge measurements of the Lower Manhole are reported in Table 2. WWL measured field parameters of the Evaporation Pond and Settling Pond with a YSI ProPlus Multi-Parameter Meter during the months of January, March, April, May, July, August, September, October, and November. These results are shown in Table 2. A Schoeller Diagram of the analytical results is shown in Figure 2.

ANALYTICAL RESULTS

Laboratory analysis was performed by Pace Analytical in Mt. Juliet, Tennessee for the Evaporation Pond and Lower Manhole water samples collected on May 26, 2019, June 4, 2020, and October 7, 2020. GHD, a GSHI contractor located in Niagara Falls, New York conducted a completeness check and provided a statistical compilation of historical analytical data for the May and October sampling events. WWL conducted quality control evaluations of cation-anion balance (CAB) and total dissolved solids (TDS) measured versus calculated ratio. All of the CAB and TDS ratios for the Evaporation Pond and Lower Manhole sampling events were determined to be acceptable with the exception of the CAB for the Lower Manhole October 2020 sampling event; no laboratory report data were assigned additional qualifiers. The analytical methods used are considered valid and provide quality results. The full laboratory analytical reports are presented in Attachment B (the Evaporation Pond is referred to as LW-Pond; the Lower Manhole is referred to as LW-LM).

Table 1 is a summary of the analytical results. There were no detections of VOCs or SVOCs above the reporting limit in the Evaporation Pond or Lower Manhole samples analyzed for the May and October 2020 sampling events with the exception of the following: high fraction TPH in the Evaporation Pond and Lower Manhole for the May and October sampling events, acetone for the in the Evaporation Pond for the May and October sampling events, and acenaphthylene in the Evaporation Pond for the October sampling event. Acetone was reported at 0.0508 mg/L and 0.051 mg/L in the Evaporation Pond for the May and October sampling events, respectively. Acenaphthylene was reported at 0.00143 mg/L in the Evaporation Pond for the October sampling event. Acetone and acenaphthylene can be laboratory contaminants.

High fraction TPH was reported at 5.33 mg/L and 3.26 mg/L in the Evaporation Pond for the May and October sampling events, respectively; high fraction TPH was reported at 1.91 mg/L and 1.73 mg/L in the Lower Manhole for the June and October sampling events, respectively. Oil and grease were detected between the method detection limit and the reporting limit in the Evaporation Pond for the May and October sampling events (4.19 mg/L and 4.18 mg/L, respectively) and in the Lower Manhole for the June and October sampling events (2.35 mg/L and 1.51 mg/L, respectively).

Figure 3 shows a graph of common ions in the Evaporation Pond and Lower Manhole for the May, June, and October sampling events. The Evaporation Pond shows elevated concentrations of dissolved ions compared to the Lower Manhole for both sampling events. This is because constituent concentrations increase as water evaporation progresses. Note that constituent concentrations in the two Evaporation Pond sampling events vary as they are dependent on the climate from month to month and year to year. Typically, the pond is at its highest water level (between 1 to 2 feet in depth) in May (as was the case in 2020) as result of spring snowmelt and precipitation, whereas the high evaporation rates during the summer deplete water levels in the pond to conditions where over 80% of the pond is dry (as was the case in 2020). The expected analytic results of this phenomenon are elevated concentrations of solutes during the October sampling event.

TDS analytical results remained the same at the Lower Manhole for the June and October sampling events at 4,360 mg/L and 4,330 mg/L, respectively. The May result for TDS at the Evaporation Pond was 90,400 mg/L, and decreased during the October sampling event to 78,400 mg/L.

Field measurements of specific conductivity at the Settling Pond were relatively consistent throughout 2020 with a narrow range of 9,234–10,861 µS/cm and a mean of 9,873 µS/cm. The specific conductivity analytical lab results for the Lower Manhole samples were 9,360 µS/cm during the June sampling event and 9,210 µS/cm during the October sampling event.

Field measurements of specific conductivity at the Evaporation Pond have varied throughout 2020 with a range of 22,049–142,702 µS/cm and a mean of 84,030 µS/cm. The peak value of specific conductivity in the Evaporation Pond occurred during July through August. The general trend of specific conductivity from field measurements in 2020 is at the lowest in March, increases until it peaks in August, and then decreases through November (see Table 2 for a table of the field measurements). Analytical laboratory results of specific conductivity were 105,000 µS/cm in the May sample and 97,000 µS/cm in the October sample. The specific conductivity field parameters taken for the May and October sampling events were 104,962 µS/cm and 113,115 µS/cm, respectively. See Figure 4 for a graph of specific conductivity.

SUMMARY

Samples from the Evaporation Pond were collected on May 26, 2020, and October 7, 2020. Samples collected from the retort source water at the Lower Manhole were provided for comparison and were collected on June 4, 2020 and October 7, 2020. The samples were analyzed for general chemistry, metals, VOCs, and SVOCs as shown in Table 1. WWL measured field parameters of the Evaporation Pond and Settling Pond with a YSI Multi-Parameter Meter during the months of January, March, April, May, July, August, September, October, and November. These results are shown in Table 2.

No VOCs or SVOCs were detected in any of the Evaporation Pond samples with the exception of high fraction TPH for the May and October sampling events (also found in the Lower Manhole for both sampling events), acetone for the May and October sampling events, and acenaphthylene for the October sampling event. No oil product or oil sheen were observed in the Evaporation Pond during sampling events or any other field inspections. High fraction TPH was reported at 5.33 mg/L and 3.26 mg/L in the Evaporation Pond for the May and October sampling events, respectively; high fraction TPH was reported at 1.91 mg/L and 1.73 mg/L in the Lower Manhole for the June and October sampling events, respectively. Acetone was reported at 0.0508 mg/L and 0.051 mg/L in the Evaporation Pond for the May and October sampling events, respectively. Acenaphthylene was reported at 0.00143 mg/L in the Evaporation Pond for the October sampling event. Oil and grease were detected between and method detection limit and the reporting limit in the Evaporation Pond for the May and October sampling events (4.19 mg/L and 4.18 mg/L, respectively) and in the Lower Manhole for the June and October sampling events (2.35 mg/L and 1.51 mg/L, respectively).

The main water type of the Lower Manhole and Evaporation Pond samples is sodium-sulfate. The analytical results for the Evaporation Pond indicate somewhat similar concentrations in common ion chemistry from the May to the October sampling events. This is abnormal compared to historical data, but likely reflects the relatively low salt load that has accumulated on the new liner since it was installed in 2018 as well as climatic influences at the Pond in 2020.

If you have any questions or concerns, please contact me at (970) 242-0170.

Sincerely,

Bruce D. Smith
Principal Hydrogeologist
WESTERN WATER & LAND, INC.

cc: Roger Smith, Glenn Springs Holdings, Inc.
Amy Yeldell, Colorado Division of Reclamation, Mining and Safety

Figure 1 – Site Locations Map
Figure 2 – Schoeller Diagram – Logan Wash Evaporation Pond and Lower Manhole Samples
Figure 3 – Common Ion Concentrations at the Evaporation Pond and Lower Manhole
Figure 4 – Specific Conductivity Concentrations at the Evaporation Pond and Settling Pond
Table 1 – Logan Wash Evaporation Pond Analytical Summary
Table 2 – Logan Wash Evaporation Pond and Settling Pond 2019 Field Parameters
Attachment A – Photographs
Attachment B – Laboratory Reports

Legend

★ Logan Wash Mine

Evaporation Pond Fence

0 75 150 300 Feet

1:2,000

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Figure 1. Logan Wash Mine Pond Facility Site Map

Garfield County, Colorado

Western Water & Land, Inc.
Applications in Earth Science

FIGURE 2. SCHOELLER DIAGRAM - LOGAN WASH EVAPORATION POND AND LOWER MANHOLE SAMPLES

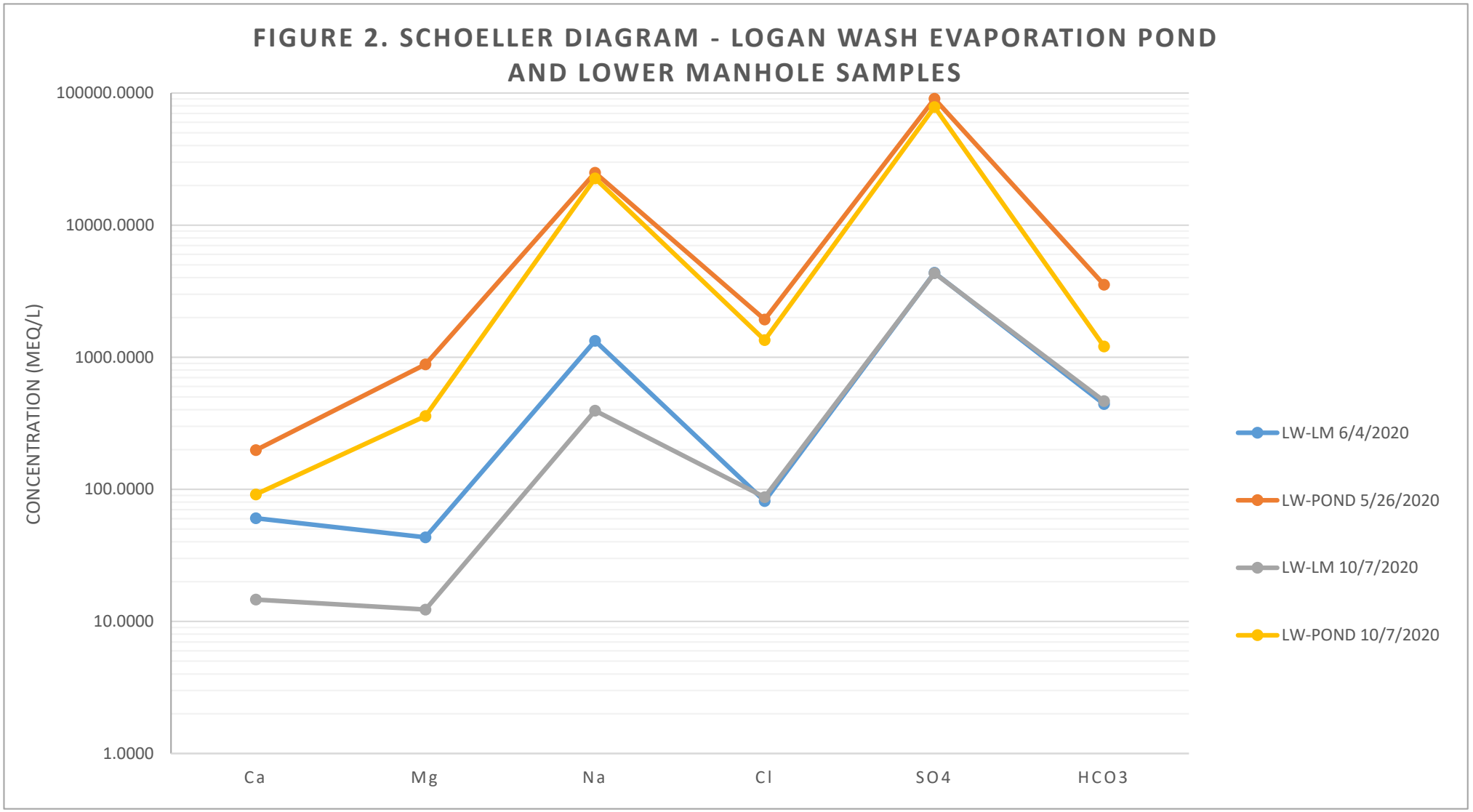


FIGURE 3. COMMON ION CONCENTRATIONS AT THE EVAPORATION POND AND LOWER MANHOLE

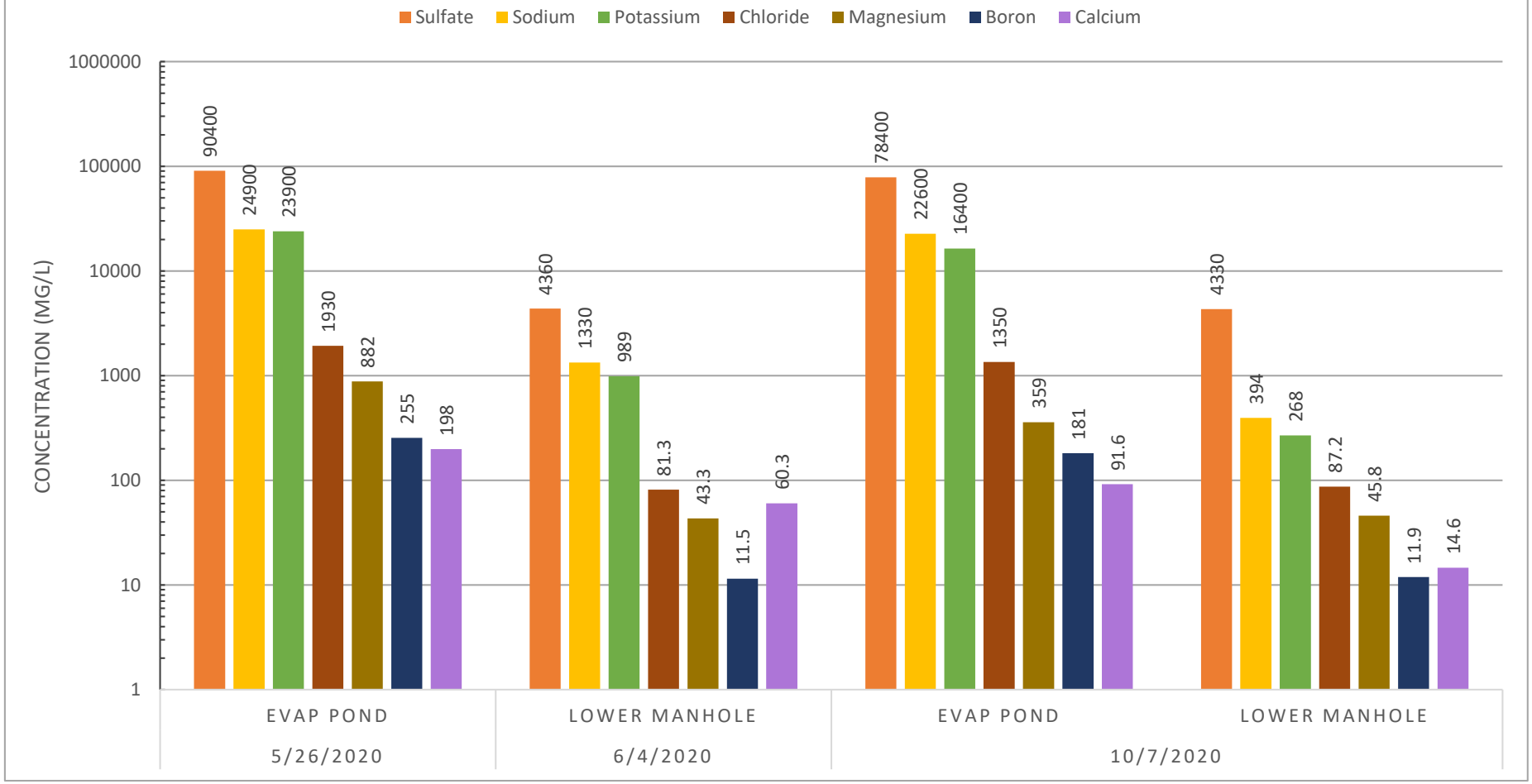
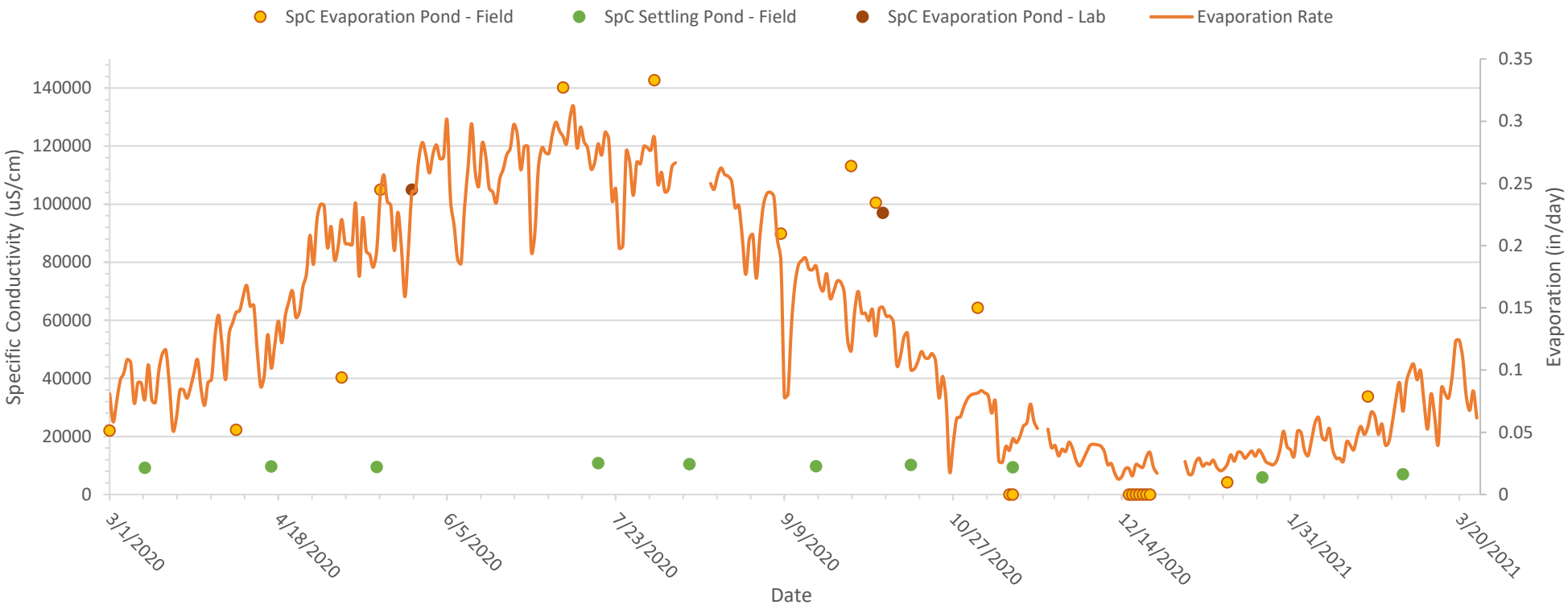


FIGURE 4. SPECIFIC CONDUCTIVITY CONCENTRATIONS AT THE EVAPORATION POND AND SETTLING POND



Data source for reference evapotranspiration: Altenbern Station ID USC00050214. https://climate.usu.edu/mapGUI/mapGUI.php

Table 1 - Logan Wash Evaporation Pond Analytical Summary

Sample ID				LW-POND				LW-POND			
Lab ID				L1222266-03				L1270981-01			
Sample Date				5/26/2020 11:30				10/7/2020 10:40			
GROUP	METHOD	PARAMETER	UNITS	Result	Lab Qualifier	RDL	Dilution	Result	Lab Qualifier	RDL	Dilution
Wet Chemistry	120.1	Specific Conductance	umhos/cm	105000		10	1	97000		10	1
	300.0	Bromide	mg/l	< 1000	U	1000	1000	< 10	U	10	10
		Chloride	mg/l	1930		100	100	1350		100	10
		Fluoride	mg/l	187		15	100	58.3		1.5	10
		Nitrate	mg/l	< 1	U	1	10	< 1	U	1	10
		Nitrite	mg/l	< 1	U	1	10	< 1	U	1	100
		Sulfate	mg/l	90400		5000	1000	78400		5000	1000
	350.1	Ammonia Nitrogen	mg/l	0.215	J	0.25	1	< 0.25	U	0.25	1
	365.4	Phosphorus,Total	mg/l	0.162	B	0.1	1	0.176		0.1	1
	420.4	Total Phenol by 4AAP	mg/l	< 0.04	U	0.04	1	< 0.04	U	0.04	1
	1664A	Oil & Grease (Hexane Extr)	mg/l	4.19	J	5.81	1	4.18	J	5.49	1
	2320 B-2011	Alkalinity	mg/l	5240		66.6	3.33	2810		20	3.33
		Alkalinity,Bicarbonate	mg/l	2900		66.6	3.33	988		20	3.33
		Alkalinity,Carbonate	mg/l	2340		66.6	3.33	1830		20	3.33
	2540 C-2011	Dissolved Solids	mg/l	138000	J4	1000	1	111000		1000	1
	2540 D-2011	Suspended Solids	mg/l	219		12.5	1	688		25	1
	4500H+ B-2011	pH	su	8.93	T8		1	9.17	T8		1
	4500S2 D-2011	Sulfide	mg/l	0.624		0.05	1	0.248		0.05	1
	5310 B-2011	TOC (Total Organic Carbon)	mg/l	276		5	5	243		5	5
	Calc.	Silica	mg/l	73.4		10.7	1	23.8		4.28	1
		Hardness (calculated) as CaCO3	mg/l	3730		12.5	1	1970		2.5	1
Metals	200.7	Boron,Dissolved	mg/l	255		10	50	181		2	10
		Calcium	mg/l	163		5	5	91.4		1	1
		Magnesium		807		5	5	424		1	1
		Silicon	mg/l	34.3		5	25	11.1		2	10
	200.8	Arsenic,Dissolved	mg/l	0.446		0.05	50	0.369		0.1	100
		Calcium,Dissolved	mg/l	198		50	50	91.6	J	100	100
		Iron,Dissolved	mg/l	< 5	U	5	50	< 10	U	10	100
		Magnesium,Dissolved	mg/l	882		50	50	359		100	100
		Potassium,Dissolved	mg/l	23900		50	50	16400		100	100
		Selenium,Dissolved	mg/l	0.0218		0.1	50	0.0783	J	0.2	100
		Sodium,Dissolved	mg/l	24900		100	50	22600		200	100

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GROUP	METHOD	PARAMETER	UNITS		Result	Lab Qualifier	RDL	Dilution		Result	Lab Qualifier	RDL	Dilution
SVOCs	3511/8015	TPH (GC/FID) High Fraction	mg/l		5.33		0.2	2		3.26		0.4	4
	8015D/GRO	TPH (GC/FID) Low Fraction	mg/l	<	0.1	U	0.1	1		0.0342	B J	0.1	1
	8270C	1,2,4-Trichlorobenzene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		1,2-Dichlorobenzene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		1,3-Dichlorobenzene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		1,4-Dichlorobenzene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4,5-Trichlorophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4,6-Trichlorophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dichlorophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dimethylphenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dinitrophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dinitrotoluene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2,6-Dinitrotoluene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Chloronaphthalene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		2-Chlorophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Methylnaphthalene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		2-Methylphenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Nitroaniline	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Nitrophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		3&4-Methyl Phenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		3,3-Dichlorobenzidine	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		3-Nitroaniline	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4,6-Dinitro-2-methylphenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Bromophenyl-phenylether	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Chloro-3-methylphenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Chloroaniline	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Chlorophenyl-phenylether	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Nitroaniline	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Nitrophenol	mg/l	<	0.01	U, J4	0.01	1	<	0.01	U	0.01	1
		Acenaphthene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Acenaphthylene	mg/l	<	0.001	U	0.001	1		0.00143		0.001	1
		Anthracene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(a)anthracene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(a)pyrene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(b)fluoranthene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(g,h,i)perylene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(k)fluoranthene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzylbutyl phthalate	mg/l	<	0.003	U	0.003	1	<	0.003	U	0.003	1
		Bis(2-chlorethoxy)methane	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Bis(2-chloroethyl)ether	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Bis(2-chloroisopropyl)ether	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Bis(2-ethylhexyl)phthalate	mg/l	<	0.003	U	0.003	1	<	0.003	U	0.003	1
		Carbazole	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Chrysene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Dibenz(a,h)anthracene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Dibenzofuran	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Diethyl phthalate	mg/l	<	0.003	U	0.003	1	<	0.003	U	0.003	1
		Dimethyl phthalate	mg/l	<	0.003	U	0.003	1	<	0.003	U	0.003	1
		Di-n-butyl phthalate	mg/l	<	0.003	U	0.003	1	<	0.003	U	0.003	1
		Di-n-octyl phthalate	mg/l	<	0.003	U	0.003	1	<	0.003	U	0.003	1
		Fluoranthene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Fluorene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Hexachloro-1,3-butadiene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Hexachlorobenzene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Hexachlorocyclopentadiene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Hexachloroethane	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Indeno(1,2,3-cd)pyrene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Isophorone	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Naphthalene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Nitrobenzene	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		n-Nitrosodi-n-propylamine	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		n-Nitrosodiphenylamine	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Pentachlorophenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Phenanthrene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1
		Phenol	mg/l	<	0.01	U	0.01	1	<	0.01	U	0.01	1
		Pyrene	mg/l	<	0.001	U	0.001	1	<	0.001	U	0.001	1

Table 1 - Logan Wash Evaporation Pond Analytical Summary

Sample ID				LW-POND				LW-POND			
Lab ID				L1222266-03				L1270981-01			
Sample Date				5/26/2020 11:30				10/7/2020 10:40			
GROUP	METHOD	PARAMETER	UNITS	Result	Lab Qualifier	RDL	Dilution	Result	Lab Qualifier	RDL	Dilution
VOCs	8260B	1,1,1-Trichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1,2,2-Tetrachloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1,2-Trichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1-Dichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1-Dichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,2-Dichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,2-Dichloropropane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		2-Butanone (MEK)	mg/l	0.0047		0.01	1	0.00504	J	0.01	1
		2-Hexanone	mg/l	< 0.01	U	0.01	1	< 0.01	U	0.01	1
		4-Methyl-2-pentanone (MIBK)	mg/l	< 0.01	U	0.01	1	< 0.01	U	0.01	1
		Acetone	mg/l	0.0508		0.05	1	0.051	J4	0.05	1
		Benzene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Bromodichloromethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Bromoform	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Bromomethane	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Carbon disulfide	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Carbon tetrachloride	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Chlorobenzene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Chlorodibromomethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Chloroethane	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Chloroform	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Chloromethane	mg/l	< 0.0025	U	0.0025	1	< 0.0025	U	0.0025	1
		cis-1,2-Dichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		cis-1,3-Dichloropropene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Ethylbenzene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Methylene Chloride	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Styrene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Tetrachloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Toluene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		trans-1,2-Dichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		trans-1,3-Dichloropropene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Trichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Vinyl chloride	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Xylenes, Total	mg/l	< 0.003	U	0.003	1	< 0.003	U	0.003	1

Notes:

RDL - Reported Detection Limit

< - Less than the RDL

J - The identification of the analyte is acceptable; the reported value is an estimate.

J4 - The associated batch QC was outside the established quality control range for accuracy.

T8 - Sample received past/too close to holding time expiration.

B - The same analyte is found in the associated blank.

NM - Not measured.

Table 1 - Logan Wash Evaporation Pond Analytical Summary

Sample ID				LW-LM				LW-LM			
Lab ID				L1225720-01				L1270981-02			
Sample Date				6/4/2020 9:00				10/7/2020 11:20			
GROUP	METHOD	PARAMETER	UNITS	Result	Lab Qualifier	RDL	Dilution	Result	Lab Qualifier	RDL	Dilution
Wet Chemistry	120.1	Specific Conductance	umhos/cm	9360		10		9210		10	1
	300.0	Bromide	mg/l	< 1	U	1	1	< 10	U	10	10
		Chloride	mg/l	81.3		1	1	87.2		10	10
		Fluoride	mg/l	8.48		0.15	1	10.2		1.5	10
		Nitrate	mg/l	< 0.1	U	0.1	1	1.01		1	10
		Nitrite	mg/l	0.0579	J	0.1	1	< 1	U	1	10
		Sulfate	mg/l	4360		500	100	4330		500	100
	350.1	Ammonia Nitrogen	mg/l	< 0.25	U	0.25	1	< 0.25	U	0.25	1
	365.4	Phosphorus,Total	mg/l	0.0706	J	0.1	1	0.0903	J	0.1	1
	420.4	Total Phenol by 4AAP	mg/l	< 0.04	U	0.04	1	0.0154	B J	0.04	1
	1664A	Oil & Grease (Hexane Extr)	mg/l	2.35	J	5.88	1	1.51	J	5.38	1
	2320 B-2011	Alkalinity	mg/l	363		20	1	385		20	1
		Alkalinity,Bicarbonate	mg/l	363		20	1	382		20	1
		Alkalinity,Carbonate	mg/l	< 20	U	20	1	< 20	U	20	1
	2540 C-2011	Dissolved Solids	mg/l	7380		100	1	7380		50	1
	2540 D-2011	Suspended Solids	mg/l	2.6		2.5	1	2	J	2.5	1
	4500H+ B-2011	pH	su	8.1	T8		1	8.18	T8		1
	4500S2 D-2011	Sulfide	mg/l	< 0.05	U	0.05	1	< 0.05	U	0.05	1
	5310 B-2011	TOC (Total Organic Carbon)	mg/l	14.5		1	1	13.3		1	1
	Calc.	Silica	mg/l	17.1		0.428	1	17		2.14	1
		Hardness (calculated) as CaCO3	mg/l	326		2.5	1	318		2.5	1
Metals	200.7	Boron,Dissolved	mg/l	11.5		0.2	1	11.9		0.2	1
		Calcium	mg/l	56.6		1	1	51.9		1	1
		Magnesium		44.9		1	1	45.8		1	1
		Silicon	mg/l	7.99		0.2	1	7.94		1	5
	200.8	Arsenic,Dissolved	mg/l	0.05		0.001	1	0.012	J	0.05	50
		Calcium,Dissolved	mg/l	60.3		1	1	14.6	J	50	50
		Iron,Dissolved	mg/l	0.263		0.1	1	< 5	U	5	50
		Magnesium,Dissolved	mg/l	43.3		1	1	12.3	J	50	50
		Potassium,Dissolved	mg/l	989		5	5	268		50	50
		Selenium,Dissolved	mg/l	0.00745		0.002	1	< 0.1	U	0.1	50
		Sodium,Dissolved	mg/l	1330		10	5	394		100	50

Table 1 - Logan Wash Evaporation Pond Analytical Summary

Sample ID				LW-LM					LW-LM			
Lab ID				L1225720-01					L1270981-02			
Sample Date				6/4/2020 9:00					10/7/2020 11:20			
GROUP	METHOD	PARAMETER	UNITS	Result	Lab Qualifier	RDL	Dilution		Result	Lab Qualifier	RDL	Dilution
SVOCs	3511/8015	TPH (GC/FID) High Fraction	mg/l	1.91		0.1	1		1.73		0.1	1
	8015D/GRO	TPH (GC/FID) Low Fraction	mg/l	< 0.1	U	0.1	1		0.0384	B J	0.1	1
	8270C	1,2,4-Trichlorobenzene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		1,2-Dichlorobenzene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		1,3-Dichlorobenzene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		1,4-Dichlorobenzene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4,5-Trichlorophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4,6-Trichlorophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dichlorophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dimethylphenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dinitrophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,4-Dinitrotoluene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2,6-Dinitrotoluene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Chloronaphthalene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		2-Chlorophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Methylnaphthalene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		2-Methylphenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Nitroaniline	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		2-Nitrophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		3&4-Methyl Phenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		3,3-Dichlorobenzidine	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		3-Nitroaniline	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4,6-Dinitro-2-methylphenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Bromophenyl-phenylether	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Chloro-3-methylphenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Chloroaniline	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Chlorophenyl-phenylether	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Nitroaniline	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		4-Nitrophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Acenaphthene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Acenaphthylene	mg/l	< 0.001	U	0.001	1		0.000488	J	0.001	1
		Anthracene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(a)anthracene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(a)pyrene	mg/l	< 0.0002	U	0.0002	1	<	0.001	U	0.001	1
		Benzo(b)fluoranthene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(g,h,i)perylene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzo(k)fluoranthene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Benzylbutyl phthalate	mg/l	< 0.003	U	0.003	1	<	0.003	U	0.003	1
		Bis(2-chlorethoxy)methane	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Bis(2-chloroethyl)ether	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Bis(2-chloroisopropyl)ether	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Bis(2-ethylhexyl)phthalate	mg/l	< 0.003	U	0.003	1	<	0.003	U	0.003	1
		Carbazole	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Chrysene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Dibenz(a,h)anthracene	mg/l	< 0.0002	U	0.0002	1	<	0.001	U	0.001	1
		Dibenzofuran	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Diethyl phthalate	mg/l	< 0.003	U	0.003	1	<	0.003	U	0.003	1
		Dimethyl phthalate	mg/l	< 0.003	U	0.003	1	<	0.003	U	0.003	1
		Di-n-butyl phthalate	mg/l	< 0.003	U	0.003	1	<	0.003	U	0.003	1
		Di-n-octyl phthalate	mg/l	< 0.003	U	0.003	1	<	0.003	U	0.003	1
		Fluoranthene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Fluorene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Hexachloro-1,3-butadiene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Hexachlorobenzene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Hexachlorocyclopentadiene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Hexachloroethane	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Indeno(1,2,3-cd)pyrene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Isophorone	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Naphthalene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Nitrobenzene	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		n-Nitrosodi-n-propylamine	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		n-Nitrosodiphenylamine	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Pentachlorophenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Phenanthrene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1
		Phenol	mg/l	< 0.01	U	0.01	1	<	0.01	U	0.01	1
		Pyrene	mg/l	< 0.001	U	0.001	1	<	0.001	U	0.001	1

Table 1 - Logan Wash Evaporation Pond Analytical Summary

Sample ID				LW-LM				LW-LM			
Lab ID				L1225720-01				L1270981-02			
Sample Date				6/4/2020 9:00				10/7/2020 11:20			
GROUP	METHOD	PARAMETER	UNITS	Result	Lab Qualifier	RDL	Dilution	Result	Lab Qualifier	RDL	Dilution
VOCs	8260B	1,1,1-Trichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1,2,2-Tetrachloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1,2-Trichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1-Dichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,1-Dichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,2-Dichloroethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		1,2-Dichloropropane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		2-Butanone (MEK)	mg/l	< 0.01	U	0.01	1	< 0.01	U	0.01	1
		2-Hexanone	mg/l	< 0.01	U	0.01	1	< 0.01	U	0.01	1
		4-Methyl-2-pentanone (MIBK)	mg/l	< 0.01	U	0.01	1	< 0.01	U	0.01	1
		Acetone	mg/l	< 0.05	U	0.05	1	< 0.05	U, J4	0.05	1
		Benzene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Bromodichloromethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Bromoform	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Bromomethane	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Carbon disulfide	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Carbon tetrachloride	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Chlorobenzene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Chlorodibromomethane	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Chloroethane	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Chloroform	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Chloromethane	mg/l	< 0.0025	U	0.0025	1	< 0.0025	U	0.0025	1
		cis-1,2-Dichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		cis-1,3-Dichloropropene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Ethylbenzene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Methylene Chloride	mg/l	< 0.005	U	0.005	1	< 0.005	U	0.005	1
		Styrene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Tetrachloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Toluene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		trans-1,2-Dichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		trans-1,3-Dichloropropene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Trichloroethene	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Vinyl chloride	mg/l	< 0.001	U	0.001	1	< 0.001	U	0.001	1
		Xylenes, Total	mg/l	< 0.003	U	0.003	1	< 0.003	U	0.003	1

Notes:

RDL - Reported Detection Limit

< - Less than the RDL

J - The identification of the analyte is acceptable; the reported value is an estimate.

J4 - The associated batch QC was outside the established quality control range for accuracy.

T8 - Sample received past/too close to holding time expiration.

B - The same analyte is found in the associated blank.

NM - Not measured.

Table 2 - Logan Wash Evaporation, Settling Pond, and Lower Manhole 2020 Field Parameters

Field Sample ID		LW-POND	LW-POND	LW-POND	LW-POND	LW-POND	LW-POND	LW-POND	LW-POND	LW-POND	LW-POND	LW-POND
Sample Date		1/17/2020	3/10/2020	4/15/2020	5/15/2020	5/26/2020	7/17/2020	8/12/2020	9/17/2020	10/7/2020	10/14/2020	11/12/2020
Analytical Sample Collected		No	No	No	No	Yes	No	No	No	Yes	No	No
Parameter	**Units**											
Water Temperature	°C	NM	5.7	6.2	12.7	30.1	15.8	29.6	18.8	14.6	17.5	11.2
pH	s.u.	NM	9.15	8.91	8.91	8.99	9.29	9.9	9.5	9.29	9.34	9.38
Specific Conductivity	uS/cm	NM	22049	22259	40324	104962	140189	142702	89875	113115	100505	64317
Conductivity	uS/cm	NM	13886	14323	30828	115423	111527	156068	79274	90848	86338	47449
DO	%	NM	75.5	62.9	63.8	32.1	21.5	36.9	22.2	12.8	24	54.2
DO	mg/L	NM	8.63	7.09	5.73	1.57	1.4	1.5	1.41	0.76	1.46	44.6
Barometric Pressure	mmHg	NM	626.9	622.6	621.7	624.8	NM	625	629.9	628	624.8	626
ORP	RmV	NM	-9.3	-5.8	23.6	-37.8	45.1	54.6	-239	-61.2	41.4	91.5
Turbidity	NTU	NM	NM	NM	NM	5.09	NM	NM	NM	14.47	NM	NM
Discharge	gpm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Color	nu	NM	NM	NM	NM	Clear	NM	NM	NM	Brown/Green	NM	NM
Odor	nu	NM	NM	NM	NM	Moderate	NM	NM	NM	None	NM	NM
Effervescense	nu	NM	NM	NM	NM	None	NM	NM	NM	Mild	NM	NM
Sediment	nu	NM	NM	NM	NM	None	NM	NM	NM	Light	NM	NM
Bubbles	nu	NM	NM	NM	NM	None	NM	NM	NM	None	NM	NM
VOA Headspace	nu	NM	NM	NM	NM	< Pea Size	NM	NM	NM	None	NM	NM
Comments		Water quality parameters were not taken because the ponds were frozen.	Collected on east side of pond.	Collected from East Sump.	Collected from East Sump.	Collected from northeast area of pond.	Collected on east side of pond.	Collected on east side of pond.		Collected from northeast area of pond.	Collected 30 ft north of East Sump.	Collected from East Sump.

Notes:
LW-POND is the Evaporation Pond
LW-LM is the Lower Manhole
NA - not applicable
NM- not measured

Table 2 - Logan Wash Evaporation, Settling Pond, and Lower Manhole 2020 Field Parameters

Field Sample ID		SETTLING POND	SETTLING POND	SETTLING POND	SETTLING POND	SETTLING POND	SETTLING POND	SETTLING POND	SETTLING POND	SETTLING POND
Sample Date		1/17/2020	3/10/2020	4/15/2020	5/15/2020	7/17/2020	8/12/2020	9/17/2020	10/14/2020	11/12/2020
Analytical Sample Collected		No	No	No	No	No	No	No	No	No
Parameter	**Units**									
Water Temperature	°C	NM	8.4	8.3	16	19.7	20.3	15.4	11.1	5.7
pH	s.u.	NM	8.53	8.52	8.81	9.13	8.75	9.25	9.03	8.78
Specific Conductivity	uS/cm	NM	9234	9647	9488	10861	10419	9735	10200	9399
Conductivity	uS/cm	NM	6310	6568	7460	9764	9509	7955	7495	5908
DO	%	NM	73	83.3	100.8	81.3	100.7	NM	123.6	89.7
DO	mg/L	NM	8.22	9.4	9.63	7.11	NM	NM	12.9	10.8
Barometric Pressure	mmHg	NM	626.7	622.4	621.5	NM	624.9	629.9	624.8	625.9
ORP	RmV	NM	-0.3	0.7	-15.4	37.9	43.5	-37	59.4	65.3
Turbidity	NTU	NM	NM	NM	NM	NM	NM	NM	NM	NM
Discharge	gpm	NA	NA	NA	NA	NA	NA	NA	NA	NA
Color	nu	NM	NM	NM	NM	NM	NM	NM	NM	NM
Odor	nu	NM	NM	NM	NM	NM	NM	NM	NM	NM
Effervescense	nu	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sediment	nu	NM	NM	NM	NM	NM	NM	NM	NM	NM
Bubbles	nu	NM	NM	NM	NM	NM	NM	NM	NM	NM
VOA Headspace	nu	NM	NM	NM	NM	NM	NM	NM	NM	NM
Comments		Water quality parameters not taken b/c the ponds were frozen.	Collected near spillway.	Collected near spillway.	Collected near spillway.	Collected near spillway.	Collected near spillway. DO measurement is suspect.	Collected near spillway. DO probe not fuctioning.	Collected near spillway.	Collected near spillway.

Notes:
LW-POND is the Evaporation Pond
LW-LM is the Lower Manhole
NA - not applicable
NM- not measured

Table 2 - Logan Wash Evaporation, Settling Pond, and Lower Manhole 2020 Field Parameters

Field Sample ID		LW-LM	LW-LM	LW-LM	LW-LM	LW-LM	LW-LM	LW-LM	LW-LM
Sample Date		1/17/2020	3/10/2020	4/15/2020	5/15/2020	5/26/2020	5/27/2020	5/27/2020	5/28/2020
Analytical Sample Collected		No	No	No	No	No	No	No	No
Parameter	**Units**								
Water Temperature	°C	NM	NM	NM	NM	NM	NM	NM	NM
pH	s.u.	NM	NM	NM	NM	NM	NM	NM	NM
Specific Conductivity	uS/cm	NM	NM	NM	NM	NM	NM	NM	NM
Conductivity	uS/cm	NM	NM	NM	NM	NM	NM	NM	NM
DO	%	NM	NM	NM	NM	NM	NM	NM	NM
DO	mg/L	NM	NM	NM	NM	NM	NM	NM	NM
Barometric Pressure	mmHg	NM	NM	NM	NM	NM	NM	NM	NM
ORP	RmV	NM	NM	NM	NM	NM	NM	NM	NM
Turbidity	NTU	NM	NM	NM	NM	NM	NM	NM	NM
Discharge	gpm	2.2	2.07	2.11	2.06	0	0	4.61	3.95
Color	nu	NM	NM	NM	NM	NM	NM	NM	NM
Odor	nu	NM	NM	NM	NM	NM	NM	NM	NM
Effervescense	nu	NM	NM	NM	NM	NM	NM	NM	NM
Sediment	nu	NM	NM	NM	NM	NM	NM	NM	NM
Bubbles	nu	NM	NM	NM	NM	NM	NM	NM	NM
VOA Headspace	nu	NM	NM	NM	NM	NM	NM	NM	NM
Comments						Discharge is abnormal due to retort plug in.	Discharge is abnormal due to retort plug in.	Discharge is abnormal due to retort plug in.	Discharge is abnormal due to retort plug in.

Notes:
LW-POND is the Evaporation Pond
LW-LM is the Lower Manhole
NA - not applicable
NM- not measured

Table 2 - Logan Wash Evaporation, Settling Pond, and Lower Manhole 2020 Field Parameters

Field Sample ID		LW-LM	LW-LM	LW-LM	LW-LM	LW-LM	LW-LM	LW-LM	LW-LM
Sample Date		6/4/2020	6/10/2020	7/17/2020	8/12/2020	9/17/2020	10/7/2020	10/14/2020	11/12/2020
Analytical Sample Collected		Yes	No	No	No	No	Yes	No	No
Parameter	**Units**								
Water Temperature	°C	12.9	NM	NM	NM	NM	17.2	NM	NM
pH	s.u.	6.46	NM	NM	NM	NM	8.44	NM	NM
Specific Conductivity	uS/cm	9460	NM	NM	NM	NM	10063	NM	NM
Conductivity	uS/cm	7310	NM	NM	NM	NM	8522	NM	NM
DO	%	81.6	NM	NM	NM	NM	72.7	NM	NM
DO	mg/L	8.21	NM	NM	NM	NM	6.74	NM	NM
Barometric Pressure	mmHg	623.4	NM	NM	NM	NM	626.6	NM	NM
ORP	RmV	6.4	NM	NM	NM	NM	25.1	NM	NM
Turbidity	NTU	7.61	NM	NM	NM	NM	1.26	NM	NM
Discharge	gpm	2.12	2.45	2.16	2.19	2.06	2.39	1.98	2.13
Color	nu	Clear	NM	NM	NM	NM	Yellow	NM	NM
Odor	nu	Moderate	NM	NM	NM	NM	Moderate	NM	NM
Effervescense	nu	None	NM	NM	NM	NM	None	NM	NM
Sediment	nu	None	NM	NM	NM	NM	None	NM	NM
Bubbles	nu	None	NM	NM	NM	NM	None	NM	NM
VOA Headspace	nu	None	NM	NM	NM	NM	None	NM	NM
Comments		Discharge is back to normal.							

Notes:
LW-POND is the Evaporation Pond
LW-LM is the Lower Manhole
NA - not applicable
NM- not measured

ATTACHMENT A

Photographs

Photo 1. Settling Pond with installed bird netting, June, 2020.

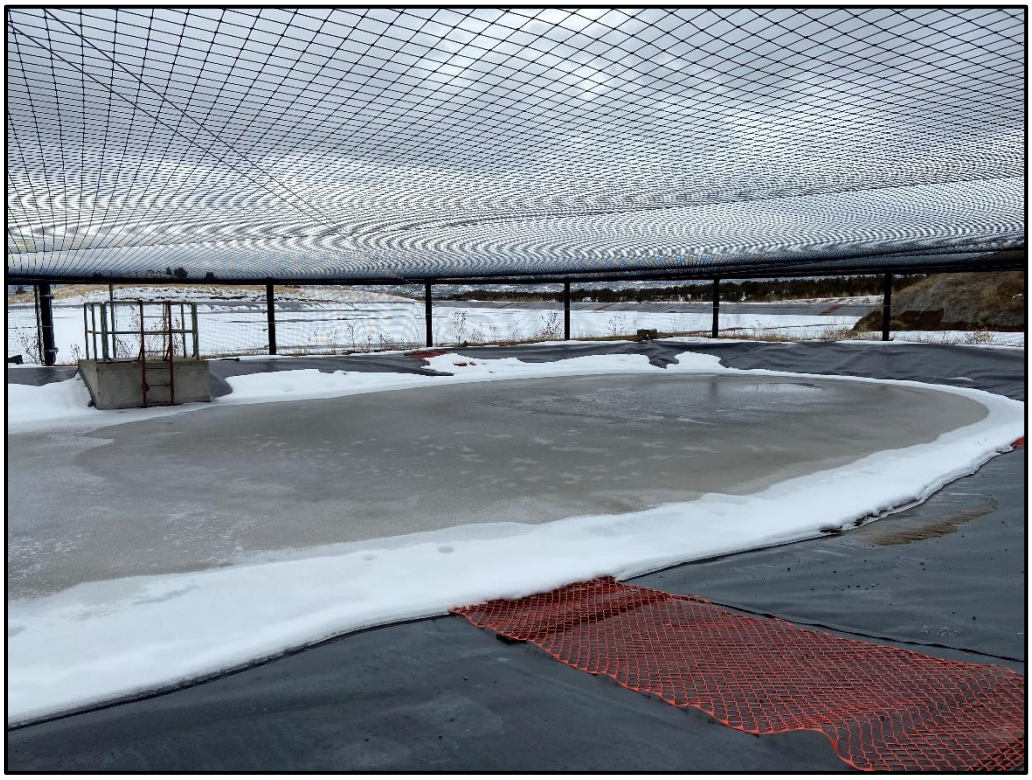


Photo 2. Inside bird netting of Settling Pond, January, 2020 (frozen water).

Photo 3. Evaporation Pond, April, 2020 (high water).

Photo 4. Evaporation Pond, April, 2020 (no water).

Photo 5. Settling Pond and Evaporation Pond, October, 2020.

ATTACHMENT B

Laboratory Reports

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 31, 2020

Revised Report

GHD-Houston, TX-Glenn Springs Holdings

Sample Delivery Group:	L1222266
Samples Received:	05/27/2020
Project Number:	14266DM
Description:	Logan Wash Mine

Report To: Sheri Finn
2055 Niagara Falls Blvd. #3
Niagara Falls, NY 14034

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

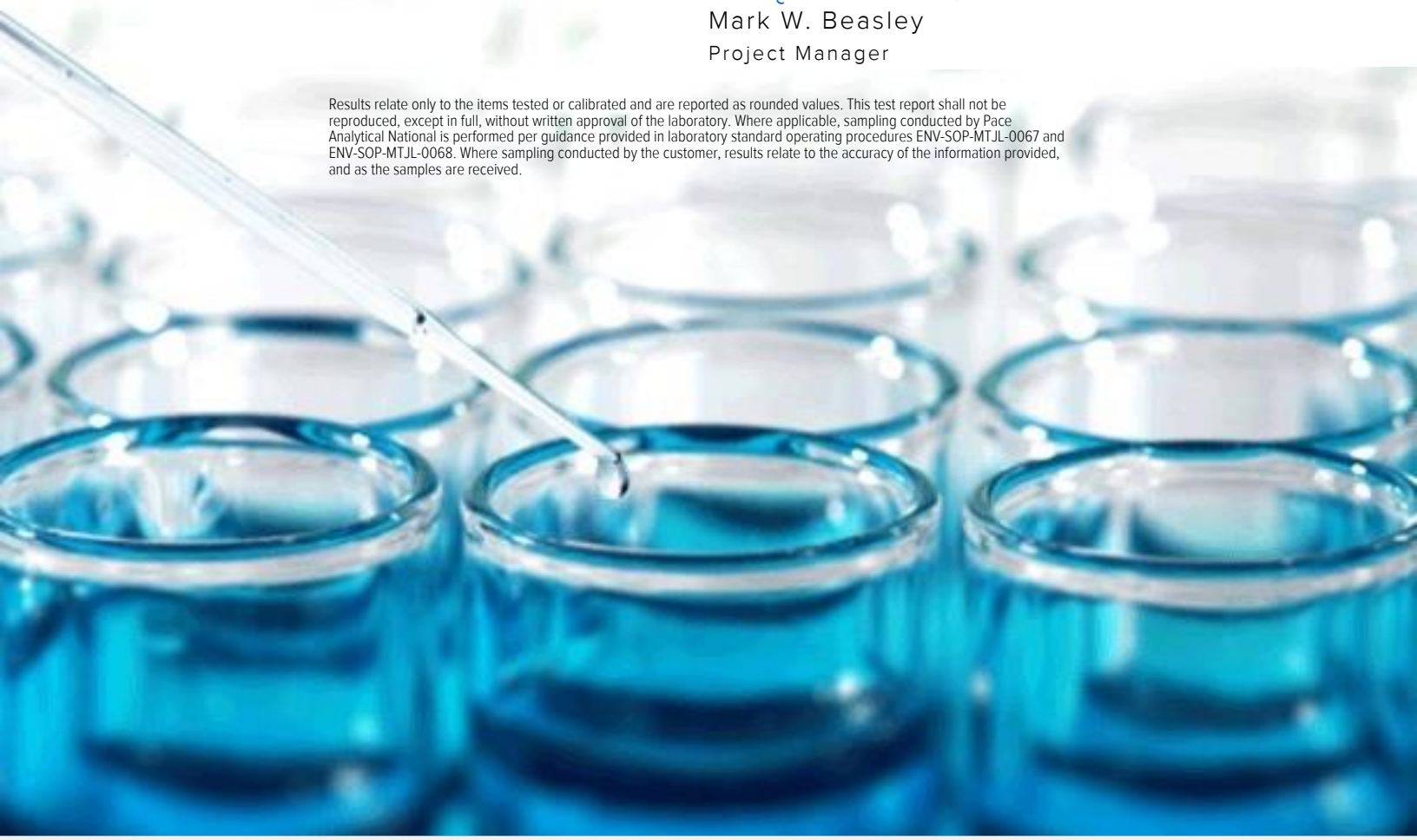


TABLE OF CONTENTS

LW-RETORT L1222266-01 WW

Collected by: Shelby Goodwin
Collected date/time: 05/26/20 09:55
Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1485934	1	06/03/20 05:49	06/03/20 05:49	CCE	Mt. Juliet, TN
Calculated Results	WG1483896	1	06/01/20 08:52	06/01/20 08:52	EL	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1484663	1	05/30/20 13:02	05/30/20 14:26	TH	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1484537	1	05/30/20 06:50	05/30/20 12:06	TH	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1483761	1	05/28/20 17:24	05/28/20 17:24	SL	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1483255	1	05/28/20 07:30	05/28/20 11:39	DLH	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1484639	1	06/02/20 18:54	06/02/20 18:54	DGR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	1	05/28/20 00:55	05/28/20 00:55	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	20	05/28/20 01:46	05/28/20 01:46	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	50	05/28/20 15:01	05/28/20 15:01	ELN	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1482464	1	06/02/20 10:56	06/02/20 10:56	MCG	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1484168	1	05/28/20 08:47	05/30/20 21:20	SDL	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1483112	1	05/27/20 23:00	05/28/20 19:25	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1485566	1	06/02/20 10:00	06/02/20 10:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1482985	1	05/27/20 16:24	05/27/20 16:24	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1484339	1	05/29/20 20:10	05/29/20 20:10	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1483896	1	05/30/20 11:30	06/01/20 08:52	EL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1484666	1	05/30/20 11:27	05/31/20 17:04	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1485934	1	06/02/20 16:48	06/03/20 05:49	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1482776	1	05/28/20 10:47	05/28/20 19:14	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1482776	5	05/28/20 10:47	05/28/20 19:24	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1484776	1	05/30/20 18:19	05/30/20 18:19	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1484668	1	05/30/20 19:56	05/30/20 19:56	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1483652	5	05/28/20 18:18	05/30/20 17:52	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1483844	1	06/01/20 23:16	06/03/20 10:14	SHG	Mt. Juliet, TN

LW-003 L1222266-02 WW

Collected by: Shelby Goodwin
Collected date/time: 05/26/20 10:15
Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1485934	1	06/03/20 05:52	06/03/20 05:52	CCE	Mt. Juliet, TN
Calculated Results	WG1483897	1	06/01/20 14:19	06/01/20 14:19	EL	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1484663	1	05/30/20 13:02	05/30/20 14:26	TH	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1484530	1	05/30/20 06:46	05/30/20 10:57	TH	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1483761	1	05/28/20 17:24	05/28/20 17:24	SL	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1483255	1	05/28/20 07:30	05/28/20 11:39	DLH	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1484639	1	06/02/20 19:10	06/02/20 19:10	DGR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	1	05/28/20 02:03	05/28/20 02:03	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	50	05/28/20 02:20	05/28/20 02:20	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	50	05/28/20 15:18	05/28/20 15:18	ELN	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1482464	1	06/02/20 10:57	06/02/20 10:57	MCG	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1484168	1	05/28/20 08:47	05/30/20 21:21	SDL	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1483112	1	05/27/20 23:00	05/28/20 19:26	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1485566	1	06/02/20 10:00	06/02/20 10:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1482985	1	05/27/20 16:25	05/27/20 16:25	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1484339	1	05/29/20 20:46	05/29/20 20:46	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1483897	1	05/31/20 16:00	06/01/20 14:19	EL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1484666	1	05/30/20 11:27	05/31/20 17:07	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1485934	1	06/02/20 16:48	06/03/20 05:52	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1482776	1	05/28/20 10:47	05/28/20 19:17	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1482776	5	05/28/20 10:47	05/28/20 19:27	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1484776	1	05/30/20 18:40	05/30/20 18:40	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1484668	1	05/30/20 20:17	05/30/20 20:17	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1483652	5	05/28/20 18:18	05/30/20 18:13	JN	Mt. Juliet, TN

LW-003 L1222266-02 WW

Collected by: Shelby Goodwin | Collected date/time: 05/26/20 10:15 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1483844	1	06/01/20 23:16	06/03/20 09:53	SHG	Mt. Juliet, TN

LW-POND L1222266-03 WW

Collected by: Shelby Goodwin | Collected date/time: 05/26/20 11:30 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1483900	1	06/03/20 11:09	06/03/20 11:09	CCE	Mt. Juliet, TN
Calculated Results	WG1483900	1	06/03/20 06:29	06/03/20 06:29	CCE	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1485702	1	06/02/20 17:01	06/02/20 21:31	AEC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1484537	1	05/30/20 06:50	05/30/20 12:06	TH	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1483761	1	05/28/20 17:24	05/28/20 17:24	SL	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1483255	1	05/28/20 07:30	05/28/20 11:39	DLH	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1484639	3.33	06/03/20 00:28	06/03/20 00:28	DGR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	10	05/28/20 02:54	05/28/20 02:54	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	100	05/28/20 03:11	05/28/20 03:11	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1482717	1000	05/28/20 03:27	05/28/20 03:27	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	1000	05/28/20 15:35	05/28/20 15:35	ELN	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1482464	1	06/02/20 11:04	06/02/20 11:04	MCG	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1484168	1	05/28/20 08:47	05/30/20 21:22	SDL	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1483112	1	05/27/20 23:00	05/28/20 19:27	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1485566	1	06/02/20 10:00	06/02/20 10:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1482985	1	05/27/20 16:25	05/27/20 16:25	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1484339	5	05/29/20 21:21	05/29/20 21:21	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1483900	25	06/01/20 06:31	06/03/20 11:09	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1483900	5	06/01/20 06:31	06/03/20 06:29	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1484666	50	05/30/20 11:27	06/01/20 13:54	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1484401	50	05/29/20 17:55	05/30/20 13:23	JDG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1484776	1	05/30/20 19:02	05/30/20 19:02	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1484668	1	05/30/20 20:37	05/30/20 20:37	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1483652	2	05/28/20 18:18	05/29/20 19:22	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1483844	1	06/01/20 23:16	06/02/20 12:54	SHG	Mt. Juliet, TN

TRIP BLANK L1222266-04 GW

Collected by: Shelby Goodwin | Collected date/time: 05/26/20 00:00 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1484668	1	05/30/20 18:34	05/30/20 18:34	ACG	Mt. Juliet, TN

LW-001 L1222266-05 WW

Collected by: Shelby Goodwin | Collected date/time: 05/26/20 09:45 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1485934	1	06/03/20 05:37	06/03/20 05:37	CCE	Mt. Juliet, TN
Calculated Results	WG1483897	1	06/01/20 14:01	06/01/20 14:01	EL	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1484663	1	05/30/20 13:02	05/30/20 14:26	TH	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1484537	1	05/30/20 06:50	05/30/20 12:06	TH	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1483761	1	05/28/20 17:24	05/28/20 17:24	SL	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1484868	1	05/31/20 08:34	05/31/20 14:32	DLH	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1484639	1	06/02/20 20:22	06/02/20 20:22	DGR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	1	05/28/20 17:33	05/28/20 17:33	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	20	05/28/20 17:50	05/28/20 17:50	ELN	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1482464	1	06/02/20 11:06	06/02/20 11:06	MCG	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1483683	1	05/28/20 15:38	06/01/20 21:58	JER	Mt. Juliet, TN

LW-001 L1222266-05 WW

Collected by: Shelby Goodwin | Collected date/time: 05/26/20 09:45 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 420.4	WG1483665	1	05/28/20 14:39	05/29/20 11:34	BAM	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1485566	1	06/02/20 10:00	06/02/20 10:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1483436	1	05/28/20 15:11	05/28/20 15:11	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1484339	1	05/29/20 22:01	05/29/20 22:01	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1483897	1	05/31/20 16:00	06/01/20 14:01	EL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1484666	1	05/30/20 11:27	06/01/20 13:48	EL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1485934	1	06/02/20 16:48	06/03/20 05:37	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1484401	1	05/29/20 17:55	05/30/20 13:16	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1484776	5	05/30/20 19:24	05/30/20 19:24	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1484668	1	05/30/20 20:58	05/30/20 20:58	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1483652	1	05/28/20 18:18	05/30/20 17:32	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1483844	1	06/01/20 23:16	06/02/20 12:13	SHG	Mt. Juliet, TN

LWCW-1A L1222266-06 WW

Collected by: Shelby Goodwin | Collected date/time: 05/26/20 11:25 | Received date/time: 05/27/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1485934	1	06/03/20 05:55	06/03/20 05:55	CCE	Mt. Juliet, TN
Calculated Results	WG1483897	1	06/01/20 14:27	06/01/20 14:27	EL	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1484663	1	05/30/20 13:02	05/30/20 14:26	TH	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1484537	1	05/30/20 06:50	05/30/20 12:06	TH	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1483761	1	05/28/20 17:24	05/28/20 17:24	SL	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1484868	1	05/31/20 08:34	05/31/20 14:32	DLH	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1484639	1	06/02/20 20:31	06/02/20 20:31	DGR	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	1	05/28/20 18:07	05/28/20 18:07	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1483546	50	05/28/20 18:41	05/28/20 18:41	ELN	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1482464	1	06/02/20 11:07	06/02/20 11:07	MCG	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1483683	1	05/28/20 15:38	06/01/20 21:59	JER	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1483665	1	05/28/20 14:39	05/29/20 11:40	BAM	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1485566	1	06/02/20 10:00	06/02/20 10:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1483436	1	05/28/20 15:12	05/28/20 15:12	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1484339	1	05/30/20 02:05	05/30/20 02:05	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1483897	1	05/31/20 16:00	06/01/20 14:27	EL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1484666	1	05/30/20 11:27	06/01/20 13:51	EL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1485934	1	06/02/20 16:48	06/03/20 05:55	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1484401	1	05/29/20 17:55	05/30/20 12:59	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1484776	5	05/30/20 19:45	05/30/20 19:45	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1484668	1	05/30/20 21:18	05/30/20 21:18	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1483652	1	05/28/20 18:18	05/29/20 20:14	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1483844	1	06/01/20 23:16	06/02/20 11:52	SHG	Mt. Juliet, TN

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

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 06/23/20 13:08

Project Narrative

Samples LW-001 and LWCW-1A were received at 11 degrees Celsius due to Fedex delay.
L1222266-03: TDS was rerun for confirmation, reported in hold result.

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1222266-03	LW-POND	1664A

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silica	16400		165	428	1	06/03/2020 05:49	WG1485934

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Hardness (calculated) as CaCO3	316000		118	2500	1	06/01/2020 08:52	WG1483896

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	5800000		28200	100000	1	05/30/2020 14:26	WG1484663

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Suspended Solids	10800		1400	10000	1	05/30/2020 12:06	WG1484537

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	9170		10.0	1	05/28/2020 17:24	WG1483761

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	2070	J	1330	5750	1	05/28/2020 11:39	WG1483255

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	384000		8450	20000	1	06/02/2020 18:54	WG1484639
Alkalinity,Bicarbonate	362000		8450	20000	1	06/02/2020 18:54	WG1484639
Alkalinity,Carbonate	21800	P1	8450	20000	1	06/02/2020 18:54	WG1484639

Sample Narrative:

L1222266-01 WG1484639: Endpoint pH 4.5

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bromide	U		17600	50000	50	05/28/2020 15:01	WG1483546
Chloride	82600		379	1000	1	05/28/2020 00:55	WG1482717
Fluoride	9130		1280	3000	20	05/28/2020 01:46	WG1482717
Nitrate	U		48.0	100	1	05/28/2020 00:55	WG1482717
Nitrite	U		42.0	100	1	05/28/2020 00:55	WG1482717
Sulfate	4540000		29700	250000	50	05/28/2020 15:01	WG1483546

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ammonia Nitrogen	1050		117	250	1	06/02/2020 10:56	WG1482464

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	286	B	35.0	100	1	05/30/2020 21:20	WG1484168

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	11.0	B J	8.30	40.0	1	05/28/2020 19:25	WG1483112

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.43	T8	1	06/02/2020 10:00	WG1485566

Sample Narrative:

L1222266-01 WG1485566: 8.43 at 18C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	722		25.0	50.0	1	05/27/2020 16:24	WG1482985

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	17600		102	1000	1	05/29/2020 20:10	WG1484339

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	11300		39.6	200	1	05/31/2020 17:04	WG1484666
Calcium	55500		47.3	1000	1	06/01/2020 08:52	WG1483896
Magnesium	43000		115	1000	1	06/01/2020 08:52	WG1483896
Silicon	7670		77.1	200	1	06/03/2020 05:49	WG1485934

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	35.7		0.195	1.00	1	05/28/2020 19:14	WG1482776
Calcium,Dissolved	61100		112	1000	1	05/28/2020 19:14	WG1482776
Iron,Dissolved	U		44.7	100	1	05/28/2020 19:14	WG1482776
Magnesium,Dissolved	43700		69.0	1000	1	05/28/2020 19:14	WG1482776
Potassium,Dissolved	1040000		755	5000	5	05/28/2020 19:24	WG1482776
Selenium,Dissolved	4.59		0.437	2.00	1	05/28/2020 19:14	WG1482776
Sodium,Dissolved	1480000		2560	10000	5	05/28/2020 19:24	WG1482776

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	31.8	B J	31.4	100	1	05/30/2020 18:19	WG1484776
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*78.0-120*		*05/30/2020 18:19*	WG1484776

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/30/2020 19:56	WG1484668
Benzene	1.75		0.0941	1.00	1	05/30/2020 19:56	WG1484668
Bromodichloromethane	U		0.136	1.00	1	05/30/2020 19:56	WG1484668
Bromoform	U		0.129	1.00	1	05/30/2020 19:56	WG1484668
Bromomethane	U		0.605	5.00	1	05/30/2020 19:56	WG1484668
Carbon disulfide	U		0.0962	1.00	1	05/30/2020 19:56	WG1484668
Carbon tetrachloride	U		0.128	1.00	1	05/30/2020 19:56	WG1484668
Chlorobenzene	U		0.116	1.00	1	05/30/2020 19:56	WG1484668
Chlorodibromomethane	U		0.140	1.00	1	05/30/2020 19:56	WG1484668
Chloroethane	U		0.192	5.00	1	05/30/2020 19:56	WG1484668
Chloroform	U		0.111	5.00	1	05/30/2020 19:56	WG1484668
Chloromethane	U		0.960	2.50	1	05/30/2020 19:56	WG1484668
1,1-Dichloroethane	U		0.100	1.00	1	05/30/2020 19:56	WG1484668
1,2-Dichloroethane	U		0.0819	1.00	1	05/30/2020 19:56	WG1484668
1,1-Dichloroethene	U		0.188	1.00	1	05/30/2020 19:56	WG1484668
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/30/2020 19:56	WG1484668
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/30/2020 19:56	WG1484668
1,2-Dichloropropane	U		0.149	1.00	1	05/30/2020 19:56	WG1484668
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/30/2020 19:56	WG1484668
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/30/2020 19:56	WG1484668
Ethylbenzene	0.897	J	0.137	1.00	1	05/30/2020 19:56	WG1484668
2-Hexanone	U		0.787	10.0	1	05/30/2020 19:56	WG1484668
2-Butanone (MEK)	U		1.19	10.0	1	05/30/2020 19:56	WG1484668
Methylene Chloride	U		0.430	5.00	1	05/30/2020 19:56	WG1484668
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/30/2020 19:56	WG1484668
Styrene	U		0.118	1.00	1	05/30/2020 19:56	WG1484668
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/30/2020 19:56	WG1484668
Tetrachloroethene	U		0.300	1.00	1	05/30/2020 19:56	WG1484668
Toluene	U		0.278	1.00	1	05/30/2020 19:56	WG1484668
1,1,1-Trichloroethane	U		0.149	1.00	1	05/30/2020 19:56	WG1484668
1,1,2-Trichloroethane	U		0.158	1.00	1	05/30/2020 19:56	WG1484668
Trichloroethene	U		0.190	1.00	1	05/30/2020 19:56	WG1484668
Vinyl chloride	U		0.234	1.00	1	05/30/2020 19:56	WG1484668
Xylenes, Total	1.43	J	0.174	3.00	1	05/30/2020 19:56	WG1484668
(S) Toluene-d8	*120*			*80.0-120*		*05/30/2020 19:56*	WG1484668
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*05/30/2020 19:56*	WG1484668
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*05/30/2020 19:56*	WG1484668

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	3930		123	500	5	05/30/2020 17:52	WG1483652
(S) o-Terphenyl	*106*			*31.0-160*		*05/30/2020 17:52*	WG1483652

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0886	1.00	1	06/03/2020 10:14	WG1483844
Acenaphthylene	0.297	J	0.0921	1.00	1	06/03/2020 10:14	WG1483844
Anthracene	0.247	J	0.0804	1.00	1	06/03/2020 10:14	WG1483844
Benzo(a)anthracene	U		0.199	1.00	1	06/03/2020 10:14	WG1483844
Benzo(b)fluoranthene	U		0.130	1.00	1	06/03/2020 10:14	WG1483844
Benzo(k)fluoranthene	U		0.120	1.00	1	06/03/2020 10:14	WG1483844
Benzo(g,h,i)perylene	U		0.121	1.00	1	06/03/2020 10:14	WG1483844
Benzo(a)pyrene	U		0.0381	0.200	1	06/03/2020 10:14	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	06/03/2020 10:14	WG1483844
Bis(2-chloroethyl)ether	U		0.137	10.0	1	06/03/2020 10:14	WG1483844
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	06/03/2020 10:14	WG1483844
4-Bromophenyl-phenylether	U		0.0877	10.0	1	06/03/2020 10:14	WG1483844
Carbazole	1.62	J	0.111	10.0	1	06/03/2020 10:14	WG1483844
4-Chloroaniline	U		0.234	10.0	1	06/03/2020 10:14	WG1483844
2-Chloronaphthalene	U		0.0648	1.00	1	06/03/2020 10:14	WG1483844
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	06/03/2020 10:14	WG1483844
Chrysene	U		0.130	1.00	1	06/03/2020 10:14	WG1483844
Dibenz(a,h)anthracene	U		0.0644	0.200	1	06/03/2020 10:14	WG1483844
Dibenzofuran	U		0.0970	10.0	1	06/03/2020 10:14	WG1483844
3,3-Dichlorobenzidine	U		0.212	10.0	1	06/03/2020 10:14	WG1483844
2,4-Dinitrotoluene	U		0.0983	10.0	1	06/03/2020 10:14	WG1483844
2,6-Dinitrotoluene	U		0.250	10.0	1	06/03/2020 10:14	WG1483844
Fluoranthene	0.352	B J	0.102	1.00	1	06/03/2020 10:14	WG1483844
Fluorene	1.02		0.0844	1.00	1	06/03/2020 10:14	WG1483844
Hexachlorobenzene	U		0.0755	1.00	1	06/03/2020 10:14	WG1483844
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	06/03/2020 10:14	WG1483844
Hexachlorocyclopentadiene	U		0.0598	10.0	1	06/03/2020 10:14	WG1483844
Hexachloroethane	U		0.127	10.0	1	06/03/2020 10:14	WG1483844
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	06/03/2020 10:14	WG1483844
Isophorone	U		0.143	10.0	1	06/03/2020 10:14	WG1483844
2-Methylnaphthalene	1.54	B	0.117	1.00	1	06/03/2020 10:14	WG1483844
Naphthalene	1.86	B	0.159	1.00	1	06/03/2020 10:14	WG1483844
2-Nitroaniline	U		0.102	10.0	1	06/03/2020 10:14	WG1483844
3-Nitroaniline	U		0.0869	10.0	1	06/03/2020 10:14	WG1483844
4-Nitroaniline	U		0.0910	10.0	1	06/03/2020 10:14	WG1483844
Nitrobenzene	U		0.297	10.0	1	06/03/2020 10:14	WG1483844
n-Nitrosodiphenylamine	U		2.37	10.0	1	06/03/2020 10:14	WG1483844
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	06/03/2020 10:14	WG1483844
Phenanthrene	1.44	B	0.112	1.00	1	06/03/2020 10:14	WG1483844
Benzylbutyl phthalate	U		0.765	3.00	1	06/03/2020 10:14	WG1483844
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	06/03/2020 10:14	WG1483844
Di-n-butyl phthalate	U		0.453	3.00	1	06/03/2020 10:14	WG1483844
Diethyl phthalate	U		0.287	3.00	1	06/03/2020 10:14	WG1483844
Dimethyl phthalate	U		0.260	3.00	1	06/03/2020 10:14	WG1483844
Di-n-octyl phthalate	U		0.932	3.00	1	06/03/2020 10:14	WG1483844
Pyrene	0.702	B J	0.107	1.00	1	06/03/2020 10:14	WG1483844
4-Chloro-3-methylphenol	U		0.131	10.0	1	06/03/2020 10:14	WG1483844
2-Chlorophenol	U		0.133	10.0	1	06/03/2020 10:14	WG1483844
2-Methylphenol	U		0.0929	10.0	1	06/03/2020 10:14	WG1483844
3&4-Methyl Phenol	U		0.168	10.0	1	06/03/2020 10:14	WG1483844
2,4-Dichlorophenol	U		0.102	10.0	1	06/03/2020 10:14	WG1483844
2,4-Dimethylphenol	3.88	J	0.0636	10.0	1	06/03/2020 10:14	WG1483844
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	06/03/2020 10:14	WG1483844
2,4-Dinitrophenol	U		5.93	10.0	1	06/03/2020 10:14	WG1483844
2-Nitrophenol	U		0.117	10.0	1	06/03/2020 10:14	WG1483844
4-Nitrophenol	U	J4	0.143	10.0	1	06/03/2020 10:14	WG1483844
Pentachlorophenol	U		0.313	10.0	1	06/03/2020 10:14	WG1483844
Phenol	U		4.33	10.0	1	06/03/2020 10:14	WG1483844
2,4,5-Trichlorophenol	U		0.109	10.0	1	06/03/2020 10:14	WG1483844
2,4,6-Trichlorophenol	U		0.100	10.0	1	06/03/2020 10:14	WG1483844
1,2-Dichlorobenzene	U		0.0713	10.0	1	06/03/2020 10:14	WG1483844
1,3-Dichlorobenzene	U		0.132	10.0	1	06/03/2020 10:14	WG1483844
1,4-Dichlorobenzene	U		0.0942	10.0	1	06/03/2020 10:14	WG1483844
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	06/03/2020 10:14	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 2-Fluorophenol	*29.3*			*10.0-120*		*06/03/2020 10:14*	WG1483844
(S) Phenol-d5	*17.9*			*10.0-120*		*06/03/2020 10:14*	WG1483844
(S) Nitrobenzene-d5	*52.2*			*10.0-127*		*06/03/2020 10:14*	WG1483844
(S) 2-Fluorobiphenyl	*58.4*			*10.0-130*		*06/03/2020 10:14*	WG1483844
(S) 2,4,6-Tribromophenol	*73.6*			*10.0-155*		*06/03/2020 10:14*	WG1483844
(S) p-Terphenyl-d14	*71.0*			*10.0-128*		*06/03/2020 10:14*	WG1483844

Calculated Results

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Silica	15600		165	428	1	06/03/2020 05:52	WG1485934

Calculated Results

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	343000		118	2500	1	06/01/2020 14:19	WG1483897

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	5720000		28200	100000	1	05/30/2020 14:26	WG1484663

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Suspended Solids	43000		3500	25000	1	05/30/2020 10:57	WG1484530

Wet Chemistry by Method 120.1

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	9300		10.0	1	05/28/2020 17:24	WG1483761

Wet Chemistry by Method 1664A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	3820	J	1300	5620	1	05/28/2020 11:39	WG1483255

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity	382000		8450	20000	1	06/02/2020 19:10	WG1484639
Alkalinity,Bicarbonate	371000		8450	20000	1	06/02/2020 19:10	WG1484639
Alkalinity,Carbonate	11400	J	8450	20000	1	06/02/2020 19:10	WG1484639

Sample Narrative:

L1222266-02 WG1484639: Endpoint pH 4.5

Wet Chemistry by Method 300.0

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Bromide	U		17600	50000	50	05/28/2020 02:20	WG1482717
Chloride	82600		379	1000	1	05/28/2020 02:03	WG1482717
Fluoride	9090		3200	7500	50	05/28/2020 02:20	WG1482717
Nitrate	U		48.0	100	1	05/28/2020 02:03	WG1482717
Nitrite	U		42.0	100	1	05/28/2020 02:03	WG1482717
Sulfate	4530000		29700	250000	50	05/28/2020 15:18	WG1483546

Wet Chemistry by Method 350.1

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	1090		117	250	1	06/02/2020 10:57	WG1482464

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	48.3	B J	35.0	100	1	05/30/2020 21:21	WG1484168

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	14.6	B J	8.30	40.0	1	05/28/2020 19:26	WG1483112

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.40	T8	1	06/02/2020 10:00	WG1485566

Sample Narrative:

L1222266-02 WG1485566: 8.4 at 18.3C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	775		25.0	50.0	1	05/27/2020 16:25	WG1482985

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	17600		102	1000	1	05/29/2020 20:46	WG1484339

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	11200		39.6	200	1	05/31/2020 17:07	WG1484666
Calcium	60100		47.3	1000	1	06/01/2020 14:19	WG1483897
Magnesium	46900		115	1000	1	06/01/2020 14:19	WG1483897
Silicon	7280		77.1	200	1	06/03/2020 05:52	WG1485934

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	33.1		0.195	1.00	1	05/28/2020 19:17	WG1482776
Calcium,Dissolved	61000		112	1000	1	05/28/2020 19:17	WG1482776
Iron,Dissolved	U		44.7	100	1	05/28/2020 19:17	WG1482776
Magnesium,Dissolved	44000		69.0	1000	1	05/28/2020 19:17	WG1482776
Potassium,Dissolved	1010000		755	5000	5	05/28/2020 19:27	WG1482776
Selenium,Dissolved	4.22		0.437	2.00	1	05/28/2020 19:17	WG1482776
Sodium,Dissolved	1450000		2560	10000	5	05/28/2020 19:27	WG1482776

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	35.0	B J	31.4	100	1	05/30/2020 18:40	WG1484776
(S) a,a,a-Trifluorotoluene(FID)	*95.6*			*78.0-120*		*05/30/2020 18:40*	WG1484776

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/30/2020 20:17	WG1484668
Benzene	1.73		0.0941	1.00	1	05/30/2020 20:17	WG1484668
Bromodichloromethane	U		0.136	1.00	1	05/30/2020 20:17	WG1484668
Bromoform	U		0.129	1.00	1	05/30/2020 20:17	WG1484668
Bromomethane	U		0.605	5.00	1	05/30/2020 20:17	WG1484668
Carbon disulfide	U		0.0962	1.00	1	05/30/2020 20:17	WG1484668
Carbon tetrachloride	U		0.128	1.00	1	05/30/2020 20:17	WG1484668
Chlorobenzene	U		0.116	1.00	1	05/30/2020 20:17	WG1484668
Chlorodibromomethane	U		0.140	1.00	1	05/30/2020 20:17	WG1484668
Chloroethane	U		0.192	5.00	1	05/30/2020 20:17	WG1484668
Chloroform	U		0.111	5.00	1	05/30/2020 20:17	WG1484668
Chloromethane	U		0.960	2.50	1	05/30/2020 20:17	WG1484668
1,1-Dichloroethane	U		0.100	1.00	1	05/30/2020 20:17	WG1484668
1,2-Dichloroethane	U		0.0819	1.00	1	05/30/2020 20:17	WG1484668
1,1-Dichloroethene	U		0.188	1.00	1	05/30/2020 20:17	WG1484668
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/30/2020 20:17	WG1484668
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/30/2020 20:17	WG1484668
1,2-Dichloropropane	U		0.149	1.00	1	05/30/2020 20:17	WG1484668
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/30/2020 20:17	WG1484668
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/30/2020 20:17	WG1484668
Ethylbenzene	0.664	J	0.137	1.00	1	05/30/2020 20:17	WG1484668
2-Hexanone	U		0.787	10.0	1	05/30/2020 20:17	WG1484668
2-Butanone (MEK)	U		1.19	10.0	1	05/30/2020 20:17	WG1484668
Methylene Chloride	U		0.430	5.00	1	05/30/2020 20:17	WG1484668
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/30/2020 20:17	WG1484668
Styrene	U		0.118	1.00	1	05/30/2020 20:17	WG1484668
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/30/2020 20:17	WG1484668
Tetrachloroethene	U		0.300	1.00	1	05/30/2020 20:17	WG1484668
Toluene	U		0.278	1.00	1	05/30/2020 20:17	WG1484668
1,1,1-Trichloroethane	U		0.149	1.00	1	05/30/2020 20:17	WG1484668
1,1,2-Trichloroethane	U		0.158	1.00	1	05/30/2020 20:17	WG1484668
Trichloroethene	U		0.190	1.00	1	05/30/2020 20:17	WG1484668
Vinyl chloride	U		0.234	1.00	1	05/30/2020 20:17	WG1484668
Xylenes, Total	1.40	J	0.174	3.00	1	05/30/2020 20:17	WG1484668
(S) Toluene-d8	*106*			*80.0-120*		*05/30/2020 20:17*	WG1484668
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*		*05/30/2020 20:17*	WG1484668
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*05/30/2020 20:17*	WG1484668

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	3280		123	500	5	05/30/2020 18:13	WG1483652
(S) o-Terphenyl	*93.2*			*31.0-160*		*05/30/2020 18:13*	WG1483652

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0886	1.00	1	06/03/2020 09:53	WG1483844
Acenaphthylene	0.389	J	0.0921	1.00	1	06/03/2020 09:53	WG1483844
Anthracene	0.463	J	0.0804	1.00	1	06/03/2020 09:53	WG1483844
Benzo(a)anthracene	U		0.199	1.00	1	06/03/2020 09:53	WG1483844
Benzo(b)fluoranthene	U		0.130	1.00	1	06/03/2020 09:53	WG1483844
Benzo(k)fluoranthene	U		0.120	1.00	1	06/03/2020 09:53	WG1483844
Benzo(g,h,i)perylene	U		0.121	1.00	1	06/03/2020 09:53	WG1483844
Benzo(a)pyrene	U		0.0381	0.200	1	06/03/2020 09:53	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	06/03/2020 09:53	WG1483844
Bis(2-chloroethyl)ether	U		0.137	10.0	1	06/03/2020 09:53	WG1483844
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	06/03/2020 09:53	WG1483844
4-Bromophenyl-phenylether	U		0.0877	10.0	1	06/03/2020 09:53	WG1483844
Carbazole	1.60	J	0.111	10.0	1	06/03/2020 09:53	WG1483844
4-Chloroaniline	U		0.234	10.0	1	06/03/2020 09:53	WG1483844
2-Chloronaphthalene	U		0.0648	1.00	1	06/03/2020 09:53	WG1483844
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	06/03/2020 09:53	WG1483844
Chrysene	U		0.130	1.00	1	06/03/2020 09:53	WG1483844
Dibenz(a,h)anthracene	U		0.0644	0.200	1	06/03/2020 09:53	WG1483844
Dibenzofuran	U		0.0970	10.0	1	06/03/2020 09:53	WG1483844
3,3-Dichlorobenzidine	U		0.212	10.0	1	06/03/2020 09:53	WG1483844
2,4-Dinitrotoluene	U		0.0983	10.0	1	06/03/2020 09:53	WG1483844
2,6-Dinitrotoluene	U		0.250	10.0	1	06/03/2020 09:53	WG1483844
Fluoranthene	0.384	B J	0.102	1.00	1	06/03/2020 09:53	WG1483844
Fluorene	1.03		0.0844	1.00	1	06/03/2020 09:53	WG1483844
Hexachlorobenzene	U		0.0755	1.00	1	06/03/2020 09:53	WG1483844
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	06/03/2020 09:53	WG1483844
Hexachlorocyclopentadiene	U		0.0598	10.0	1	06/03/2020 09:53	WG1483844
Hexachloroethane	U		0.127	10.0	1	06/03/2020 09:53	WG1483844
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	06/03/2020 09:53	WG1483844
Isophorone	U		0.143	10.0	1	06/03/2020 09:53	WG1483844
2-Methylnaphthalene	1.49	B	0.117	1.00	1	06/03/2020 09:53	WG1483844
Naphthalene	1.91	B	0.159	1.00	1	06/03/2020 09:53	WG1483844
2-Nitroaniline	U		0.102	10.0	1	06/03/2020 09:53	WG1483844
3-Nitroaniline	U		0.0869	10.0	1	06/03/2020 09:53	WG1483844
4-Nitroaniline	U		0.0910	10.0	1	06/03/2020 09:53	WG1483844
Nitrobenzene	U		0.297	10.0	1	06/03/2020 09:53	WG1483844
n-Nitrosodiphenylamine	U		2.37	10.0	1	06/03/2020 09:53	WG1483844
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	06/03/2020 09:53	WG1483844
Phenanthrene	1.43	B	0.112	1.00	1	06/03/2020 09:53	WG1483844
Benzylbutyl phthalate	U		0.765	3.00	1	06/03/2020 09:53	WG1483844
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	06/03/2020 09:53	WG1483844
Di-n-butyl phthalate	U		0.453	3.00	1	06/03/2020 09:53	WG1483844
Diethyl phthalate	U		0.287	3.00	1	06/03/2020 09:53	WG1483844
Dimethyl phthalate	U		0.260	3.00	1	06/03/2020 09:53	WG1483844
Di-n-octyl phthalate	U		0.932	3.00	1	06/03/2020 09:53	WG1483844
Pyrene	0.652	B J	0.107	1.00	1	06/03/2020 09:53	WG1483844
4-Chloro-3-methylphenol	U		0.131	10.0	1	06/03/2020 09:53	WG1483844
2-Chlorophenol	U		0.133	10.0	1	06/03/2020 09:53	WG1483844
2-Methylphenol	U		0.0929	10.0	1	06/03/2020 09:53	WG1483844
3&4-Methyl Phenol	U		0.168	10.0	1	06/03/2020 09:53	WG1483844
2,4-Dichlorophenol	U		0.102	10.0	1	06/03/2020 09:53	WG1483844
2,4-Dimethylphenol	3.84	J	0.0636	10.0	1	06/03/2020 09:53	WG1483844
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	06/03/2020 09:53	WG1483844
2,4-Dinitrophenol	U		5.93	10.0	1	06/03/2020 09:53	WG1483844
2-Nitrophenol	U		0.117	10.0	1	06/03/2020 09:53	WG1483844
4-Nitrophenol	U	J4	0.143	10.0	1	06/03/2020 09:53	WG1483844
Pentachlorophenol	U		0.313	10.0	1	06/03/2020 09:53	WG1483844
Phenol	U		4.33	10.0	1	06/03/2020 09:53	WG1483844
2,4,5-Trichlorophenol	U		0.109	10.0	1	06/03/2020 09:53	WG1483844
2,4,6-Trichlorophenol	U		0.100	10.0	1	06/03/2020 09:53	WG1483844
1,2-Dichlorobenzene	U		0.0713	10.0	1	06/03/2020 09:53	WG1483844
1,3-Dichlorobenzene	U		0.132	10.0	1	06/03/2020 09:53	WG1483844
1,4-Dichlorobenzene	U		0.0942	10.0	1	06/03/2020 09:53	WG1483844
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	06/03/2020 09:53	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 2-Fluorophenol	*30.4*			*10.0-120*		*06/03/2020 09:53*	WG1483844
(S) Phenol-d5	*19.0*			*10.0-120*		*06/03/2020 09:53*	WG1483844
(S) Nitrobenzene-d5	*50.7*			*10.0-127*		*06/03/2020 09:53*	WG1483844
(S) 2-Fluorobiphenyl	*58.6*			*10.0-130*		*06/03/2020 09:53*	WG1483844
(S) 2,4,6-Tribromophenol	*73.1*			*10.0-155*		*06/03/2020 09:53*	WG1483844
(S) p-Terphenyl-d14	*73.2*			*10.0-128*		*06/03/2020 09:53*	WG1483844

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silica	73400		4120	10700	1	06/03/2020 11:09	WG1483900

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Hardness (calculated) as CaCO3	3730000		589	12500	1	06/03/2020 06:29	WG1483900

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	138000000	J4	282000	1000000	1	06/02/2020 21:31	WG1485702

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Suspended Solids	219000		1750	12500	1	05/30/2020 12:06	WG1484537

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	105000		10.0	1	05/28/2020 17:24	WG1483761

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	4190	J	1350	5810	1	05/28/2020 11:39	WG1483255

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	5240000		28100	66600	3.33	06/03/2020 00:28	WG1484639
Alkalinity,Bicarbonate	2900000		28100	66600	3.33	06/03/2020 00:28	WG1484639
Alkalinity,Carbonate	2340000		28100	66600	3.33	06/03/2020 00:28	WG1484639

Sample Narrative:

L1222266-03 WG1484639: Endpoint pH 4.5 not a dilution: used less sample volume

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bromide	U		353000	1000000	1000	05/28/2020 03:27	WG1482717
Chloride	1930000		37900	100000	100	05/28/2020 03:11	WG1482717
Fluoride	187000		6400	15000	100	05/28/2020 03:11	WG1482717
Nitrate	U		480	1000	10	05/28/2020 02:54	WG1482717
Nitrite	U		420	1000	10	05/28/2020 02:54	WG1482717
Sulfate	90400000		594000	5000000	1000	05/28/2020 15:35	WG1483546

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ammonia Nitrogen	215	J	117	250	1	06/02/2020 11:04	WG1482464

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	162	B	35.0	100	1	05/30/2020 21:22	WG1484168

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	U		8.30	40.0	1	05/28/2020 19:27	WG1483112

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.93	T8	1	06/02/2020 10:00	WG1485566

Sample Narrative:
L1222266-03 WG1485566: 8.93 at 18C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	624		25.0	50.0	1	05/27/2020 16:25	WG1482985

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	276000		510	5000	5	05/29/2020 21:21	WG1484339

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	255000		1980	10000	50	06/01/2020 13:54	WG1484666
Calcium	163000		236	5000	5	06/03/2020 06:29	WG1483900
Magnesium	807000		575	5000	5	06/03/2020 06:29	WG1483900
Silicon	34300		1930	5000	25	06/03/2020 11:09	WG1483900

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	446		9.75	50.0	50	05/30/2020 13:23	WG1484401
Calcium,Dissolved	198000		5600	50000	50	05/30/2020 13:23	WG1484401
Iron,Dissolved	U		2240	5000	50	05/30/2020 13:23	WG1484401
Magnesium,Dissolved	882000		3450	50000	50	05/30/2020 13:23	WG1484401
Potassium,Dissolved	23900000		7550	50000	50	05/30/2020 13:23	WG1484401
Selenium,Dissolved	155		21.8	100	50	05/30/2020 13:23	WG1484401
Sodium,Dissolved	24900000		25600	100000	50	05/30/2020 13:23	WG1484401

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	U		31.4	100	1	05/30/2020 19:02	WG1484776
(S) a,a,a-Trifluorotoluene(FID)	*92.4*			*78.0-120*		*05/30/2020 19:02*	WG1484776

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	50.8		11.3	50.0	1	05/30/2020 20:37	WG1484668
Benzene	U		0.0941	1.00	1	05/30/2020 20:37	WG1484668
Bromodichloromethane	U		0.136	1.00	1	05/30/2020 20:37	WG1484668
Bromoform	U		0.129	1.00	1	05/30/2020 20:37	WG1484668
Bromomethane	U		0.605	5.00	1	05/30/2020 20:37	WG1484668
Carbon disulfide	U		0.0962	1.00	1	05/30/2020 20:37	WG1484668
Carbon tetrachloride	U		0.128	1.00	1	05/30/2020 20:37	WG1484668
Chlorobenzene	U		0.116	1.00	1	05/30/2020 20:37	WG1484668
Chlorodibromomethane	U		0.140	1.00	1	05/30/2020 20:37	WG1484668
Chloroethane	U		0.192	5.00	1	05/30/2020 20:37	WG1484668
Chloroform	U		0.111	5.00	1	05/30/2020 20:37	WG1484668
Chloromethane	U		0.960	2.50	1	05/30/2020 20:37	WG1484668
1,1-Dichloroethane	U		0.100	1.00	1	05/30/2020 20:37	WG1484668
1,2-Dichloroethane	U		0.0819	1.00	1	05/30/2020 20:37	WG1484668
1,1-Dichloroethene	U		0.188	1.00	1	05/30/2020 20:37	WG1484668
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/30/2020 20:37	WG1484668
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/30/2020 20:37	WG1484668
1,2-Dichloropropane	U		0.149	1.00	1	05/30/2020 20:37	WG1484668
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/30/2020 20:37	WG1484668
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/30/2020 20:37	WG1484668
Ethylbenzene	U		0.137	1.00	1	05/30/2020 20:37	WG1484668
2-Hexanone	U		0.787	10.0	1	05/30/2020 20:37	WG1484668
2-Butanone (MEK)	4.70	J	1.19	10.0	1	05/30/2020 20:37	WG1484668
Methylene Chloride	U		0.430	5.00	1	05/30/2020 20:37	WG1484668
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/30/2020 20:37	WG1484668
Styrene	U		0.118	1.00	1	05/30/2020 20:37	WG1484668
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/30/2020 20:37	WG1484668
Tetrachloroethene	U		0.300	1.00	1	05/30/2020 20:37	WG1484668
Toluene	U		0.278	1.00	1	05/30/2020 20:37	WG1484668
1,1,1-Trichloroethane	U		0.149	1.00	1	05/30/2020 20:37	WG1484668
1,1,2-Trichloroethane	U		0.158	1.00	1	05/30/2020 20:37	WG1484668
Trichloroethene	U		0.190	1.00	1	05/30/2020 20:37	WG1484668
Vinyl chloride	U		0.234	1.00	1	05/30/2020 20:37	WG1484668
Xylenes, Total	U		0.174	3.00	1	05/30/2020 20:37	WG1484668
(S) Toluene-d8	*110*			*80.0-120*		*05/30/2020 20:37*	WG1484668
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*05/30/2020 20:37*	WG1484668
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*05/30/2020 20:37*	WG1484668

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) High Fraction	5330		49.4	200	2	05/29/2020 19:22	WG1483652
(S) o-Terphenyl	*39.9*			*31.0-160*		*05/29/2020 19:22*	WG1483652

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acenaphthene	U		0.0886	1.00	1	06/02/2020 12:54	WG1483844
Acenaphthylene	U		0.0921	1.00	1	06/02/2020 12:54	WG1483844
Anthracene	U		0.0804	1.00	1	06/02/2020 12:54	WG1483844
Benzo(a)anthracene	U		0.199	1.00	1	06/02/2020 12:54	WG1483844
Benzo(b)fluoranthene	U		0.130	1.00	1	06/02/2020 12:54	WG1483844
Benzo(k)fluoranthene	U		0.120	1.00	1	06/02/2020 12:54	WG1483844
Benzo(g,h,i)perylene	U		0.121	1.00	1	06/02/2020 12:54	WG1483844
Benzo(a)pyrene	U		0.0381	0.200	1	06/02/2020 12:54	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	06/02/2020 12:54	WG1483844
Bis(2-chloroethyl)ether	U		0.137	10.0	1	06/02/2020 12:54	WG1483844
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	06/02/2020 12:54	WG1483844
4-Bromophenyl-phenylether	U		0.0877	10.0	1	06/02/2020 12:54	WG1483844
Carbazole	U		0.111	10.0	1	06/02/2020 12:54	WG1483844
4-Chloroaniline	U		0.234	10.0	1	06/02/2020 12:54	WG1483844
2-Chloronaphthalene	U		0.0648	1.00	1	06/02/2020 12:54	WG1483844
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	06/02/2020 12:54	WG1483844
Chrysene	U		0.130	1.00	1	06/02/2020 12:54	WG1483844
Dibenz(a,h)anthracene	U		0.0644	0.200	1	06/02/2020 12:54	WG1483844
Dibenzofuran	U		0.0970	10.0	1	06/02/2020 12:54	WG1483844
3,3-Dichlorobenzidine	U		0.212	10.0	1	06/02/2020 12:54	WG1483844
2,4-Dinitrotoluene	U		0.0983	10.0	1	06/02/2020 12:54	WG1483844
2,6-Dinitrotoluene	U		0.250	10.0	1	06/02/2020 12:54	WG1483844
Fluoranthene	U		0.102	1.00	1	06/02/2020 12:54	WG1483844
Fluorene	U		0.0844	1.00	1	06/02/2020 12:54	WG1483844
Hexachlorobenzene	U		0.0755	1.00	1	06/02/2020 12:54	WG1483844
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	06/02/2020 12:54	WG1483844
Hexachlorocyclopentadiene	U		0.0598	10.0	1	06/02/2020 12:54	WG1483844
Hexachloroethane	U		0.127	10.0	1	06/02/2020 12:54	WG1483844
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	06/02/2020 12:54	WG1483844
Isophorone	U		0.143	10.0	1	06/02/2020 12:54	WG1483844
2-Methylnaphthalene	U		0.117	1.00	1	06/02/2020 12:54	WG1483844
Naphthalene	U		0.159	1.00	1	06/02/2020 12:54	WG1483844
2-Nitroaniline	U		0.102	10.0	1	06/02/2020 12:54	WG1483844
3-Nitroaniline	U		0.0869	10.0	1	06/02/2020 12:54	WG1483844
4-Nitroaniline	U		0.0910	10.0	1	06/02/2020 12:54	WG1483844
Nitrobenzene	U		0.297	10.0	1	06/02/2020 12:54	WG1483844
n-Nitrosodiphenylamine	U		2.37	10.0	1	06/02/2020 12:54	WG1483844
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	06/02/2020 12:54	WG1483844
Phenanthrene	U		0.112	1.00	1	06/02/2020 12:54	WG1483844
Benzylbutyl phthalate	U		0.765	3.00	1	06/02/2020 12:54	WG1483844
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	06/02/2020 12:54	WG1483844
Di-n-butyl phthalate	U		0.453	3.00	1	06/02/2020 12:54	WG1483844
Diethyl phthalate	U		0.287	3.00	1	06/02/2020 12:54	WG1483844
Dimethyl phthalate	U		0.260	3.00	1	06/02/2020 12:54	WG1483844
Di-n-octyl phthalate	U		0.932	3.00	1	06/02/2020 12:54	WG1483844
Pyrene	U		0.107	1.00	1	06/02/2020 12:54	WG1483844
4-Chloro-3-methylphenol	U		0.131	10.0	1	06/02/2020 12:54	WG1483844
2-Chlorophenol	U		0.133	10.0	1	06/02/2020 12:54	WG1483844
2-Methylphenol	U		0.0929	10.0	1	06/02/2020 12:54	WG1483844
3&4-Methyl Phenol	U		0.168	10.0	1	06/02/2020 12:54	WG1483844
2,4-Dichlorophenol	U		0.102	10.0	1	06/02/2020 12:54	WG1483844
2,4-Dimethylphenol	U		0.0636	10.0	1	06/02/2020 12:54	WG1483844
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	06/02/2020 12:54	WG1483844
2,4-Dinitrophenol	U		5.93	10.0	1	06/02/2020 12:54	WG1483844
2-Nitrophenol	U		0.117	10.0	1	06/02/2020 12:54	WG1483844
4-Nitrophenol	U	J4	0.143	10.0	1	06/02/2020 12:54	WG1483844
Pentachlorophenol	U		0.313	10.0	1	06/02/2020 12:54	WG1483844
Phenol	U		4.33	10.0	1	06/02/2020 12:54	WG1483844
2,4,5-Trichlorophenol	U		0.109	10.0	1	06/02/2020 12:54	WG1483844
2,4,6-Trichlorophenol	U		0.100	10.0	1	06/02/2020 12:54	WG1483844
1,2-Dichlorobenzene	U		0.0713	10.0	1	06/02/2020 12:54	WG1483844
1,3-Dichlorobenzene	U		0.132	10.0	1	06/02/2020 12:54	WG1483844
1,4-Dichlorobenzene	U		0.0942	10.0	1	06/02/2020 12:54	WG1483844
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	06/02/2020 12:54	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 2-Fluorophenol	*30.0*			*10.0-120*		*06/02/2020 12:54*	WG1483844
(S) Phenol-d5	*33.0*			*10.0-120*		*06/02/2020 12:54*	WG1483844
(S) Nitrobenzene-d5	*48.2*			*10.0-127*		*06/02/2020 12:54*	WG1483844
(S) 2-Fluorobiphenyl	*52.9*			*10.0-130*		*06/02/2020 12:54*	WG1483844
(S) 2,4,6-Tribromophenol	*63.7*			*10.0-155*		*06/02/2020 12:54*	WG1483844
(S) p-Terphenyl-d14	*51.5*			*10.0-128*		*06/02/2020 12:54*	WG1483844

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	05/30/2020 18:34	WG1484668
Benzene	U		0.0941	1.00	1	05/30/2020 18:34	WG1484668
Bromodichloromethane	U		0.136	1.00	1	05/30/2020 18:34	WG1484668
Bromoform	U		0.129	1.00	1	05/30/2020 18:34	WG1484668
Bromomethane	U		0.605	5.00	1	05/30/2020 18:34	WG1484668
Carbon disulfide	U		0.0962	1.00	1	05/30/2020 18:34	WG1484668
Carbon tetrachloride	U		0.128	1.00	1	05/30/2020 18:34	WG1484668
Chlorobenzene	U		0.116	1.00	1	05/30/2020 18:34	WG1484668
Chlorodibromomethane	U		0.140	1.00	1	05/30/2020 18:34	WG1484668
Chloroethane	U		0.192	5.00	1	05/30/2020 18:34	WG1484668
Chloroform	U		0.111	5.00	1	05/30/2020 18:34	WG1484668
Chloromethane	U		0.960	2.50	1	05/30/2020 18:34	WG1484668
1,1-Dichloroethane	U		0.100	1.00	1	05/30/2020 18:34	WG1484668
1,2-Dichloroethane	U		0.0819	1.00	1	05/30/2020 18:34	WG1484668
1,1-Dichloroethene	U		0.188	1.00	1	05/30/2020 18:34	WG1484668
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/30/2020 18:34	WG1484668
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/30/2020 18:34	WG1484668
1,2-Dichloropropane	U		0.149	1.00	1	05/30/2020 18:34	WG1484668
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/30/2020 18:34	WG1484668
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/30/2020 18:34	WG1484668
Ethylbenzene	U		0.137	1.00	1	05/30/2020 18:34	WG1484668
2-Hexanone	U		0.787	10.0	1	05/30/2020 18:34	WG1484668
2-Butanone (MEK)	U		1.19	10.0	1	05/30/2020 18:34	WG1484668
Methylene Chloride	U		0.430	5.00	1	05/30/2020 18:34	WG1484668
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/30/2020 18:34	WG1484668
Styrene	U		0.118	1.00	1	05/30/2020 18:34	WG1484668
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/30/2020 18:34	WG1484668
Tetrachloroethene	U		0.300	1.00	1	05/30/2020 18:34	WG1484668
Toluene	U		0.278	1.00	1	05/30/2020 18:34	WG1484668
1,1,1-Trichloroethane	U		0.149	1.00	1	05/30/2020 18:34	WG1484668
1,1,2-Trichloroethane	U		0.158	1.00	1	05/30/2020 18:34	WG1484668
Trichloroethene	U		0.190	1.00	1	05/30/2020 18:34	WG1484668
Vinyl chloride	U		0.234	1.00	1	05/30/2020 18:34	WG1484668
Xylenes, Total	U		0.174	3.00	1	05/30/2020 18:34	WG1484668
(S) Toluene-d8	*107*			*80.0-120*		*05/30/2020 18:34*	WG1484668
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*05/30/2020 18:34*	WG1484668
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*05/30/2020 18:34*	WG1484668

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silica	15900		165	428	1	06/03/2020 05:37	WG1485934

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Hardness (calculated) as CaCO3	655000		118	2500	1	06/01/2020 14:01	WG1483897

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	2100000		7050	25000	1	05/30/2020 14:26	WG1484663

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Suspended Solids	1600	J	350	2500	1	05/30/2020 12:06	WG1484537

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	3010		10.0	1	05/28/2020 17:24	WG1483761

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	U		1360	5880	1	05/31/2020 14:32	WG1484868

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	252000		8450	20000	1	06/02/2020 20:22	WG1484639
Alkalinity,Bicarbonate	249000		8450	20000	1	06/02/2020 20:22	WG1484639
Alkalinity,Carbonate	U		8450	20000	1	06/02/2020 20:22	WG1484639

Sample Narrative:

L1222266-05 WG1484639: Endpoint pH 4.5

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bromide	U		7060	20000	20	05/28/2020 17:50	WG1483546
Chloride	43100		379	1000	1	05/28/2020 17:33	WG1483546
Fluoride	2510		64.0	150	1	05/28/2020 17:33	WG1483546
Nitrate	2480	T8	48.0	100	1	05/28/2020 17:33	WG1483546
Nitrite	U	T8	42.0	100	1	05/28/2020 17:33	WG1483546
Sulfate	1330000		11900	100000	20	05/28/2020 17:50	WG1483546

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ammonia Nitrogen	U		117	250	1	06/02/2020 11:06	WG1482464

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	U		35.0	100	1	06/01/2020 21:58	WG1483683

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	U		8.30	40.0	1	05/29/2020 11:34	WG1483665

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.28	T8	1	06/02/2020 10:00	WG1485566

Sample Narrative:

L1222266-05 WG1485566: 8.28 at 19.2C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	U		25.0	50.0	1	05/28/2020 15:11	WG1483436

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	9770		102	1000	1	05/29/2020 22:01	WG1484339

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	4510		39.6	200	1	06/01/2020 13:48	WG1484666
Calcium	83000	O1 V	47.3	1000	1	06/01/2020 14:01	WG1483897
Magnesium	109000	O1 V	115	1000	1	06/01/2020 14:01	WG1483897
Silicon	7410	V	77.1	200	1	06/03/2020 05:37	WG1485934

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	15.1		0.195	1.00	1	05/30/2020 13:16	WG1484401
Calcium,Dissolved	97300		112	1000	1	05/30/2020 13:16	WG1484401
Iron,Dissolved	U		44.7	100	1	05/30/2020 13:16	WG1484401
Magnesium,Dissolved	104000		69.0	1000	1	05/30/2020 13:16	WG1484401
Potassium,Dissolved	80900		151	1000	1	05/30/2020 13:16	WG1484401
Selenium,Dissolved	3.13		0.437	2.00	1	05/30/2020 13:16	WG1484401
Sodium,Dissolved	397000		513	2000	1	05/30/2020 13:16	WG1484401

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	U		157	500	5	05/30/2020 19:24	WG1484776
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*78.0-120*		*05/30/2020 19:24*	WG1484776

Sample Narrative:

L1222266-05 WG1484776: Lowest possible dilution due to sample foaming.

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	05/30/2020 20:58	WG1484668
Benzene	U		0.0941	1.00	1	05/30/2020 20:58	WG1484668
Bromodichloromethane	U		0.136	1.00	1	05/30/2020 20:58	WG1484668
Bromoform	U		0.129	1.00	1	05/30/2020 20:58	WG1484668
Bromomethane	U		0.605	5.00	1	05/30/2020 20:58	WG1484668
Carbon disulfide	U		0.0962	1.00	1	05/30/2020 20:58	WG1484668
Carbon tetrachloride	U		0.128	1.00	1	05/30/2020 20:58	WG1484668
Chlorobenzene	U		0.116	1.00	1	05/30/2020 20:58	WG1484668
Chlorodibromomethane	U		0.140	1.00	1	05/30/2020 20:58	WG1484668
Chloroethane	U		0.192	5.00	1	05/30/2020 20:58	WG1484668
Chloroform	U		0.111	5.00	1	05/30/2020 20:58	WG1484668
Chloromethane	U		0.960	2.50	1	05/30/2020 20:58	WG1484668
1,1-Dichloroethane	U		0.100	1.00	1	05/30/2020 20:58	WG1484668
1,2-Dichloroethane	U		0.0819	1.00	1	05/30/2020 20:58	WG1484668
1,1-Dichloroethene	U		0.188	1.00	1	05/30/2020 20:58	WG1484668
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/30/2020 20:58	WG1484668
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/30/2020 20:58	WG1484668
1,2-Dichloropropane	U		0.149	1.00	1	05/30/2020 20:58	WG1484668
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/30/2020 20:58	WG1484668
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/30/2020 20:58	WG1484668
Ethylbenzene	U		0.137	1.00	1	05/30/2020 20:58	WG1484668
2-Hexanone	U		0.787	10.0	1	05/30/2020 20:58	WG1484668
2-Butanone (MEK)	U		1.19	10.0	1	05/30/2020 20:58	WG1484668
Methylene Chloride	U		0.430	5.00	1	05/30/2020 20:58	WG1484668
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/30/2020 20:58	WG1484668
Styrene	U		0.118	1.00	1	05/30/2020 20:58	WG1484668
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/30/2020 20:58	WG1484668
Tetrachloroethene	U		0.300	1.00	1	05/30/2020 20:58	WG1484668
Toluene	U		0.278	1.00	1	05/30/2020 20:58	WG1484668
1,1,1-Trichloroethane	U		0.149	1.00	1	05/30/2020 20:58	WG1484668
1,1,2-Trichloroethane	U		0.158	1.00	1	05/30/2020 20:58	WG1484668
Trichloroethene	U		0.190	1.00	1	05/30/2020 20:58	WG1484668
Vinyl chloride	U		0.234	1.00	1	05/30/2020 20:58	WG1484668
Xylenes, Total	U		0.174	3.00	1	05/30/2020 20:58	WG1484668
(S) Toluene-d8	*121*	J1		*80.0-120*		*05/30/2020 20:58*	WG1484668
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*05/30/2020 20:58*	WG1484668
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*05/30/2020 20:58*	WG1484668

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) High Fraction	317		24.7	100	1	05/30/2020 17:32	WG1483652
(S) o-Terphenyl	*85.3*			*31.0-160*		*05/30/2020 17:32*	WG1483652

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acenaphthene	U		0.0886	1.00	1	06/02/2020 12:13	WG1483844
Acenaphthylene	U		0.0921	1.00	1	06/02/2020 12:13	WG1483844
Anthracene	U		0.0804	1.00	1	06/02/2020 12:13	WG1483844
Benzo(a)anthracene	U		0.199	1.00	1	06/02/2020 12:13	WG1483844
Benzo(b)fluoranthene	U		0.130	1.00	1	06/02/2020 12:13	WG1483844
Benzo(k)fluoranthene	U		0.120	1.00	1	06/02/2020 12:13	WG1483844
Benzo(g,h,i)perylene	U		0.121	1.00	1	06/02/2020 12:13	WG1483844
Benzo(a)pyrene	U		0.0381	0.200	1	06/02/2020 12:13	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	06/02/2020 12:13	WG1483844
Bis(2-chloroethyl)ether	U		0.137	10.0	1	06/02/2020 12:13	WG1483844
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	06/02/2020 12:13	WG1483844
4-Bromophenyl-phenylether	U		0.0877	10.0	1	06/02/2020 12:13	WG1483844
Carbazole	U		0.111	10.0	1	06/02/2020 12:13	WG1483844
4-Chloroaniline	U		0.234	10.0	1	06/02/2020 12:13	WG1483844
2-Chloronaphthalene	0.0772	J	0.0648	1.00	1	06/02/2020 12:13	WG1483844
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	06/02/2020 12:13	WG1483844
Chrysene	U		0.130	1.00	1	06/02/2020 12:13	WG1483844
Dibenz(a,h)anthracene	U		0.0644	0.200	1	06/02/2020 12:13	WG1483844
Dibenzofuran	0.114	J	0.0970	10.0	1	06/02/2020 12:13	WG1483844
3,3-Dichlorobenzidine	U		0.212	10.0	1	06/02/2020 12:13	WG1483844
2,4-Dinitrotoluene	U		0.0983	10.0	1	06/02/2020 12:13	WG1483844
2,6-Dinitrotoluene	U		0.250	10.0	1	06/02/2020 12:13	WG1483844
Fluoranthene	0.202	B J	0.102	1.00	1	06/02/2020 12:13	WG1483844
Fluorene	0.108	J	0.0844	1.00	1	06/02/2020 12:13	WG1483844
Hexachlorobenzene	U		0.0755	1.00	1	06/02/2020 12:13	WG1483844
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	06/02/2020 12:13	WG1483844
Hexachlorocyclopentadiene	U		0.0598	10.0	1	06/02/2020 12:13	WG1483844
Hexachloroethane	U		0.127	10.0	1	06/02/2020 12:13	WG1483844
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	06/02/2020 12:13	WG1483844
Isophorone	U		0.143	10.0	1	06/02/2020 12:13	WG1483844
2-Methylnaphthalene	U		0.117	1.00	1	06/02/2020 12:13	WG1483844
Naphthalene	U		0.159	1.00	1	06/02/2020 12:13	WG1483844
2-Nitroaniline	U		0.102	10.0	1	06/02/2020 12:13	WG1483844
3-Nitroaniline	U		0.0869	10.0	1	06/02/2020 12:13	WG1483844
4-Nitroaniline	U		0.0910	10.0	1	06/02/2020 12:13	WG1483844
Nitrobenzene	U		0.297	10.0	1	06/02/2020 12:13	WG1483844
n-Nitrosodiphenylamine	U		2.37	10.0	1	06/02/2020 12:13	WG1483844
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	06/02/2020 12:13	WG1483844
Phenanthrene	0.204	B J	0.112	1.00	1	06/02/2020 12:13	WG1483844
Benzylbutyl phthalate	U		0.765	3.00	1	06/02/2020 12:13	WG1483844
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	06/02/2020 12:13	WG1483844
Di-n-butyl phthalate	U		0.453	3.00	1	06/02/2020 12:13	WG1483844
Diethyl phthalate	U		0.287	3.00	1	06/02/2020 12:13	WG1483844
Dimethyl phthalate	U		0.260	3.00	1	06/02/2020 12:13	WG1483844
Di-n-octyl phthalate	U		0.932	3.00	1	06/02/2020 12:13	WG1483844
Pyrene	0.240	B J	0.107	1.00	1	06/02/2020 12:13	WG1483844
4-Chloro-3-methylphenol	U		0.131	10.0	1	06/02/2020 12:13	WG1483844
2-Chlorophenol	U		0.133	10.0	1	06/02/2020 12:13	WG1483844
2-Methylphenol	U		0.0929	10.0	1	06/02/2020 12:13	WG1483844
3&4-Methyl Phenol	U		0.168	10.0	1	06/02/2020 12:13	WG1483844
2,4-Dichlorophenol	U		0.102	10.0	1	06/02/2020 12:13	WG1483844
2,4-Dimethylphenol	U		0.0636	10.0	1	06/02/2020 12:13	WG1483844
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	06/02/2020 12:13	WG1483844
2,4-Dinitrophenol	U		5.93	10.0	1	06/02/2020 12:13	WG1483844
2-Nitrophenol	U		0.117	10.0	1	06/02/2020 12:13	WG1483844
4-Nitrophenol	U	J4	0.143	10.0	1	06/02/2020 12:13	WG1483844
Pentachlorophenol	U		0.313	10.0	1	06/02/2020 12:13	WG1483844
Phenol	U		4.33	10.0	1	06/02/2020 12:13	WG1483844
2,4,5-Trichlorophenol	U		0.109	10.0	1	06/02/2020 12:13	WG1483844
2,4,6-Trichlorophenol	U		0.100	10.0	1	06/02/2020 12:13	WG1483844
1,2-Dichlorobenzene	U		0.0713	10.0	1	06/02/2020 12:13	WG1483844
1,3-Dichlorobenzene	U		0.132	10.0	1	06/02/2020 12:13	WG1483844
1,4-Dichlorobenzene	U		0.0942	10.0	1	06/02/2020 12:13	WG1483844
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	06/02/2020 12:13	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 2-Fluorophenol	*32.6*			*10.0-120*		*06/02/2020 12:13*	WG1483844
(S) Phenol-d5	*19.0*			*10.0-120*		*06/02/2020 12:13*	WG1483844
(S) Nitrobenzene-d5	*53.1*			*10.0-127*		*06/02/2020 12:13*	WG1483844
(S) 2-Fluorobiphenyl	*65.1*			*10.0-130*		*06/02/2020 12:13*	WG1483844
(S) 2,4,6-Tribromophenol	*75.3*			*10.0-155*		*06/02/2020 12:13*	WG1483844
(S) p-Terphenyl-d14	*68.8*			*10.0-128*		*06/02/2020 12:13*	WG1483844

Calculated Results

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Silica	15100		165	428	1	06/03/2020 05:55	WG1485934

Calculated Results

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	1060000		118	2500	1	06/01/2020 14:27	WG1483897

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	2610000	J3	14100	50000	1	05/30/2020 14:26	WG1484663

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Suspended Solids	1600	J	350	2500	1	05/30/2020 12:06	WG1484537

Wet Chemistry by Method 120.1

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	4090		10.0	1	05/28/2020 17:24	WG1483761

Wet Chemistry by Method 1664A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	U		1320	5680	1	05/31/2020 14:32	WG1484868

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity	418000		8450	20000	1	06/02/2020 20:31	WG1484639
Alkalinity,Bicarbonate	418000		8450	20000	1	06/02/2020 20:31	WG1484639
Alkalinity,Carbonate	U		8450	20000	1	06/02/2020 20:31	WG1484639

Sample Narrative:

L1222266-06 WG1484639: Endpoint pH 4.5

Wet Chemistry by Method 300.0

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Bromide	U		17600	50000	50	05/28/2020 18:41	WG1483546
Chloride	23100		379	1000	1	05/28/2020 18:07	WG1483546
Fluoride	1100		64.0	150	1	05/28/2020 18:07	WG1483546
Nitrate	17800	T8	2400	5000	50	05/28/2020 18:41	WG1483546
Nitrite	U	T8	42.0	100	1	05/28/2020 18:07	WG1483546
Sulfate	1900000		29700	250000	50	05/28/2020 18:41	WG1483546

Wet Chemistry by Method 350.1

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	U		117	250	1	06/02/2020 11:07	WG1482464

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	U		35.0	100	1	06/01/2020 21:59	WG1483683

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	U		8.30	40.0	1	05/29/2020 11:40	WG1483665

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.84	T8	1	06/02/2020 10:00	WG1485566

Sample Narrative:

L1222266-06 WG1485566: 7.84 at 19.3C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	U		25.0	50.0	1	05/28/2020 15:12	WG1483436

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	13000		102	1000	1	05/30/2020 02:05	WG1484339

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	11900		39.6	200	1	06/01/2020 13:51	WG1484666
Calcium	142000		47.3	1000	1	06/01/2020 14:27	WG1483897
Magnesium	172000		115	1000	1	06/01/2020 14:27	WG1483897
Silicon	7070		77.1	200	1	06/03/2020 05:55	WG1485934

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	12.6		0.195	1.00	1	05/30/2020 12:59	WG1484401
Calcium,Dissolved	148000		112	1000	1	05/30/2020 12:59	WG1484401
Iron,Dissolved	U		44.7	100	1	05/30/2020 12:59	WG1484401
Magnesium,Dissolved	155000	V	69.0	1000	1	05/30/2020 12:59	WG1484401
Potassium,Dissolved	19600		151	1000	1	05/30/2020 12:59	WG1484401
Selenium,Dissolved	45.0		0.437	2.00	1	05/30/2020 12:59	WG1484401
Sodium,Dissolved	549000	V	513	2000	1	05/30/2020 12:59	WG1484401

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	U		157	500	5	05/30/2020 19:45	WG1484776
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*78.0-120*		*05/30/2020 19:45*	WG1484776

Sample Narrative:

L1222266-06 WG1484776: Lowest possible dilution due to sample foaming.

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	05/30/2020 21:18	WG1484668
Benzene	U		0.0941	1.00	1	05/30/2020 21:18	WG1484668
Bromodichloromethane	U		0.136	1.00	1	05/30/2020 21:18	WG1484668
Bromoform	U		0.129	1.00	1	05/30/2020 21:18	WG1484668
Bromomethane	U		0.605	5.00	1	05/30/2020 21:18	WG1484668
Carbon disulfide	U		0.0962	1.00	1	05/30/2020 21:18	WG1484668
Carbon tetrachloride	U		0.128	1.00	1	05/30/2020 21:18	WG1484668
Chlorobenzene	U		0.116	1.00	1	05/30/2020 21:18	WG1484668
Chlorodibromomethane	U		0.140	1.00	1	05/30/2020 21:18	WG1484668
Chloroethane	U		0.192	5.00	1	05/30/2020 21:18	WG1484668
Chloroform	U		0.111	5.00	1	05/30/2020 21:18	WG1484668
Chloromethane	U		0.960	2.50	1	05/30/2020 21:18	WG1484668
1,1-Dichloroethane	U		0.100	1.00	1	05/30/2020 21:18	WG1484668
1,2-Dichloroethane	U		0.0819	1.00	1	05/30/2020 21:18	WG1484668
1,1-Dichloroethene	U		0.188	1.00	1	05/30/2020 21:18	WG1484668
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/30/2020 21:18	WG1484668
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/30/2020 21:18	WG1484668
1,2-Dichloropropane	U		0.149	1.00	1	05/30/2020 21:18	WG1484668
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/30/2020 21:18	WG1484668
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/30/2020 21:18	WG1484668
Ethylbenzene	U		0.137	1.00	1	05/30/2020 21:18	WG1484668
2-Hexanone	U		0.787	10.0	1	05/30/2020 21:18	WG1484668
2-Butanone (MEK)	U		1.19	10.0	1	05/30/2020 21:18	WG1484668
Methylene Chloride	U		0.430	5.00	1	05/30/2020 21:18	WG1484668
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/30/2020 21:18	WG1484668
Styrene	U		0.118	1.00	1	05/30/2020 21:18	WG1484668
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/30/2020 21:18	WG1484668
Tetrachloroethene	U		0.300	1.00	1	05/30/2020 21:18	WG1484668
Toluene	U		0.278	1.00	1	05/30/2020 21:18	WG1484668
1,1,1-Trichloroethane	U		0.149	1.00	1	05/30/2020 21:18	WG1484668
1,1,2-Trichloroethane	U		0.158	1.00	1	05/30/2020 21:18	WG1484668
Trichloroethene	U		0.190	1.00	1	05/30/2020 21:18	WG1484668
Vinyl chloride	U		0.234	1.00	1	05/30/2020 21:18	WG1484668
Xylenes, Total	U		0.174	3.00	1	05/30/2020 21:18	WG1484668
(S) Toluene-d8	*110*			*80.0-120*		*05/30/2020 21:18*	WG1484668
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*05/30/2020 21:18*	WG1484668
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*05/30/2020 21:18*	WG1484668

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) High Fraction	31.7	J	24.7	100	1	05/29/2020 20:14	WG1483652
(S) o-Terphenyl	*73.2*			*31.0-160*		*05/29/2020 20:14*	WG1483652

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acenaphthene	0.186	J	0.0886	1.00	1	06/02/2020 11:52	WG1483844
Acenaphthylene	U		0.0921	1.00	1	06/02/2020 11:52	WG1483844
Anthracene	U		0.0804	1.00	1	06/02/2020 11:52	WG1483844
Benzo(a)anthracene	U		0.199	1.00	1	06/02/2020 11:52	WG1483844
Benzo(b)fluoranthene	U		0.130	1.00	1	06/02/2020 11:52	WG1483844
Benzo(k)fluoranthene	U		0.120	1.00	1	06/02/2020 11:52	WG1483844
Benzo(g,h,i)perylene	U		0.121	1.00	1	06/02/2020 11:52	WG1483844
Benzo(a)pyrene	U		0.0381	0.200	1	06/02/2020 11:52	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	06/02/2020 11:52	WG1483844
Bis(2-chloroethyl)ether	U		0.137	10.0	1	06/02/2020 11:52	WG1483844
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	06/02/2020 11:52	WG1483844
4-Bromophenyl-phenylether	U		0.0877	10.0	1	06/02/2020 11:52	WG1483844
Carbazole	U		0.111	10.0	1	06/02/2020 11:52	WG1483844
4-Chloroaniline	U		0.234	10.0	1	06/02/2020 11:52	WG1483844
2-Chloronaphthalene	U		0.0648	1.00	1	06/02/2020 11:52	WG1483844
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	06/02/2020 11:52	WG1483844
Chrysene	U		0.130	1.00	1	06/02/2020 11:52	WG1483844
Dibenz(a,h)anthracene	U		0.0644	0.200	1	06/02/2020 11:52	WG1483844
Dibenzofuran	U		0.0970	10.0	1	06/02/2020 11:52	WG1483844
3,3-Dichlorobenzidine	U		0.212	10.0	1	06/02/2020 11:52	WG1483844
2,4-Dinitrotoluene	U		0.0983	10.0	1	06/02/2020 11:52	WG1483844
2,6-Dinitrotoluene	U		0.250	10.0	1	06/02/2020 11:52	WG1483844
Fluoranthene	0.191	B J	0.102	1.00	1	06/02/2020 11:52	WG1483844
Fluorene	0.0938	J	0.0844	1.00	1	06/02/2020 11:52	WG1483844
Hexachlorobenzene	U		0.0755	1.00	1	06/02/2020 11:52	WG1483844
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	06/02/2020 11:52	WG1483844
Hexachlorocyclopentadiene	U		0.0598	10.0	1	06/02/2020 11:52	WG1483844
Hexachloroethane	U		0.127	10.0	1	06/02/2020 11:52	WG1483844
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	06/02/2020 11:52	WG1483844
Isophorone	U		0.143	10.0	1	06/02/2020 11:52	WG1483844
2-Methylnaphthalene	U		0.117	1.00	1	06/02/2020 11:52	WG1483844
Naphthalene	U		0.159	1.00	1	06/02/2020 11:52	WG1483844
2-Nitroaniline	U		0.102	10.0	1	06/02/2020 11:52	WG1483844
3-Nitroaniline	U		0.0869	10.0	1	06/02/2020 11:52	WG1483844
4-Nitroaniline	U		0.0910	10.0	1	06/02/2020 11:52	WG1483844
Nitrobenzene	U		0.297	10.0	1	06/02/2020 11:52	WG1483844
n-Nitrosodiphenylamine	U		2.37	10.0	1	06/02/2020 11:52	WG1483844
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	06/02/2020 11:52	WG1483844
Phenanthrene	0.191	B J	0.112	1.00	1	06/02/2020 11:52	WG1483844
Benzylbutyl phthalate	U		0.765	3.00	1	06/02/2020 11:52	WG1483844
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	06/02/2020 11:52	WG1483844
Di-n-butyl phthalate	U		0.453	3.00	1	06/02/2020 11:52	WG1483844
Diethyl phthalate	U		0.287	3.00	1	06/02/2020 11:52	WG1483844
Dimethyl phthalate	U		0.260	3.00	1	06/02/2020 11:52	WG1483844
Di-n-octyl phthalate	U		0.932	3.00	1	06/02/2020 11:52	WG1483844
Pyrene	0.268	B J	0.107	1.00	1	06/02/2020 11:52	WG1483844
4-Chloro-3-methylphenol	U		0.131	10.0	1	06/02/2020 11:52	WG1483844
2-Chlorophenol	U		0.133	10.0	1	06/02/2020 11:52	WG1483844
2-Methylphenol	U		0.0929	10.0	1	06/02/2020 11:52	WG1483844
3&4-Methyl Phenol	U		0.168	10.0	1	06/02/2020 11:52	WG1483844
2,4-Dichlorophenol	U		0.102	10.0	1	06/02/2020 11:52	WG1483844
2,4-Dimethylphenol	U		0.0636	10.0	1	06/02/2020 11:52	WG1483844
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	06/02/2020 11:52	WG1483844
2,4-Dinitrophenol	U		5.93	10.0	1	06/02/2020 11:52	WG1483844
2-Nitrophenol	U		0.117	10.0	1	06/02/2020 11:52	WG1483844
4-Nitrophenol	U	J4	0.143	10.0	1	06/02/2020 11:52	WG1483844
Pentachlorophenol	U		0.313	10.0	1	06/02/2020 11:52	WG1483844
Phenol	U		4.33	10.0	1	06/02/2020 11:52	WG1483844
2,4,5-Trichlorophenol	U		0.109	10.0	1	06/02/2020 11:52	WG1483844
2,4,6-Trichlorophenol	U		0.100	10.0	1	06/02/2020 11:52	WG1483844
1,2-Dichlorobenzene	U		0.0713	10.0	1	06/02/2020 11:52	WG1483844
1,3-Dichlorobenzene	U		0.132	10.0	1	06/02/2020 11:52	WG1483844
1,4-Dichlorobenzene	U		0.0942	10.0	1	06/02/2020 11:52	WG1483844
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	06/02/2020 11:52	WG1483844

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 2-Fluorophenol	*26.0*			*10.0-120*		*06/02/2020 11:52*	WG1483844
(S) Phenol-d5	*16.2*			*10.0-120*		*06/02/2020 11:52*	WG1483844
(S) Nitrobenzene-d5	*40.5*			*10.0-127*		*06/02/2020 11:52*	WG1483844
(S) 2-Fluorobiphenyl	*48.7*			*10.0-130*		*06/02/2020 11:52*	WG1483844
(S) 2,4,6-Tribromophenol	*54.0*			*10.0-155*		*06/02/2020 11:52*	WG1483844
(S) p-Terphenyl-d14	*53.1*			*10.0-128*		*06/02/2020 11:52*	WG1483844

Method Blank (MB)

(MB) R3533493-1 05/30/20 14:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1222266-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1222266-06 05/30/20 14:26 • (DUP) R3533493-3 05/30/20 14:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2610000	2850000	1	8.98	J3	5

Laboratory Control Sample (LCS)

(LCS) R3533493-2 05/30/20 14:26

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8590000	97.6	85.0-115	

Method Blank (MB)

(MB) R3534786-4 06/02/20 21:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1223584-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1223584-01 06/02/20 21:31 • (DUP) R3534786-3 06/02/20 21:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	473000	466000	1	1.49		5

Laboratory Control Sample (LCS)

(LCS) R3534786-2 06/02/20 21:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	6400000	72.7	85.0-115	J4

Method Blank (MB)

(MB) R3533410-1 05/30/20 10:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Suspended Solids	U		350	2500

L1222255-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222255-01 05/30/20 10:57 • (DUP) R3533410-3 05/30/20 10:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	184000	188000	1	2.15		5

L1222263-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222263-01 05/30/20 10:57 • (DUP) R3533410-4 05/30/20 10:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	140000	142000	1	1.42		5

Laboratory Control Sample (LCS)

(LCS) R3533410-2 05/30/20 10:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773000	812000	105	85.0-115	

Method Blank (MB)

(MB) R3533408-1 05/30/20 12:06

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Suspended Solids	U		350	2500

L1222263-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1222263-07 05/30/20 12:06 • (DUP) R3533408-3 05/30/20 12:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Suspended Solids	247000	235000	1	4.99		5

L1222618-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222618-01 05/30/20 12:06 • (DUP) R3533408-4 05/30/20 12:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Suspended Solids	374000	368000	1	1.62		5

Laboratory Control Sample (LCS)

(LCS) R3533408-2 05/30/20 12:06

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Suspended Solids	773000	808000	105	85.0-115	

Method Blank (MB)

(MB) R3532748-1 05/28/20 17:24

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

L1222264-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222264-01 05/28/20 17:24 • (DUP) R3532748-3 05/28/20 17:24

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	327	328	1	0.305		20

L1222689-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222689-01 05/28/20 17:24 • (DUP) R3532748-4 05/28/20 17:24

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	397	395	1	0.505		20

Laboratory Control Sample (LCS)

(LCS) R3532748-2 05/28/20 17:24

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	445	446	100	85.0-115	

Method Blank (MB)

(MB) R3532587-1 05/28/20 09:58

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Oil & Grease (Hexane Extr)	U		1160	5000

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

(LCS) R3532587-2 05/28/20 09:58 • (LCSD) R3532587-3 05/28/20 09:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Oil & Grease (Hexane Extr)	40000	34900	33200	87.3	83.0	78.0-114			4.99	20

Method Blank (MB)

(MB) R3533527-1 05/31/20 14:06

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Oil & Grease (Hexane Extr)	U		1160	5000

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

(LCS) R3533527-2 05/31/20 14:06 • (LCSD) R3533527-3 05/31/20 14:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Oil & Grease (Hexane Extr)	40000	37700	36300	94.3	90.8	78.0-114			3.78	20

Method Blank (MB)

(MB) R3534359-1 06/02/20 18:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	U		8450	20000
Alkalinity,Bicarbonate	U		8450	20000
Alkalinity,Carbonate	U		8450	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1222266-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222266-01 06/02/20 18:54 • (DUP) R3534359-3 06/02/20 19:02

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	384000	384000	1	0.00602		20
Alkalinity,Bicarbonate	362000	368000	1	1.60		20
Alkalinity,Carbonate	21800	16000	1	31.0	J P1	20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L1222550-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1222550-03 06/03/20 00:07 • (DUP) R3534359-8 06/03/20 00:15

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	499000	498000	1	0.261		20
Alkalinity,Bicarbonate	499000	498000	1	0.261		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3534359-7 06/02/20 20:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100000	103000	103	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3532483-1 05/27/20 11:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		353	1000
Chloride	U		379	1000
Fluoride	U		64.0	150
Nitrate	U		48.0	100
Nitrite	U		42.0	100

L1222224-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1222224-02 05/27/20 19:17 • (DUP) R3532483-3 05/27/20 19:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		20
Chloride	4760	4760	1	0.151		20
Fluoride	74.8	70.0	1	0.000		20
Nitrate	890	785	1	12.5		20
Nitrite	U	U	1	0.000		20

L1222263-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1222263-04 05/27/20 23:14 • (DUP) R3532483-6 05/27/20 23:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		20
Chloride	775	795	1	2.47	J	20
Fluoride	184	184	1	0.109		20
Nitrate	257	237	1	8.27		20
Nitrite	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3532483-2 05/27/20 11:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40000	38600	96.4	90.0-110	
Chloride	40000	38900	97.2	90.0-110	
Fluoride	8000	8020	100	90.0-110	
Nitrate	8000	7890	98.6	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R3532483-2 05/27/20 11:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrite	8000	8000	100	90.0-110	

L1222224-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222224-03 05/27/20 19:51 • (MS) R3532483-4 05/27/20 20:08 • (MSD) R3532483-5 05/27/20 20:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	U	48900	48600	97.9	97.2	1	80.0-120			0.695	20
Chloride	50000	8530	58200	57800	99.3	98.6	1	80.0-120			0.571	20
Fluoride	5000	102	5050	5010	98.9	98.3	1	80.0-120			0.650	20
Nitrate	5000	1170	6220	6240	101	101	1	80.0-120			0.311	20
Nitrite	5000	U	5010	4970	100	99.4	1	80.0-120			0.871	20

L1222263-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1222263-05 05/27/20 23:48 • (MS) R3532483-7 05/28/20 00:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	U	48500	97.0	1	80.0-120	
Chloride	50000	1170	50100	97.9	1	80.0-120	
Fluoride	5000	103	4980	97.6	1	80.0-120	
Nitrate	5000	128	4970	96.9	1	80.0-120	
Nitrite	5000	U	4960	99.2	1	80.0-120	

Method Blank (MB)

(MB) R3532934-1 05/28/20 11:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		353	1000
Chloride	U		379	1000
Fluoride	U		64.0	150
Nitrate	U		48.0	100
Nitrite	U		42.0	100
Sulfate	U		594	5000

L1222550-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222550-01 05/28/20 21:13 • (DUP) R3532934-6 05/28/20 21:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	701	666	1	5.05	J	20
Chloride	92000	92100	1	0.0957		20
Fluoride	194	192	1	0.983		20
Nitrate	1130	1120	1	0.695		20
Nitrite	U	U	1	0.000		20

L1222267-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1222267-16 05/28/20 15:52 • (DUP) R3532934-3 05/28/20 18:58

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		20
Chloride	U	U	1	0.000		20
Fluoride	U	U	1	0.000		20
Nitrate	U	U	1	0.000		20
Nitrite	U	U	1	0.000		20
Sulfate	U	U	1	0.000		20

L1222550-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222550-01 05/29/20 10:54 • (DUP) R3532994-1 05/29/20 11:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	157000	157000	5	0.137		20

Laboratory Control Sample (LCS)

(LCS) R3532934-2 05/28/20 11:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40000	38700	96.7	90.0-110	
Chloride	40000	39000	97.6	90.0-110	
Fluoride	8000	8050	101	90.0-110	
Nitrate	8000	7930	99.1	90.0-110	
Nitrite	8000	8010	100	90.0-110	
Sulfate	40000	39800	99.5	90.0-110	

L1222267-29 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222267-29 05/28/20 16:09 • (MS) R3532934-4 05/28/20 19:15 • (MSD) R3532934-5 05/28/20 19:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	U	49100	49300	98.2	98.5	1	80.0-120			0.317	20
Chloride	50000	5280	55200	55300	99.8	100	1	80.0-120			0.235	20
Fluoride	5000	67.5	5050	5070	99.6	100	1	80.0-120			0.429	20
Nitrate	5000	102	4990	5030	97.9	98.5	1	80.0-120			0.631	20
Nitrite	5000	U	5050	5080	101	102	1	80.0-120			0.484	20
Sulfate	50000	4300	54400	54700	100	101	1	80.0-120			0.579	20

L1222550-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1222550-03 05/28/20 22:21 • (MS) R3532934-7 05/28/20 22:38

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	694	51600	102	1	80.0-120	
Chloride	50000	78300	128000	98.6	1	80.0-120	E
Fluoride	5000	106	5270	103	1	80.0-120	
Nitrate	5000	623	5930	106	1	80.0-120	
Nitrite	5000	U	5350	107	1	80.0-120	
Sulfate	50000	129000	176000	94.6	1	80.0-120	E

Method Blank (MB)

(MB) R3534123-1 06/02/20 10:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ammonia Nitrogen	U		117	250

L1221682-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221682-01 06/02/20 10:24 • (DUP) R3534123-3 06/02/20 10:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ammonia Nitrogen	16100	16900	5	4.74		10

L1223091-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1223091-01 06/02/20 11:09 • (DUP) R3534123-6 06/02/20 11:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ammonia Nitrogen	U	U	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3534123-2 06/02/20 10:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Ammonia Nitrogen	7500	7510	100	90.0-110	

L1221777-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221777-02 06/02/20 10:30 • (MS) R3534123-4 06/02/20 10:32 • (MSD) R3534123-5 06/02/20 10:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Ammonia Nitrogen	5000	128	5300	5540	103	108	1	90.0-110			4.41	10

L1223091-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1223091-02 06/02/20 11:12 • (MS) R3534123-7 06/02/20 11:14

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Ammonia Nitrogen	5000	U	4930	98.5	1	90.0-110	

Method Blank (MB)

(MB) R3533910-1 06/01/20 21:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Phosphorus,Total	U		35.0	100

L1222542-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1222542-02 06/01/20 22:04 • (DUP) R3533910-3 06/01/20 22:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	3270	3300	1	0.913		20

L1222616-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222616-01 06/01/20 22:13 • (DUP) R3533910-6 06/01/20 22:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	1830	1850	1	1.09		20

Laboratory Control Sample (LCS)

(LCS) R3533910-2 06/01/20 21:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	1970	1810	92.1	82.4-117	

L1222591-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222591-02 06/01/20 22:09 • (MS) R3533910-4 06/01/20 22:11 • (MSD) R3533910-5 06/01/20 22:12

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2500	697	2840	2730	85.7	81.3	1	90.0-110	J6	J6	3.95	20

L1222630-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1222630-02 06/01/20 22:19 • (MS) R3533910-7 06/01/20 22:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Phosphorus,Total	2500	U	2310	92.4	1	90.0-110	

Method Blank (MB)

(MB) R3533389-1 05/30/20 20:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Phosphorus,Total	55.2	J	35.0	100

L1222286-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222286-01 05/30/20 21:08 • (DUP) R3533389-5 05/30/20 21:10

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	6400	6450	5	0.778		20

L1222251-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1222251-02 05/30/20 21:15 • (DUP) R3533389-6 05/30/20 21:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	191	203	1	6.09		20

Laboratory Control Sample (LCS)

(LCS) R3533389-2 05/30/20 20:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	1970	1700	86.5	82.4-117	

L1222277-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222277-01 05/30/20 20:59 • (MS) R3533389-3 05/30/20 21:00 • (MSD) R3533389-4 05/30/20 21:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2500	U	1980	2030	79.2	81.2	1	90.0-110	J6	J6	2.49	20

L1222251-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1222251-02 05/30/20 21:15 • (MS) R3533389-7 05/30/20 21:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Phosphorus,Total	2500	191	1310	44.8	1	90.0-110	J6

Method Blank (MB)

(MB) R3532773-1 05/28/20 19:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Total Phenol by 4AAP	11.8	J	8.30	40.0

L1220789-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1220789-02 05/28/20 19:14 • (DUP) R3532773-6 05/28/20 19:15

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	U	U	1	0.000		20

L1220807-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1220807-02 05/28/20 19:16 • (DUP) R3532773-7 05/28/20 19:17

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3532773-2 05/28/20 19:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Phenol by 4AAP	500	493	98.6	90.0-110	

L1220732-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1220732-01 05/28/20 19:08 • (MS) R3532773-3 05/28/20 19:09 • (MSD) R3532773-4 05/28/20 19:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Phenol by 4AAP	1000	U	954	1010	95.4	101	1	90.0-110			5.72	20

L1220754-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1220754-02 05/28/20 19:13 • (MS) R3532773-5 05/28/20 19:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Total Phenol by 4AAP	1000	U	1010	101	1	90.0-110	

Method Blank (MB)

(MB) R3533007-1 05/29/20 11:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Total Phenol by 4AAP	12.8	J	8.30	40.0

L1222604-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1222604-03 05/29/20 11:27 • (DUP) R3533007-3 05/29/20 11:29

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	27.7	10.2	1	92.3	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3533007-2 05/29/20 11:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Phenol by 4AAP	500	495	99.0	90.0-110	

L1222616-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222616-02 05/29/20 11:31 • (MS) R3533007-4 05/29/20 11:31 • (MSD) R3533007-5 05/29/20 11:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Phenol by 4AAP	1000	U	914	957	91.4	95.7	1	90.0-110			4.64	20

L1221753-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1221753-01 06/02/20 10:00 • (DUP) R3534089-2 06/02/20 10:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.20	6.18	1	0.323		1

Sample Narrative:

OS: 6.2 at 20.1C

DUP: 6.18 at 20C

L1222266-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222266-01 06/02/20 10:00 • (DUP) R3534089-3 06/02/20 10:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.43	8.43	1	0.000		1

Sample Narrative:

OS: 8.43 at 18C

DUP: 8.43 at 18.2C

Laboratory Control Sample (LCS)

(LCS) R3534089-1 06/02/20 10:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 21.1C

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

Method Blank (MB)

(MB) R3532256-1 05/27/20 16:22

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfide	U		25.0	50.0

Laboratory Control Sample (LCS)

(LCS) R3532256-2 05/27/20 16:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Sulfide	500	534	107	85.0-115	

L1222277-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222277-01 05/27/20 16:26 • (MS) R3532256-4 05/27/20 16:26 • (MSD) R3532256-5 05/27/20 16:27

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfide	1000	U	853	803	85.3	80.3	1	80.0-120			6.04	20

Method Blank (MB)

(MB) R3532674-1 05/28/20 15:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfide	U		25.0	50.0

L1222266-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1222266-05 05/28/20 15:11 • (DUP) R3532674-3 05/28/20 15:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3532674-2 05/28/20 15:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Sulfide	500	548	110	85.0-115	

L1222732-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222732-02 05/28/20 15:18 • (MS) R3532674-4 05/28/20 15:18 • (MSD) R3532674-5 05/28/20 15:18

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfide	1000	163	1120	1100	96.0	93.9	1	80.0-120			1.89	20

Method Blank (MB)

(MB) R3534088-1 05/29/20 15:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOC (Total Organic Carbon)	310	J	102	1000

L1222266-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1222266-05 05/29/20 22:01 • (DUP) R3534088-3 05/29/20 22:42

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	9770	9740	1	0.313		20

L1222266-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1222266-06 05/30/20 02:05 • (DUP) R3534088-4 05/30/20 02:41

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	13000	13100	1	0.857		20

Laboratory Control Sample (LCS)

(LCS) R3534088-2 05/29/20 17:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	75000	77500	103	85.0-115	

L1222277-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222277-01 05/30/20 03:22 • (MS) R3534088-5 05/30/20 03:57 • (MSD) R3534088-6 05/30/20 04:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	50000	2050	54700	56400	105	109	1	80.0-120			3.08	20

L1223111-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223111-01 05/30/20 14:19 • (MS) R3534088-7 05/30/20 14:55 • (MSD) R3534088-8 05/30/20 15:36

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	50000	3370	54000	55100	101	103	1	80.0-120			1.98	20

Method Blank (MB)

(MB) R3534221-1 06/02/20 14:21

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	561	J	47.3	1000
Magnesium	818	J	115	1000

Laboratory Control Sample (LCS)

(LCS) R3534221-2 06/02/20 14:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9690	96.9	85.0-115	
Magnesium	10000	9590	95.9	85.0-115	

L1222220-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222220-01 06/01/20 07:49 • (MS) R3533893-4 06/01/20 07:54 • (MSD) R3533893-5 06/01/20 07:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	66700	74900	76000	81.7	92.5	1	70.0-130			1.43	20
Magnesium	10000	26600	35400	35800	87.9	92.1	1	70.0-130			1.19	20

L1222227-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222227-01 06/01/20 08:00 • (MS) R3533893-6 06/01/20 08:02 • (MSD) R3533893-7 06/01/20 08:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	137000	143000	140000	59.6	29.1	1	70.0-130	V	V	2.16	20
Magnesium	10000	29300	37900	37200	85.4	78.8	1	70.0-130			1.76	20

Method Blank (MB)

(MB) R3533924-1 06/01/20 13:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		47.3	1000
Magnesium	U		115	1000

Laboratory Control Sample (LCS)

(LCS) R3533924-2 06/01/20 13:58

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	9870	98.7	85.0-115	
Magnesium	10000	10300	103	85.0-115	

L1222266-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222266-05 06/01/20 14:01 • (MS) R3533924-4 06/01/20 14:06 • (MSD) R3533924-5 06/01/20 14:09

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	83000	99100	97300	161	142	1	70.0-130	V	V	1.90	20
Magnesium	10000	109000	126000	123000	171	144	1	70.0-130	V	V	2.14	20

L1222554-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222554-01 06/01/20 14:12 • (MS) R3533924-6 06/01/20 14:14 • (MSD) R3533924-7 06/01/20 14:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	886	10900	10700	99.9	97.8	1	70.0-130			1.93	20
Magnesium	10000	160	10600	10400	104	103	1	70.0-130			1.37	20

Method Blank (MB)

(MB) R3534407-1 06/03/20 06:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		47.3	1000
Magnesium	U		115	1000
Silicon	U		77.1	200

Laboratory Control Sample (LCS)

(LCS) R3534407-2 06/03/20 06:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9420	94.2	85.0-115	
Magnesium	10000	9350	93.5	85.0-115	
Silicon	1000	889	88.9	85.0-115	

L1221571-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221571-01 06/03/20 06:09 • (MS) R3534407-4 06/03/20 06:15 • (MSD) R3534407-5 06/03/20 06:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	21800	32000	32700	102	109	1	70.0-130			2.16	20
Magnesium	10000	22600	32000	32600	94.1	100	1	70.0-130			1.94	20
Silicon	1000	2490	3420	3480	93.1	98.8	1	70.0-130			1.65	20

L1223454-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223454-01 06/03/20 06:20 • (MS) R3534407-6 06/03/20 06:23 • (MSD) R3534407-7 06/03/20 06:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	12200	22200	22500	100	103	1	70.0-130			1.35	20
Magnesium	10000	6580	15800	15800	92.0	92.4	1	70.0-130			0.266	20
Silicon	1000	U	916	902	91.6	90.2	1	70.0-130			1.58	20

Method Blank (MB)

(MB) R3533611-1 05/31/20 16:33

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron,Dissolved	U		39.6	200

Laboratory Control Sample (LCS)

(LCS) R3533611-2 05/31/20 16:35

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron,Dissolved	1000	968	96.8	85.0-115	

L1221860-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221860-16 05/31/20 16:38 • (MS) R3533611-4 05/31/20 16:43 • (MSD) R3533611-5 05/31/20 16:45

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron,Dissolved	1000	U	984	989	98.4	98.9	1	70.0-130			0.501	20

L1223192-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223192-07 05/31/20 16:48 • (MS) R3533611-6 05/31/20 16:50 • (MSD) R3533611-7 05/31/20 16:53

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron,Dissolved	1000	111	1110	1090	99.4	97.5	1	70.0-130			1.72	20

Method Blank (MB)

(MB) R3534406-1 06/03/20 05:31

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Silicon	U		77.1	200

Laboratory Control Sample (LCS)

(LCS) R3534406-2 06/03/20 05:34

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Silicon	1000	966	96.6	85.0-115	

L1222266-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222266-05 06/03/20 05:37 • (MS) R3534406-4 06/03/20 05:43 • (MSD) R3534406-5 06/03/20 05:46

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Silicon	1000	7410	8010	8620	60.6	121	1	70.0-130	V		7.23	20

Method Blank (MB)

(MB) R3532745-1 05/28/20 17:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic,Dissolved	U		0.195	1.00
Calcium,Dissolved	U		112	1000
Iron,Dissolved	U		44.7	100
Magnesium,Dissolved	U		69.0	1000
Potassium,Dissolved	U		151	1000
Selenium,Dissolved	U		0.437	2.00
Sodium,Dissolved	U		513	2000

Laboratory Control Sample (LCS)

(LCS) R3532745-2 05/28/20 17:17

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic,Dissolved	50.0	47.8	95.6	85.0-115	
Calcium,Dissolved	5000	4750	95.1	85.0-115	
Iron,Dissolved	5000	4980	99.6	85.0-115	
Magnesium,Dissolved	5000	4730	94.7	85.0-115	
Potassium,Dissolved	5000	4560	91.2	85.0-115	
Selenium,Dissolved	50.0	49.0	98.0	85.0-115	
Sodium,Dissolved	5000	4960	99.2	85.0-115	

L1221734-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221734-01 05/28/20 17:20 • (MS) R3532745-4 05/28/20 17:27 • (MSD) R3532745-5 05/28/20 17:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	19.4	64.2	65.6	89.5	92.3	1	70.0-130			2.13	20
Calcium,Dissolved	5000	98100	101000	101000	58.6	65.5	1	70.0-130	V	V	0.344	20
Iron,Dissolved	5000	851	5470	5550	92.4	94.1	1	70.0-130			1.51	20
Magnesium,Dissolved	5000	13800	17900	18500	81.9	94.2	1	70.0-130			3.37	20
Potassium,Dissolved	5000	3680	8550	8550	97.3	97.3	1	70.0-130			0.0506	20
Selenium,Dissolved	50.0	U	49.2	51.7	98.4	103	1	70.0-130			4.94	20
Sodium,Dissolved	5000	70400	70600	68200	5.67	0.000	1	70.0-130	V	V	3.56	20

L1221844-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1221844-02 05/28/20 17:44 • (MS) R3532745-6 05/28/20 17:48 • (MSD) R3532745-7 05/28/20 17:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	2.27	49.5	49.1	94.4	93.7	1	70.0-130			0.695	20
Calcium,Dissolved	5000	360000	368000	348000	179	0.000	1	70.0-130	V	V	5.66	20
Iron,Dissolved	5000	U	4530	4520	90.7	90.4	1	70.0-130			0.318	20
Magnesium,Dissolved	5000	1030000	1030000	1030000	143	0.000	1	70.0-130	E V	E V	0.734	20
Potassium,Dissolved	5000	301000	315000	299000	271	0.000	1	70.0-130	V	V	5.26	20
Selenium,Dissolved	50.0	U	53.5	52.4	107	105	1	70.0-130			2.21	20
Sodium,Dissolved	5000	8590000	8760000	8050000	3450	0.000	1	70.0-130	E V	E V	8.40	20

Method Blank (MB)

(MB) R3533342-1 05/30/20 12:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic,Dissolved	U		0.195	1.00
Calcium,Dissolved	U		112	1000
Iron,Dissolved	U		44.7	100
Magnesium,Dissolved	U		69.0	1000
Potassium,Dissolved	U		151	1000
Selenium,Dissolved	U		0.437	2.00
Sodium,Dissolved	U		513	2000

Laboratory Control Sample (LCS)

(LCS) R3533342-2 05/30/20 12:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic,Dissolved	50.0	47.5	95.1	85.0-115	
Calcium,Dissolved	5000	4920	98.5	85.0-115	
Iron,Dissolved	5000	5160	103	85.0-115	
Magnesium,Dissolved	5000	4750	95.1	85.0-115	
Potassium,Dissolved	5000	4690	93.7	85.0-115	
Selenium,Dissolved	50.0	47.1	94.1	85.0-115	
Sodium,Dissolved	5000	4750	95.0	85.0-115	

L1222266-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222266-06 05/30/20 12:59 • (MS) R3533342-4 05/30/20 13:06 • (MSD) R3533342-5 05/30/20 13:09

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	12.6	61.4	63.4	97.5	102	1	70.0-130			3.27	20
Calcium,Dissolved	5000	148000	153000	150000	102	50.6	1	70.0-130		V	1.69	20
Iron,Dissolved	5000	U	4850	5060	96.9	101	1	70.0-130			4.22	20
Magnesium,Dissolved	5000	155000	165000	158000	209	60.9	1	70.0-130	V	V	4.60	20
Potassium,Dissolved	5000	19600	24100	23800	90.1	83.1	1	70.0-130			1.46	20
Selenium,Dissolved	50.0	45.0	98.0	93.0	106	96.1	1	70.0-130			5.21	20
Sodium,Dissolved	5000	549000	559000	545000	186	0.000	1	70.0-130	V	V	2.39	20

Method Blank (MB)

(MB) R3533781-2 05/30/20 15:46

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPH (GC/FID) Low Fraction	32.9	J	31.4	100
(S) a,a,a-Trifluorotoluene(FID)	*95.9*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3533781-1 05/30/20 15:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5500	6120	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*78.0-120*	

Method Blank (MB)

(MB) R3533800-2 05/30/20 17:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Benzene	U		0.0941	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
Ethylbenzene	U		0.137	1.00
2-Hexanone	U		0.787	10.0
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Styrene	U		0.118	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*106*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3533800-1 05/30/20 17:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	21.6	86.4	19.0-160	
Benzene	5.00	4.70	94.0	70.0-123	
Bromodichloromethane	5.00	4.53	90.6	75.0-120	
Bromoform	5.00	3.84	76.8	68.0-132	
Bromomethane	5.00	3.95	79.0	10.0-160	
Carbon disulfide	5.00	4.68	93.6	61.0-128	
Carbon tetrachloride	5.00	4.64	92.8	68.0-126	
Chlorobenzene	5.00	4.66	93.2	80.0-121	
Chlorodibromomethane	5.00	4.58	91.6	77.0-125	
Chloroethane	5.00	5.67	113	47.0-150	
Chloroform	5.00	4.69	93.8	73.0-120	
Chloromethane	5.00	3.64	72.8	41.0-142	
1,1-Dichloroethane	5.00	5.00	100	70.0-126	
1,2-Dichloroethane	5.00	5.01	100	70.0-128	
1,1-Dichloroethene	5.00	4.90	98.0	71.0-124	
cis-1,2-Dichloroethene	5.00	4.87	97.4	73.0-120	
trans-1,2-Dichloroethene	5.00	5.20	104	73.0-120	
1,2-Dichloropropane	5.00	4.85	97.0	77.0-125	
cis-1,3-Dichloropropene	5.00	5.01	100	80.0-123	
trans-1,3-Dichloropropene	5.00	4.94	98.8	78.0-124	
Ethylbenzene	5.00	4.54	90.8	79.0-123	
2-Hexanone	25.0	21.0	84.0	67.0-149	
2-Butanone (MEK)	25.0	20.5	82.0	44.0-160	
Methylene Chloride	5.00	4.82	96.4	67.0-120	
4-Methyl-2-pentanone (MIBK)	25.0	18.5	74.0	68.0-142	
Styrene	5.00	3.92	78.4	73.0-130	
1,1,2,2-Tetrachloroethane	5.00	4.11	82.2	65.0-130	
Tetrachloroethene	5.00	5.14	103	72.0-132	
Toluene	5.00	4.49	89.8	79.0-120	
1,1,1-Trichloroethane	5.00	4.69	93.8	73.0-124	
1,1,2-Trichloroethane	5.00	4.98	99.6	80.0-120	
Trichloroethene	5.00	5.29	106	78.0-124	
Vinyl chloride	5.00	4.78	95.6	67.0-131	
Xylenes, Total	15.0	13.8	92.0	79.0-123	
(S) Toluene-d8			*106*	*80.0-120*	
(S) 4-Bromofluorobenzene			*97.8*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*104*	*70.0-130*	

L1223616-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1223616-01 05/31/20 01:04 • (MS) R3533800-3 05/31/20 01:25 • (MSD) R3533800-4 05/31/20 01:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	17.8	18.4	71.2	73.6	1	10.0-160			3.31	35
Benzene	5.00	U	3.84	4.09	76.8	81.8	1	17.0-158			6.31	27
Bromodichloromethane	5.00	U	3.74	3.81	74.8	76.2	1	31.0-150			1.85	27
Bromoform	5.00	U	3.66	3.65	73.2	73.0	1	29.0-150			0.274	29
Bromomethane	5.00	U	1.63	1.88	32.6	37.6	1	10.0-160			14.2	38
Carbon disulfide	5.00	U	4.16	4.16	83.2	83.2	1	10.0-156			0.000	28
Carbon tetrachloride	5.00	U	4.24	4.63	84.8	92.6	1	23.0-159			8.79	28
Chlorobenzene	5.00	U	3.70	3.98	74.0	79.6	1	33.0-152			7.29	27
Chlorodibromomethane	5.00	U	3.72	3.89	74.4	77.8	1	37.0-149			4.47	27
Chloroethane	5.00	U	5.28	4.98	106	99.6	1	10.0-160			5.85	30
Chloroform	5.00	U	3.75	4.01	75.0	80.2	1	29.0-154			6.70	28
Chloromethane	5.00	U	2.87	3.00	57.4	60.0	1	10.0-160			4.43	29
1,1-Dichloroethane	5.00	U	4.22	4.28	84.4	85.6	1	25.0-158			1.41	27
1,2-Dichloroethane	5.00	U	4.15	4.18	83.0	83.6	1	29.0-151			0.720	27
1,1-Dichloroethene	5.00	0.527	4.89	5.35	87.3	96.5	1	11.0-160			8.98	29
cis-1,2-Dichloroethene	5.00	17.8	21.3	22.0	70.0	84.0	1	10.0-160			3.23	27
trans-1,2-Dichloroethene	5.00	0.373	4.50	5.02	82.5	92.9	1	17.0-153			10.9	27
1,2-Dichloropropane	5.00	U	4.11	4.34	82.2	86.8	1	30.0-156			5.44	27
cis-1,3-Dichloropropene	5.00	U	3.61	3.93	72.2	78.6	1	34.0-149			8.49	28
trans-1,3-Dichloropropene	5.00	U	3.48	4.13	69.6	82.6	1	32.0-149			17.1	28
Ethylbenzene	5.00	U	3.45	4.14	69.0	82.8	1	30.0-155			18.2	27
2-Hexanone	25.0	U	16.1	15.3	64.4	61.2	1	21.0-160			5.10	29
2-Butanone (MEK)	25.0	U	16.9	17.5	67.6	70.0	1	10.0-160			3.49	32
Methylene Chloride	5.00	U	3.86	3.61	77.2	72.2	1	23.0-144			6.69	28
4-Methyl-2-pentanone (MIBK)	25.0	U	14.6	17.7	58.4	70.8	1	29.0-160			19.2	29
Styrene	5.00	U	3.51	3.62	70.2	72.4	1	33.0-155			3.09	28
1,1,2,2-Tetrachloroethane	5.00	U	3.32	3.71	66.4	74.2	1	33.0-150			11.1	28
Tetrachloroethene	5.00	U	4.04	5.02	80.8	100	1	10.0-160			21.6	27
Toluene	5.00	U	3.46	4.28	69.2	85.6	1	26.0-154			21.2	28
1,1,1-Trichloroethane	5.00	U	3.93	4.27	78.6	85.4	1	23.0-160			8.29	28
1,1,2-Trichloroethane	5.00	U	3.98	4.39	79.6	87.8	1	35.0-147			9.80	27
Trichloroethene	5.00	614	597	602	0.000	0.000	1	10.0-160	E V	E V	0.834	25
Vinyl chloride	5.00	U	4.24	4.52	84.8	90.4	1	10.0-160			6.39	27
Xylenes, Total	15.0	U	11.1	12.0	74.0	80.0	1	29.0-154			7.79	28
(S) Toluene-d8					*107*	*121*		*80.0-120*		J1		
(S) 4-Bromofluorobenzene					*106*	*113*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*109*	*107*		*70.0-130*				

Method Blank (MB)

(MB) R3533216-1 05/29/20 13:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TPH (GC/FID) High Fraction	U		24.7	100
(S) o-Terphenyl	*79.0*			*31.0-160*

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

(LCS) R3533216-2 05/29/20 13:58 • (LCSD) R3533216-3 05/29/20 14:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TPH (GC/FID) High Fraction	1500	1340	1350	89.3	90.0	50.0-150			0.743	20
(S) o-Terphenyl				*81.5*	*81.0*	*31.0-160*				

Method Blank (MB)

(MB) R3534253-3 06/02/20 08:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acenaphthene	U		0.0886	1.00
Acenaphthylene	U		0.0921	1.00
Anthracene	U		0.0804	1.00
Benzo(a)anthracene	U		0.199	1.00
Benzo(b)fluoranthene	U		0.130	1.00
Benzo(k)fluoranthene	U		0.120	1.00
Benzo(g,h,i)perylene	U		0.121	1.00
Benzo(a)pyrene	U		0.0381	0.200
Bis(2-chlorethoxy)methane	U		0.116	10.0
Bis(2-chloroethyl)ether	U		0.137	10.0
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0
4-Bromophenyl-phenylether	U		0.0877	10.0
Carbazole	U		0.111	10.0
4-Chloroaniline	U		0.234	10.0
2-Chloronaphthalene	U		0.0648	1.00
4-Chlorophenyl-phenylether	U		0.0926	10.0
Chrysene	U		0.130	1.00
Dibenz(a,h)anthracene	U		0.0644	0.200
Dibenzofuran	U		0.0970	10.0
1,2-Dichlorobenzene	U		0.0713	10.0
1,3-Dichlorobenzene	U		0.132	10.0
1,4-Dichlorobenzene	U		0.0942	10.0
3,3-Dichlorobenzidine	U		0.212	10.0
2,4-Dinitrotoluene	U		0.0983	10.0
2,6-Dinitrotoluene	U		0.250	10.0
Fluoranthene	0.159	J	0.102	1.00
Fluorene	U		0.0844	1.00
Hexachlorobenzene	U		0.0755	1.00
Hexachloro-1,3-butadiene	U		0.0968	10.0
Hexachlorocyclopentadiene	U		0.0598	10.0
Hexachloroethane	U		0.127	10.0
Indeno(1,2,3-cd)pyrene	U		0.279	1.00
Isophorone	U		0.143	10.0
2-Methylnaphthalene	0.344	J	0.117	1.00
Naphthalene	0.277	J	0.159	1.00
2-Nitroaniline	U		0.102	10.0
3-Nitroaniline	U		0.0869	10.0
4-Nitroaniline	U		0.0910	10.0
Nitrobenzene	U		0.297	10.0
n-Nitrosodiphenylamine	U		2.37	10.0

Method Blank (MB)

(MB) R3534253-3 06/02/20 08:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
n-Nitrosodi-n-propylamine	U		0.261	10.0
Phenanthrene	0.221	J	0.112	1.00
Benzylbutyl phthalate	U		0.765	3.00
Bis(2-ethylhexyl)phthalate	U		0.895	3.00
Di-n-butyl phthalate	U		0.453	3.00
Diethyl phthalate	U		0.287	3.00
Dimethyl phthalate	U		0.260	3.00
Di-n-octyl phthalate	U		0.932	3.00
Pyrene	0.195	J	0.107	1.00
1,2,4-Trichlorobenzene	U		0.0698	10.0
4-Chloro-3-methylphenol	U		0.131	10.0
2-Chlorophenol	U		0.133	10.0
2-Methylphenol	U		0.0929	10.0
3&4-Methyl Phenol	U		0.168	10.0
2,4-Dichlorophenol	U		0.102	10.0
2,4-Dimethylphenol	U		0.0636	10.0
4,6-Dinitro-2-methylphenol	U		1.12	10.0
2,4-Dinitrophenol	U		5.93	10.0
2-Nitrophenol	U		0.117	10.0
4-Nitrophenol	U		0.143	10.0
Pentachlorophenol	U		0.313	10.0
Phenol	U		4.33	10.0
2,4,5-Trichlorophenol	U		0.109	10.0
2,4,6-Trichlorophenol	U		0.100	10.0
(S) Nitrobenzene-d5	*52.1*			*10.0-127*
(S) 2-Fluorobiphenyl	*61.5*			*10.0-130*
(S) p-Terphenyl-d14	*65.7*			*10.0-128*
(S) Phenol-d5	*17.1*			*10.0-120*
(S) 2-Fluorophenol	*29.3*			*10.0-120*
(S) 2,4,6-Tribromophenol	*73.0*			*10.0-155*

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

(LCS) R3534253-1 06/02/20 07:23 • (LCSD) R3534253-2 06/02/20 07:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	50.0	34.1	32.2	68.2	64.4	41.0-120			5.73	22
Acenaphthylene	50.0	36.6	33.9	73.2	67.8	43.0-120			7.66	22
Anthracene	50.0	36.4	33.6	72.8	67.2	45.0-120			8.00	20

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

(LCS) R3534253-1 06/02/20 07:23 • (LCSD) R3534253-2 06/02/20 07:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzo(a)anthracene	50.0	35.4	34.3	70.8	68.6	47.0-120			3.16	20
Benzo(b)fluoranthene	50.0	35.0	34.6	70.0	69.2	46.0-120			1.15	20
Benzo(k)fluoranthene	50.0	35.0	34.3	70.0	68.6	46.0-120			2.02	21
Benzo(g,h,i)perylene	50.0	38.8	37.5	77.6	75.0	48.0-121			3.41	20
Benzo(a)pyrene	50.0	36.8	36.0	73.6	72.0	47.0-120			2.20	20
Bis(2-chlorethoxy)methane	50.0	28.8	27.3	57.6	54.6	33.0-120			5.35	24
Bis(2-chloroethyl)ether	50.0	41.5	41.2	83.0	82.4	23.0-120			0.726	33
2,2-Oxybis(1-Chloropropane)	50.0	31.1	29.1	62.2	58.2	28.0-120			6.64	31
4-Bromophenyl-phenylether	50.0	37.2	34.7	74.4	69.4	45.0-120			6.95	20
Carbazole	50.0	35.6	34.1	71.2	68.2	51.0-122			4.30	20
4-Chloroaniline	50.0	14.2	14.6	28.4	29.2	25.0-120			2.78	25
2-Chloronaphthalene	50.0	35.2	31.7	70.4	63.4	37.0-120			10.5	25
4-Chlorophenyl-phenylether	50.0	36.2	33.3	72.4	66.6	44.0-120			8.35	20
Chrysene	50.0	36.1	34.8	72.2	69.6	48.0-120			3.67	20
Dibenz(a,h)anthracene	50.0	34.3	34.4	68.6	68.8	47.0-120			0.291	20
Dibenzofuran	50.0	35.1	33.2	70.2	66.4	44.0-120			5.56	22
1,2-Dichlorobenzene	50.0	33.2	30.0	66.4	60.0	20.0-120			10.1	34
1,3-Dichlorobenzene	50.0	32.2	29.3	64.4	58.6	17.0-120			9.43	35
1,4-Dichlorobenzene	50.0	32.5	29.3	65.0	58.6	18.0-120			10.4	34
3,3-Dichlorobenzidine	100	73.4	69.9	73.4	69.9	44.0-120			4.88	20
2,4-Dinitrotoluene	50.0	34.8	33.2	69.6	66.4	49.0-124			4.71	20
2,6-Dinitrotoluene	50.0	35.1	32.8	70.2	65.6	46.0-120			6.77	21
Fluoranthene	50.0	36.9	35.1	73.8	70.2	51.0-120			5.00	20
Fluorene	50.0	35.6	32.7	71.2	65.4	47.0-120			8.49	20
Hexachlorobenzene	50.0	39.3	36.1	78.6	72.2	44.0-120			8.49	20
Hexachloro-1,3-butadiene	50.0	32.3	29.2	64.6	58.4	19.0-120			10.1	32
Hexachlorocyclopentadiene	50.0	24.6	22.2	49.2	44.4	15.0-120			10.3	31
Hexachloroethane	50.0	31.2	27.8	62.4	55.6	15.0-120			11.5	37
Indeno(1,2,3-cd)pyrene	50.0	37.9	36.7	75.8	73.4	49.0-122			3.22	20
Isophorone	50.0	28.5	26.8	57.0	53.6	36.0-120			6.15	23
2-Methylnaphthalene	50.0	29.3	27.4	58.6	54.8	33.0-120			6.70	25
Naphthalene	50.0	30.9	28.5	61.8	57.0	27.0-120			8.08	27
2-Nitroaniline	50.0	35.6	33.4	71.2	66.8	43.0-120			6.38	22
3-Nitroaniline	50.0	25.7	25.9	51.4	51.8	38.0-120			0.775	21
4-Nitroaniline	50.0	30.0	29.1	60.0	58.2	18.0-160			3.05	21
Nitrobenzene	50.0	28.5	26.5	57.0	53.0	27.0-120			7.27	29
n-Nitrosodiphenylamine	50.0	35.0	32.2	70.0	64.4	47.0-120			8.33	20
n-Nitrosodi-n-propylamine	50.0	30.3	30.7	60.6	61.4	31.0-120			1.31	28
Phenanthrene	50.0	34.9	32.5	69.8	65.0	46.0-120			7.12	20
Benzylbutyl phthalate	50.0	31.3	31.9	62.6	63.8	43.0-121			1.90	20

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

(LCS) R3534253-1 06/02/20 07:23 • (LCSD) R3534253-2 06/02/20 07:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bis(2-ethylhexyl)phthalate	50.0	30.9	31.2	61.8	62.4	43.0-122			0.966	20
Di-n-butyl phthalate	50.0	34.3	34.4	68.6	68.8	49.0-121			0.291	20
Diethyl phthalate	50.0	33.6	32.5	67.2	65.0	48.0-122			3.33	20
Dimethyl phthalate	50.0	34.6	33.2	69.2	66.4	48.0-120			4.13	20
Di-n-octyl phthalate	50.0	30.6	31.7	61.2	63.4	42.0-125			3.53	20
Pyrene	50.0	34.5	34.1	69.0	68.2	47.0-120			1.17	20
1,2,4-Trichlorobenzene	50.0	30.6	27.8	61.2	55.6	24.0-120			9.59	29
4-Chloro-3-methylphenol	50.0	26.8	25.1	53.6	50.2	40.0-120			6.55	21
2-Chlorophenol	50.0	29.3	26.3	58.6	52.6	25.0-120			10.8	35
2-Methylphenol	50.0	26.4	24.2	52.8	48.4	28.0-120			8.70	29
3&4-Methyl Phenol	50.0	25.7	23.6	51.4	47.2	31.0-120			8.52	30
2,4-Dichlorophenol	50.0	30.1	27.5	60.2	55.0	36.0-120			9.03	26
2,4-Dimethylphenol	50.0	29.2	26.8	58.4	53.6	33.0-120			8.57	26
4,6-Dinitro-2-methylphenol	50.0	38.4	35.9	76.8	71.8	38.0-138			6.73	25
2,4-Dinitrophenol	50.0	34.8	33.3	69.6	66.6	10.0-120			4.41	39
2-Nitrophenol	50.0	29.2	26.9	58.4	53.8	31.0-120			8.20	29
4-Nitrophenol	50.0	80.5	76.5	161	153	10.0-120	J4	J4	5.10	33
Pentachlorophenol	50.0	38.9	37.1	77.8	74.2	23.0-120			4.74	25
Phenol	50.0	12.2	11.4	24.4	22.8	10.0-120			6.78	36
2,4,5-Trichlorophenol	50.0	37.4	34.1	74.8	68.2	44.0-120			9.23	22
2,4,6-Trichlorophenol	50.0	34.4	31.0	68.8	62.0	42.0-120			10.4	23
(S) Nitrobenzene-d5				*47.3*	*42.7*	*10.0-127*				
(S) 2-Fluorobiphenyl				*66.5*	*59.7*	*10.0-130*				
(S) p-Terphenyl-d14				*67.2*	*62.7*	*10.0-128*				
(S) Phenol-d5				*20.2*	*18.3*	*10.0-120*				
(S) 2-Fluorophenol				*34.9*	*29.5*	*10.0-120*				
(S) 2,4,6-Tribromophenol				*79.0*	*71.0*	*10.0-155*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

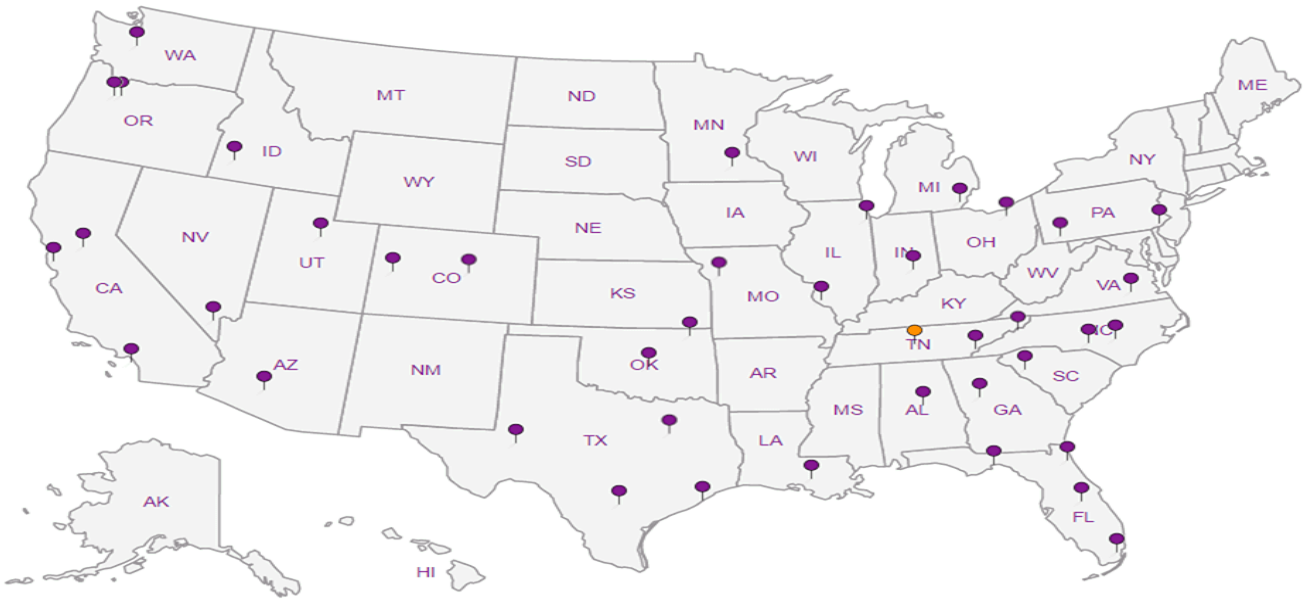
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Pres Chk

Report to: **Sheri Finn**

Email To: **sheri.finn@ghd.com;BSmith@WesternWateran**

Project Description: **Logan Wash Mine**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **716-297-6150**

Client Project # **14266DM**

Lab Project # **GHDGSH-14266DM**

Collected by (print): SHELBY GOODWIN

Site/Facility ID #

P.O. # **4502201620**

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed: 6-9-20

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	**WetChem 500mlHDPE-NoPres	8270TCL 100ml Amb NoPres	DROLVI 40mlAmb-HCl-BT	Dissolved Metals- FF 250mlHDPE-HNO3	Fluoride(Lab Filter) 125mlHDPE-NoPres	GRO 40mlAmb-HCl	NH3, PT 250mlHDPE-H2SO4	OGHEX 1L-Cir-WT-HCl	PHT 250mlAmb-H2SO4	SULFIDE 125mlAmb-S-NaOH+ZnAc	Remarks	Sample # (lab only)
LW-001	G	GW		5-26-20	0945	18	X	X	X	X	X	X	X	X	X	X		
LW-RETORT	G	GW		5-26-20	0955	18	X	X	X	X	X	X	X	X	X	X		.01
LW-003	G	GW		5-26-20	1015	18	X	X	X	X	X	X	X	X	X	X		.02
LWCW-1A	G	GW		5-26-20	1125	18	X	X	X	X	X	X	X	X	X	X		
LW-POND	G	GW		5-26-20	1130	18	X	X	X	X	X	X	X	X	X	X		-03
		GW				18	X	X	X	X	X	X	X	X	X	X		-
TRIP BLANK		GW		5-26-20		1												.04

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

Remarks:**WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
FIELD FILTERED DISSOLVED METAL

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1790 3020 0105

Relinquished by : (Signature)
Date: 5-26-20 Time: 1700
Received by: (Signature)

Relinquished by : (Signature)
Date: Time:
Received by: (Signature)

Relinquished by : (Signature)
Date: Time:
Received for lab by: (Signature)

Trip Blank Received: (Yes) No
2 HCl / MeoH TBR

Temp: °C 1.4-4-1.0 AC Bottles Received: 33

Date: 5/27/20 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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

Chain of Custody Page 1 of 2

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Fax: 615-758-5859

SDG # L1222266

C109

Acctnum: GHDGSH
Template: T156873
Prelogin: P773899
PM: 134 - Mark W. Beasley
PB:

Shipped Via: FedEX Ground

GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Pres Chk

Report to: Sheri Finn

Email To: sheri.finn@ghd.com;BSmith@WesternWateran

Project Description: Logan Wash Mine

City/State Collected:

Please Circle: PT MT CT ET

Phone: 716-297-6150

Client Project # 14266DM

Lab Project # GHDGSH-14266DM

Collected by (print): SHELBY GOODWIN

Site/Facility ID #

P.O. # 4502201620

Collected by (signature):

Quote #

Immediately Packed on Ice N X Y ___

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

Date Results Needed: 6-9-20

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TOC 250mlHDPE-HCl	TSS 1L-HDPE NoPres	Total Silica, HARD 250mlHDPE-HNO3	V8260TCL 40mlAmb-HCl	Remarks	Sample # (lab only)
LW-001	G	GW		5-26-20	0945	18	X	X	X	X		
LW-RETORT	G	GW		5-26-20	0955	18	X	X	X	X		-01
LW-003	G	GW		5-26-20	1015	18	X	X	X	X		-02
LWCW-1A	G	GW		5-26-20	1125	18	X	X	X	X		
LW-POND	G	GW		5-26-20	1130	18	X	X	X	X		-03
		GW				18	X	X	X	X		
TRIP BLANK		GW		5-26-20		1				X		-04

Chain of Custody Page 1 of 1

Pace Analytical
National Center for Testing & Innovation

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

SDG # L1222266

Table #

Acctnum: GHDGSH

Template: T156873

Prelogin: P773899

PM: 134 - Mark W. Beasley

PB:

Shipped Via: FedEX Ground

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

Remarks:**WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
FIELD FILTERED DISSOLVED METALS

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	5-26-20	1700			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4-4-1.0 °C AC CK	Bottles Received: 33
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/27/20	Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Troy Dunlap

Pace Analytical®
National Center for Testing & Innovation

Login #: L1222266	Client: GHDGSH	Date: 5/27/20	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	1	Login Clarification Needed		**If Broken Container:**
	Temperature not in range		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
2	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Cou
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: 1.) Did not receive LW-001 and LWCW-1A.
2.) LW-POND samples out of PH range at 7 for Diss Metals, Total Metals, NH3/PT, PHT, SULFIDE.

Client informed by:	Call	Email	Voice Mail	Date: 5/28/20	Time: 1115
TSR Initials: MB	Client Contact: Bruce Smith				

Login Instructions:

1) Samples rec'd today out of temp/OOH – proceed with analysis
2) Proceed with analysis, probably due to matrix

GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Pres Chk

Report to: **Sheri Finn**

Email To: **sheri.finn@ghd.com;BSmith@WesternWateran**

Project Description: **Logan Wash Mine**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **716-297-6150**

Client Project # **14266DM**

Lab Project # **GHDGSH-14266DM**

Collected by (print): **SHELBY GOODWIN**

Site/Facility ID #

P.O. # **4502201620**

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Date Results Needed: **6-9-20**

Quote #

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Face Analytical® National Center for Testing & Innovation

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

SDG # L1222766

C145

Acctnum: **GHDGSH**
Template: **T156873**
Prelogin: **P773899**
PM: **134 - Mark W. Beasley**
PB:
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	**WetChem 500mlHDPE-NoPres	8270TCL 100ml Amb NoPres	DROLVI 40mlAmb-HCl-BT	Dissolved Metals- FF 250mlHDPE-HNO3 ✓2	Fluoride(Lab Filter) 125mlHDPE-NoPres	GRO 40mlAmb-HCl	NH3, PT 250mlHDPE-H2SO4 ✓2	OGHEX 1L-Clr-WT-HCl	PHT 250mlAmb-H2SO4 ✓2	SULFIDE 125mlAmb-S-NaOH+ZnAc 1/2 ✓	Remarks	Sample # (lab only)
LW-001	G	GW		5-26-20	0945	18 ✓	X	X	X	X	X	X	X	X	X	X		.05
LW-RETORT	G	GW		5-26-20	0955	18	X	X	X	X	X	X	X	X	X	X		-01
LW-003	G	GW		5-26-20	1015	18	X	X	X	X	X	X	X	X	X	X		-02
LWCW-1A	G	GW		5-26-20	1125	18 ✓	X	X	X	X	X	X	X	X	X	X		-06
LW-POND	G	GW		5-26-20	1130	18	X	X	X	X	X	X	X	X	X	X		.03
		GW				18	X	X	X	X	X	X	X	X	X	X		
TRIP BLANK		GW		5-26-20		1												.04

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

Remarks:**WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
FIELD FILTERED DISSOLVED METAL

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1790 3028 0116

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	5-26-20	1700			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1c +.3 2.4c °C Bottles Received: 36	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/28/20 Time: 9:00	Hold: Condition: NCF / OK

GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Pres Chk

Report to: **Sheri Finn**

Email To: **sheri.finn@ghd.com;BSmith@WesternWateran**

Project Description: **Logan Wash Mine**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **716-297-6150**

Client Project # **14266DM**

Lab Project # **GHDGSH-14266DM**

Collected by (print): SHELBY GOODWIN

Site/Facility ID #

P.O. # **4502201620**

Collected by (signature):

Immediately Packed on Ice N X Y ___

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

Quote #

Date Results Needed: 6-9-20

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TOC 250mlHDPE-HCl	TSS 1L-HDPE NoPres	Total Silica, HARD 250mlHDPE-HNO3	V8260TCL 40mlAmb-HCl	Remarks	Sample # (lab only)
LW-001	G	GW		5-26-20	0945	18	X	X	X	X		-05
LW-RETORT	G	GW		5-26-20	0955	18	X	X	X	X		-01
LW-003	G	GW		5-26-20	1015	18	X	X	X	X		-02
LWCW-1A	G	GW		5-26-20	1125	18	X	X	X	X		-06
LW-POND	G	GW		5-26-20	1130	18	X	X	X	X		-03
		GW				18	X	X	X	X		
TRIP BLANK		GW		5-26-20		1				X		-04

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation

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

SDG # L1222266

Table #

Acctnum: **GHDGSH**

Template: **T156873**

Prelogin: **P773899**

PM: **134 - Mark W. Beasley**

PB:

Shipped Via: **FedEX Ground**

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

Remarks: WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS**
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
FIELD FILTERED DISSOLVED METALS

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	5-26-20	1700		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 7.1°C +.3 2.4°C Bottles Received: 36
				If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5/28/20 Time: 9:00
				Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 23, 2020

GHD-Houston, TX-Glenn Springs Holdings

Sample Delivery Group:	L1225720
Samples Received:	06/05/2020
Project Number:	14266DM
Description:	Logan Wash Mine

Report To: Sheri Finn
2055 Niagara Falls Blvd. #3
Niagara Falls, NY 14034

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

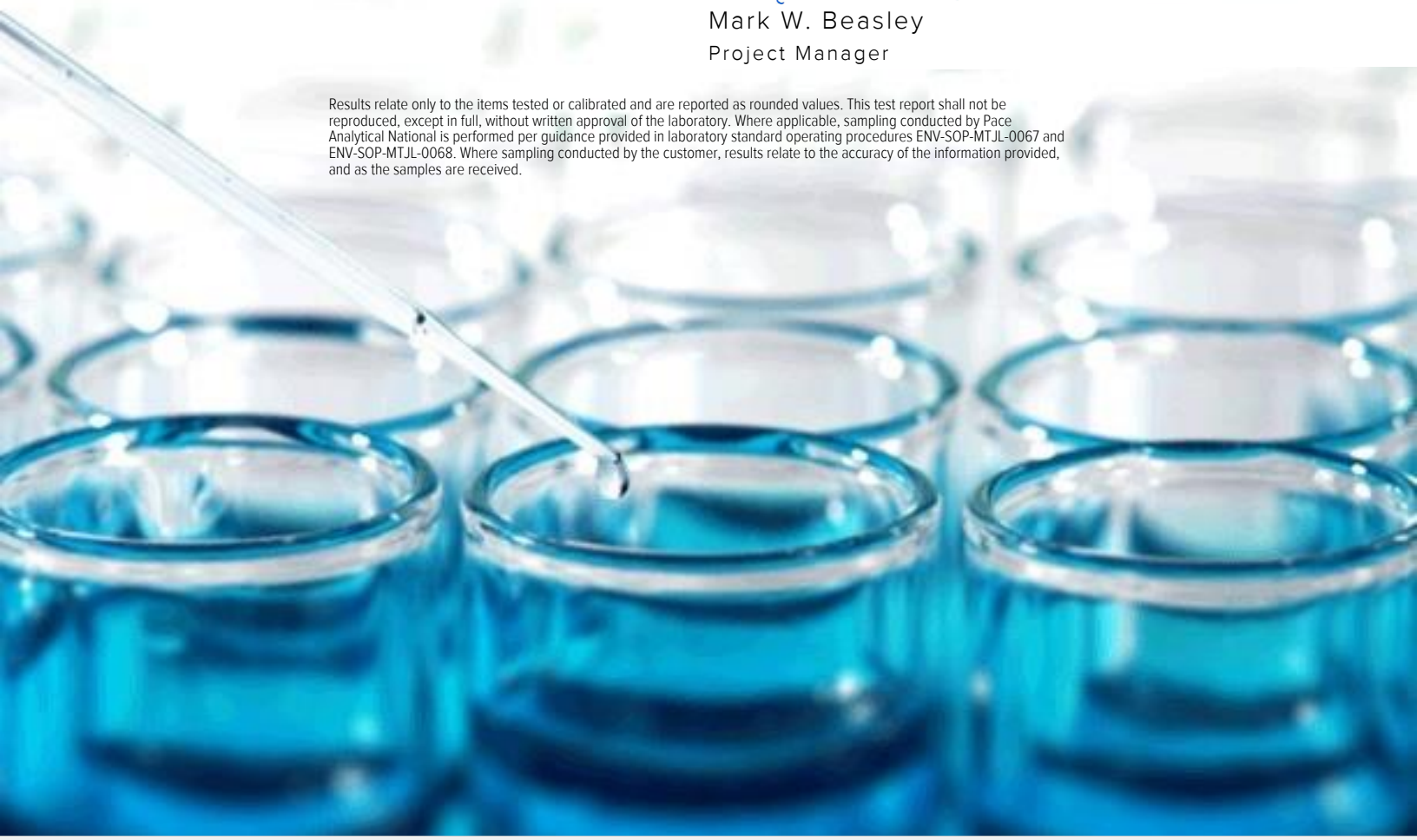


TABLE OF CONTENTS

LW-LM L1225720-01 WW

Collected by	Collected date/time	Received date/time
Nick Solawetz	06/04/20 09:00	06/05/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1488384	1	06/10/20 01:10	06/10/20 01:10	CCE	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1489486	1	06/10/20 18:28	06/10/20 21:17	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1488416	1	06/07/20 07:38	06/07/20 13:42	TH	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1491211	1	06/13/20 17:00	06/13/20 17:00	LRP	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1489163	1	06/09/20 07:03	06/09/20 12:53	DLH	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1489082	1	06/09/20 13:14	06/09/20 13:14	LEB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1487543	1	06/05/20 18:45	06/05/20 18:45	GB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1487543	100	06/05/20 18:56	06/05/20 18:56	GB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1487781	1	06/05/20 15:37	06/05/20 15:37	GB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1489122	1	06/09/20 13:28	06/09/20 13:28	MCG	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1491214	1	06/12/20 10:57	06/12/20 17:53	SDL	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1494859	1	06/18/20 11:04	06/18/20 17:03	BAM	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1489031	1	06/08/20 19:00	06/08/20 19:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1488946	1	06/08/20 17:32	06/08/20 17:32	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1490717	1	06/11/20 14:22	06/11/20 14:22	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1488384	1	06/09/20 01:52	06/10/20 01:10	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1488386	1	06/08/20 18:51	06/10/20 06:10	TRB	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1489414	1	06/09/20 17:03	06/09/20 23:39	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1489414	5	06/09/20 17:03	06/10/20 00:51	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1488587	1	06/08/20 05:17	06/08/20 05:17	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1488868	1	06/09/20 02:03	06/09/20 02:03	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1489874	1	06/10/20 06:37	06/12/20 02:53	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1489753	1	06/10/20 08:38	06/11/20 20:48	AO	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Project Manager

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silica	17100		165	428	1	06/10/2020 01:10	WG1488384

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Hardness (calculated) as CaCO3	326000		118	2500	1	06/10/2020 01:10	WG1488384

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	7380000		28200	100000	1	06/10/2020 21:17	WG1489486

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Suspended Solids	2600		350	2500	1	06/07/2020 13:42	WG1488416

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	9360		10.0	1	06/13/2020 17:00	WG1491211

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	2350	J	1360	5880	1	06/09/2020 12:53	WG1489163

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	363000		8450	20000	1	06/09/2020 13:14	WG1489082
Alkalinity,Bicarbonate	363000		8450	20000	1	06/09/2020 13:14	WG1489082
Alkalinity,Carbonate	U		8450	20000	1	06/09/2020 13:14	WG1489082

Sample Narrative:

L1225720-01 WG1489082: Endpoint pH 4.5

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bromide	U		353	1000	1	06/05/2020 18:45	WG1487543
Chloride	81300		379	1000	1	06/05/2020 18:45	WG1487543
Fluoride	8480		64.0	150	1	06/05/2020 18:45	WG1487543
Nitrate	U		48.0	100	1	06/05/2020 18:45	WG1487543
Nitrite	57.9	J	42.0	100	1	06/05/2020 15:37	WG1487781
Sulfate	4360000		59400	500000	100	06/05/2020 18:56	WG1487543

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ammonia Nitrogen	U		117	250	1	06/09/2020 13:28	WG1489122

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	70.6	J	35.0	100	1	06/12/2020 17:53	WG1491214

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	U		8.30	40.0	1	06/18/2020 17:03	WG1494859

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.10	T8	1	06/08/2020 19:00	WG1489031

Sample Narrative:

L1225720-01 WG1489031: 8.1 at 23.7C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	U		25.0	50.0	1	06/08/2020 17:32	WG1488946

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	14500		102	1000	1	06/11/2020 14:22	WG1490717

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	11500		39.6	200	1	06/10/2020 06:10	WG1488386
Calcium	56600		47.3	1000	1	06/10/2020 01:10	WG1488384
Magnesium	44900		115	1000	1	06/10/2020 01:10	WG1488384
Silicon	7990		77.1	200	1	06/10/2020 01:10	WG1488384

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	50.0		0.195	1.00	1	06/09/2020 23:39	WG1489414
Calcium,Dissolved	60300		112	1000	1	06/09/2020 23:39	WG1489414
Iron,Dissolved	263		44.7	100	1	06/09/2020 23:39	WG1489414
Magnesium,Dissolved	43300		69.0	1000	1	06/09/2020 23:39	WG1489414
Potassium,Dissolved	989000		755	5000	5	06/10/2020 00:51	WG1489414
Selenium,Dissolved	7.45		0.437	2.00	1	06/09/2020 23:39	WG1489414
Sodium,Dissolved	1330000		2560	10000	5	06/10/2020 00:51	WG1489414

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	U		31.4	100	1	06/08/2020 05:17	WG1488587
(S) a,a,a-Trifluorotoluene(FID)	*106*			*78.0-120*		*06/08/2020 05:17*	WG1488587

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	06/09/2020 02:03	WG1488868
Benzene	U		0.0941	1.00	1	06/09/2020 02:03	WG1488868
Bromodichloromethane	U		0.136	1.00	1	06/09/2020 02:03	WG1488868
Bromoform	U		0.129	1.00	1	06/09/2020 02:03	WG1488868
Bromomethane	U		0.605	5.00	1	06/09/2020 02:03	WG1488868
Carbon disulfide	U		0.0962	1.00	1	06/09/2020 02:03	WG1488868
Carbon tetrachloride	U		0.128	1.00	1	06/09/2020 02:03	WG1488868
Chlorobenzene	U		0.116	1.00	1	06/09/2020 02:03	WG1488868
Chlorodibromomethane	U		0.140	1.00	1	06/09/2020 02:03	WG1488868
Chloroethane	U		0.192	5.00	1	06/09/2020 02:03	WG1488868
Chloroform	U		0.111	5.00	1	06/09/2020 02:03	WG1488868
Chloromethane	U		0.960	2.50	1	06/09/2020 02:03	WG1488868
1,1-Dichloroethane	U		0.100	1.00	1	06/09/2020 02:03	WG1488868
1,2-Dichloroethane	U		0.0819	1.00	1	06/09/2020 02:03	WG1488868
1,1-Dichloroethene	U		0.188	1.00	1	06/09/2020 02:03	WG1488868
cis-1,2-Dichloroethene	U		0.126	1.00	1	06/09/2020 02:03	WG1488868
trans-1,2-Dichloroethene	U		0.149	1.00	1	06/09/2020 02:03	WG1488868
1,2-Dichloropropane	U		0.149	1.00	1	06/09/2020 02:03	WG1488868
cis-1,3-Dichloropropene	U		0.111	1.00	1	06/09/2020 02:03	WG1488868
trans-1,3-Dichloropropene	U		0.118	1.00	1	06/09/2020 02:03	WG1488868
Ethylbenzene	U		0.137	1.00	1	06/09/2020 02:03	WG1488868
2-Hexanone	U		0.787	10.0	1	06/09/2020 02:03	WG1488868
2-Butanone (MEK)	U		1.19	10.0	1	06/09/2020 02:03	WG1488868
Methylene Chloride	U		0.430	5.00	1	06/09/2020 02:03	WG1488868
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	06/09/2020 02:03	WG1488868
Styrene	U		0.118	1.00	1	06/09/2020 02:03	WG1488868
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	06/09/2020 02:03	WG1488868
Tetrachloroethene	U		0.300	1.00	1	06/09/2020 02:03	WG1488868
Toluene	U		0.278	1.00	1	06/09/2020 02:03	WG1488868
1,1,1-Trichloroethane	U		0.149	1.00	1	06/09/2020 02:03	WG1488868
1,1,2-Trichloroethane	U		0.158	1.00	1	06/09/2020 02:03	WG1488868
Trichloroethene	U		0.190	1.00	1	06/09/2020 02:03	WG1488868
Vinyl chloride	U		0.234	1.00	1	06/09/2020 02:03	WG1488868
Xylenes, Total	U		0.174	3.00	1	06/09/2020 02:03	WG1488868
(S) Toluene-d8	*107*			*80.0-120*		*06/09/2020 02:03*	WG1488868
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*06/09/2020 02:03*	WG1488868
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*		*06/09/2020 02:03*	WG1488868

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) High Fraction	1910		24.7	100	1	06/12/2020 02:53	WG1489874
(S) o-Terphenyl	*95.8*			*31.0-160*		*06/12/2020 02:53*	WG1489874

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acenaphthene	U		0.0886	1.00	1	06/11/2020 20:48	WG1489753
Acenaphthylene	U		0.0921	1.00	1	06/11/2020 20:48	WG1489753
Anthracene	U		0.0804	1.00	1	06/11/2020 20:48	WG1489753
Benzo(a)anthracene	U		0.199	1.00	1	06/11/2020 20:48	WG1489753
Benzo(b)fluoranthene	U		0.130	1.00	1	06/11/2020 20:48	WG1489753
Benzo(k)fluoranthene	U		0.120	1.00	1	06/11/2020 20:48	WG1489753
Benzo(g,h,i)perylene	U		0.121	1.00	1	06/11/2020 20:48	WG1489753
Benzo(a)pyrene	U		0.0381	0.200	1	06/11/2020 20:48	WG1489753

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	06/11/2020 20:48	WG1489753
Bis(2-chloroethyl)ether	U		0.137	10.0	1	06/11/2020 20:48	WG1489753
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	06/11/2020 20:48	WG1489753
4-Bromophenyl-phenylether	U		0.0877	10.0	1	06/11/2020 20:48	WG1489753
Carbazole	U		0.111	10.0	1	06/11/2020 20:48	WG1489753
4-Chloroaniline	U		0.234	10.0	1	06/11/2020 20:48	WG1489753
2-Chloronaphthalene	U		0.0648	1.00	1	06/11/2020 20:48	WG1489753
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	06/11/2020 20:48	WG1489753
Chrysene	U		0.130	1.00	1	06/11/2020 20:48	WG1489753
Dibenz(a,h)anthracene	U		0.0644	0.200	1	06/11/2020 20:48	WG1489753
Dibenzofuran	U		0.0970	10.0	1	06/11/2020 20:48	WG1489753
3,3-Dichlorobenzidine	U		0.212	10.0	1	06/11/2020 20:48	WG1489753
2,4-Dinitrotoluene	U		0.0983	10.0	1	06/11/2020 20:48	WG1489753
2,6-Dinitrotoluene	U		0.250	10.0	1	06/11/2020 20:48	WG1489753
Fluoranthene	U		0.102	1.00	1	06/11/2020 20:48	WG1489753
Fluorene	U		0.0844	1.00	1	06/11/2020 20:48	WG1489753
Hexachlorobenzene	U		0.0755	1.00	1	06/11/2020 20:48	WG1489753
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	06/11/2020 20:48	WG1489753
Hexachlorocyclopentadiene	U		0.0598	10.0	1	06/11/2020 20:48	WG1489753
Hexachloroethane	U		0.127	10.0	1	06/11/2020 20:48	WG1489753
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	06/11/2020 20:48	WG1489753
Isophorone	U		0.143	10.0	1	06/11/2020 20:48	WG1489753
2-Methylnaphthalene	U		0.117	1.00	1	06/11/2020 20:48	WG1489753
Naphthalene	U		0.159	1.00	1	06/11/2020 20:48	WG1489753
2-Nitroaniline	U		0.102	10.0	1	06/11/2020 20:48	WG1489753
3-Nitroaniline	U		0.0869	10.0	1	06/11/2020 20:48	WG1489753
4-Nitroaniline	U		0.0910	10.0	1	06/11/2020 20:48	WG1489753
Nitrobenzene	U		0.297	10.0	1	06/11/2020 20:48	WG1489753
n-Nitrosodiphenylamine	U		2.37	10.0	1	06/11/2020 20:48	WG1489753
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	06/11/2020 20:48	WG1489753
Phenanthrene	U		0.112	1.00	1	06/11/2020 20:48	WG1489753
Benzylbutyl phthalate	U		0.765	3.00	1	06/11/2020 20:48	WG1489753
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	06/11/2020 20:48	WG1489753
Di-n-butyl phthalate	U		0.453	3.00	1	06/11/2020 20:48	WG1489753
Diethyl phthalate	U		0.287	3.00	1	06/11/2020 20:48	WG1489753
Dimethyl phthalate	U		0.260	3.00	1	06/11/2020 20:48	WG1489753
Di-n-octyl phthalate	U		0.932	3.00	1	06/11/2020 20:48	WG1489753
Pyrene	U		0.107	1.00	1	06/11/2020 20:48	WG1489753
4-Chloro-3-methylphenol	U		0.131	10.0	1	06/11/2020 20:48	WG1489753
2-Chlorophenol	U		0.133	10.0	1	06/11/2020 20:48	WG1489753
2-Methylphenol	U		0.0929	10.0	1	06/11/2020 20:48	WG1489753
3&4-Methyl Phenol	U		0.168	10.0	1	06/11/2020 20:48	WG1489753
2,4-Dichlorophenol	U		0.102	10.0	1	06/11/2020 20:48	WG1489753
2,4-Dimethylphenol	U		0.0636	10.0	1	06/11/2020 20:48	WG1489753
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	06/11/2020 20:48	WG1489753
2,4-Dinitrophenol	U		5.93	10.0	1	06/11/2020 20:48	WG1489753
2-Nitrophenol	U		0.117	10.0	1	06/11/2020 20:48	WG1489753
4-Nitrophenol	U		0.143	10.0	1	06/11/2020 20:48	WG1489753
Pentachlorophenol	U		0.313	10.0	1	06/11/2020 20:48	WG1489753
Phenol	U		4.33	10.0	1	06/11/2020 20:48	WG1489753
2,4,5-Trichlorophenol	U		0.109	10.0	1	06/11/2020 20:48	WG1489753
2,4,6-Trichlorophenol	U		0.100	10.0	1	06/11/2020 20:48	WG1489753
1,2-Dichlorobenzene	U		0.0713	10.0	1	06/11/2020 20:48	WG1489753
1,3-Dichlorobenzene	U		0.132	10.0	1	06/11/2020 20:48	WG1489753
1,4-Dichlorobenzene	U		0.0942	10.0	1	06/11/2020 20:48	WG1489753
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	06/11/2020 20:48	WG1489753

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 2-Fluorophenol	*28.5*			*10.0-120*		*06/11/2020 20:48*	WG1489753
(S) Phenol-d5	*17.4*			*10.0-120*		*06/11/2020 20:48*	WG1489753
(S) Nitrobenzene-d5	*38.2*			*10.0-127*		*06/11/2020 20:48*	WG1489753
(S) 2-Fluorobiphenyl	*53.9*			*10.0-130*		*06/11/2020 20:48*	WG1489753
(S) 2,4,6-Tribromophenol	*82.5*			*10.0-155*		*06/11/2020 20:48*	WG1489753
(S) p-Terphenyl-d14	*63.8*			*10.0-128*		*06/11/2020 20:48*	WG1489753

Method Blank (MB)

(MB) R3537767-1 06/10/20 21:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1226465-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1226465-09 06/10/20 21:17 • (DUP) R3537767-3 06/10/20 21:17

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1140000	1140000	1	0.351		5

Laboratory Control Sample (LCS)

(LCS) R3537767-2 06/10/20 21:17

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	7890000	89.7	85.0-115	

Method Blank (MB)

(MB) R3536026-1 06/07/20 13:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Suspended Solids	U		350	2500

Laboratory Control Sample (LCS)

(LCS) R3536026-2 06/07/20 13:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773000	820000	106	85.0-115	

Method Blank (MB)

(MB) R3538338-1 06/13/20 17:00

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Laboratory Control Sample (LCS)

(LCS) R3538338-2 06/13/20 17:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	445	446	100	85.0-115	

Method Blank (MB)

(MB) R3536650-1 06/09/20 11:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Oil & Grease (Hexane Extr)	U		1160	5000

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

(LCS) R3536650-2 06/09/20 11:00 • (LCSD) R3536650-3 06/09/20 11:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Oil & Grease (Hexane Extr)	40000	37600	38100	94.0	95.3	78.0-114			1.32	20

Method Blank (MB)

(MB) R3536676-1 06/09/20 10:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	U		8450	20000
Alkalinity,Bicarbonate	U		8450	20000
Alkalinity,Carbonate	U		8450	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3536676-3 06/09/20 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100000	94300	94.3	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3535902-1 06/05/20 07:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		353	1000
Chloride	U		379	1000
Fluoride	U		64.0	150
Nitrate	U		48.0	100
Sulfate	U		594	5000

L1225742-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1225742-04 06/05/20 14:57 • (DUP) R3535902-3 06/05/20 15:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	1	0.000		20
Chloride	U	U	1	0.000		20
Fluoride	U	U	1	0.000		20
Nitrate	U	U	1	0.000		20
Sulfate	U	U	1	0.000		20

L1225741-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1225741-03 06/05/20 20:12 • (DUP) R3535902-6 06/05/20 20:22

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	10	0.000		20
Fluoride	U	U	10	0.000		20
Nitrate	1050	877	10	17.7	J	20
Sulfate	55100	56000	10	1.62		20

L1225741-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1225741-03 06/06/20 10:55 • (DUP) R3535909-1 06/06/20 11:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1060000	1060000	20	0.408		20

Laboratory Control Sample (LCS)

(LCS) R3535902-2 06/05/20 08:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40000	39300	98.2	90.0-110	
Chloride	40000	38700	96.7	90.0-110	
Fluoride	8000	8080	101	90.0-110	
Nitrate	8000	7870	98.4	90.0-110	
Sulfate	40000	37400	93.5	90.0-110	

L1225757-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1225757-04 06/05/20 17:07 • (MS) R3535902-4 06/05/20 17:18 • (MSD) R3535902-5 06/05/20 17:50

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	U	46100	46300	92.1	92.6	1	80.0-120			0.583	20
Chloride	50000	111000	155000	156000	88.3	89.8	1	80.0-120	E	E	0.478	20
Fluoride	5000	404	5210	5270	96.1	97.3	1	80.0-120			1.18	20
Nitrate	5000	U	4860	4830	97.3	96.6	1	80.0-120			0.718	20
Sulfate	50000	17900	64800	65600	93.9	95.4	1	80.0-120			1.15	20

L1225741-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1225741-06 06/05/20 20:44 • (MS) R3535902-7 06/05/20 20:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	U	45900	91.9	1	80.0-120	
Chloride	50000	240000	277000	73.1	1	80.0-120	E V
Fluoride	5000	146	4800	93.2	1	80.0-120	
Nitrate	5000	1030	5950	98.2	1	80.0-120	
Sulfate	50000	12600	58600	92.1	1	80.0-120	

Method Blank (MB)

(MB) R3535839-1 06/05/20 10:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Nitrite	U		42.0	100

Laboratory Control Sample (LCS)

(LCS) R3535839-3 06/05/20 13:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrite	8000	8070	101	90.0-110	

Method Blank (MB)

(MB) R3536778-1 06/09/20 12:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ammonia Nitrogen	U		117	250

L1222730-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1222730-01 06/09/20 12:48 • (DUP) R3536778-3 06/09/20 12:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	2250	2160	5	3.72		10

L1226423-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1226423-01 06/09/20 13:36 • (DUP) R3536778-7 06/09/20 13:38

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	U	U	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3536778-2 06/09/20 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7500	7430	99.0	90.0-110	

L1222760-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222760-01 06/09/20 12:51 • (MS) R3536778-4 06/09/20 12:53 • (MSD) R3536778-5 06/09/20 12:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5000	471	5400	5370	98.6	98.0	1	90.0-110			0.520	10

L1225720-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1225720-01 06/09/20 13:28 • (MS) R3536778-6 06/09/20 13:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5000	U	4750	94.9	1	90.0-110	

Method Blank (MB)

(MB) R3538180-1 06/12/20 17:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Phosphorus,Total	U		35.0	100

Laboratory Control Sample (LCS)

(LCS) R3538180-2 06/12/20 17:13

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Phosphorus,Total	1970	1770	90.1	82.4-117	

Method Blank (MB)

(MB) R3540310-1 06/18/20 16:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Total Phenol by 4AAP	U		8.30	40.0

L1224775-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1224775-02 06/18/20 16:55 • (DUP) R3540310-3 06/18/20 16:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3540310-2 06/18/20 16:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Phenol by 4AAP	500	515	103	90.0-110	

L1225499-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1225499-02 06/18/20 16:57 • (MS) R3540310-4 06/18/20 16:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Total Phenol by 4AAP	1000	U	918	91.8	1	90.0-110	

L1225903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1225903-02 06/18/20 17:06 • (MS) R3540310-5 06/18/20 17:07 • (MSD) R3540310-6 06/18/20 17:08

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Phenol by 4AAP	1000	24.4	781	807	75.7	78.3	1	90.0-110	J6	J6	3.26	20

L1224605-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1224605-01 06/08/20 19:00 • (DUP) R3536370-2 06/08/20 19:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.10	7.10	1	0.000		1

Sample Narrative:

OS: 7.1 at 22.7C

DUP: 7.1 at 23.2C

L1225899-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1225899-01 06/08/20 19:00 • (DUP) R3536370-3 06/08/20 19:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.34	7.34	1	0.000		1

Sample Narrative:

OS: 7.34 at 23.5C

DUP: 7.34 at 23.3C

Laboratory Control Sample (LCS)

(LCS) R3536370-1 06/08/20 19:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 23.1C

Method Blank (MB)

(MB) R3536321-1 06/08/20 17:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfide	U		25.0	50.0

L1224796-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1224796-02 06/08/20 17:21 • (DUP) R3536321-3 06/08/20 17:23

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

L1226217-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1226217-02 06/08/20 17:34 • (DUP) R3536321-6 06/08/20 17:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3536321-2 06/08/20 17:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	500	515	103	85.0-115	

L1224852-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1224852-02 06/08/20 17:26 • (MS) R3536321-4 06/08/20 17:25 • (MSD) R3536321-5 06/08/20 17:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	1000	U	591	610	59.1	61.0	1	80.0-120	J6	J6	3.16	20

Method Blank (MB)

(MB) R3538010-1 06/11/20 12:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOC (Total Organic Carbon)	130	J	102	1000

L1225742-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1225742-01 06/11/20 16:15 • (DUP) R3538010-5 06/11/20 16:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	919	852	1	7.57	J	20

L1225771-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1225771-01 06/11/20 17:38 • (DUP) R3538010-6 06/11/20 18:48

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	1440	1330	1	7.72		20

Laboratory Control Sample (LCS)

(LCS) R3538010-2 06/11/20 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	75000	77300	103	85.0-115	

L1222752-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222752-14 06/11/20 13:06 • (MS) R3538010-3 06/11/20 13:24 • (MSD) R3538010-4 06/11/20 13:39

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	50000	1070	51300	50900	100	99.6	1	80.0-120			0.764	20

L1225824-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1225824-01 06/11/20 19:20 • (MS) R3538010-7 06/11/20 19:40 • (MSD) R3538010-8 06/11/20 19:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	50000	488	49300	48700	97.6	96.5	1	80.0-120			1.12	20

Method Blank (MB)

(MB) R3536951-1 06/10/20 00:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		47.3	1000
Magnesium	U		115	1000
Silicon	U		77.1	200

Laboratory Control Sample (LCS)

(LCS) R3536951-2 06/10/20 00:26

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	9600	96.0	85.0-115	
Magnesium	10000	9940	99.4	85.0-115	
Silicon	1000	961	96.1	85.0-115	

Method Blank (MB)

(MB) R3536837-1 06/10/20 05:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron,Dissolved	U		39.6	200

Laboratory Control Sample (LCS)

(LCS) R3536837-2 06/10/20 05:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron,Dissolved	1000	984	98.4	85.0-115	

Method Blank (MB)

(MB) R3536800-1 06/09/20 23:10

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic,Dissolved	U		0.195	1.00
Calcium,Dissolved	U		112	1000
Iron,Dissolved	U		44.7	100
Magnesium,Dissolved	U		69.0	1000
Potassium,Dissolved	U		151	1000
Selenium,Dissolved	U		0.437	2.00
Sodium,Dissolved	U		513	2000

Laboratory Control Sample (LCS)

(LCS) R3536800-2 06/09/20 23:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic,Dissolved	50.0	51.1	102	85.0-115	
Calcium,Dissolved	5000	5180	104	85.0-115	
Iron,Dissolved	5000	5290	106	85.0-115	
Magnesium,Dissolved	5000	4920	98.3	85.0-115	
Potassium,Dissolved	5000	5020	100	85.0-115	
Selenium,Dissolved	50.0	49.3	98.6	85.0-115	
Sodium,Dissolved	5000	5050	101	85.0-115	

L1226457-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1226457-04 06/09/20 23:16 • (MS) R3536800-4 06/09/20 23:23 • (MSD) R3536800-5 06/09/20 23:26

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	14.2	65.6	64.9	103	101	1	70.0-130			1.06	20
Calcium,Dissolved	5000	13100	18200	17600	102	89.9	1	70.0-130			3.48	20
Iron,Dissolved	5000	U	5190	5160	104	103	1	70.0-130			0.546	20
Magnesium,Dissolved	5000	8390	13100	12800	94.2	87.2	1	70.0-130			2.70	20
Potassium,Dissolved	5000	877	5700	5580	96.4	94.0	1	70.0-130			2.12	20
Selenium,Dissolved	50.0	0.704	50.8	49.9	100	98.4	1	70.0-130			1.72	20
Sodium,Dissolved	5000	98600	99800	97200	24.2	0.000	1	70.0-130	V	V	2.68	20

L1226457-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1226457-15 06/09/20 23:29 • (MS) R3536800-6 06/09/20 23:33 • (MSD) R3536800-7 06/09/20 23:36

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	8.17	59.8	58.0	103	99.7	1	70.0-130			3.01	20
Calcium,Dissolved	5000	38200	44000	44400	116	125	1	70.0-130			0.969	20
Iron,Dissolved	5000	U	5120	5130	102	103	1	70.0-130			0.183	20
Magnesium,Dissolved	5000	43200	49700	48600	130	107	1	70.0-130			2.29	20
Potassium,Dissolved	5000	1970	6880	6830	98.2	97.1	1	70.0-130			0.816	20
Selenium,Dissolved	50.0	15.1	65.6	63.5	101	96.9	1	70.0-130			3.24	20
Sodium,Dissolved	5000	542000	545000	541000	55.6	0.000	1	70.0-130	V	V	0.724	20

Method Blank (MB)

(MB) R3537230-2 06/08/20 01:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPH (GC/FID) Low Fraction	U		31.4	100
(S) a,a,a-Trifluorotoluene(FID)	*109*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3537230-1 06/08/20 00:28

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5500	5320	96.7	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*92.5*	*78.0-120*	

Method Blank (MB)

(MB) R3536529-3 06/08/20 22:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Benzene	U		0.0941	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
Ethylbenzene	U		0.137	1.00
2-Hexanone	U		0.787	10.0
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Styrene	U		0.118	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*96.6*			*70.0-130*

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

(LCS) R3536529-1 06/08/20 19:36 • (LCSD) R3536529-2 06/08/20 19:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	23.8	24.1	95.2	96.4	19.0-160			1.25	27
Benzene	5.00	4.48	4.58	89.6	91.6	70.0-123			2.21	20
Bromodichloromethane	5.00	4.40	4.52	88.0	90.4	75.0-120			2.69	20
Bromoform	5.00	4.66	4.68	93.2	93.6	68.0-132			0.428	20
Bromomethane	5.00	5.03	5.18	101	104	10.0-160			2.94	25
Carbon disulfide	5.00	4.07	4.29	81.4	85.8	61.0-128			5.26	20
Carbon tetrachloride	5.00	4.85	5.17	97.0	103	68.0-126			6.39	20
Chlorobenzene	5.00	4.94	4.97	98.8	99.4	80.0-121			0.605	20
Chlorodibromomethane	5.00	4.81	4.95	96.2	99.0	77.0-125			2.87	20
Chloroethane	5.00	4.38	4.61	87.6	92.2	47.0-150			5.12	20
Chloroform	5.00	4.38	4.44	87.6	88.8	73.0-120			1.36	20
Chloromethane	5.00	3.75	3.76	75.0	75.2	41.0-142			0.266	20
1,1-Dichloroethane	5.00	4.58	4.61	91.6	92.2	70.0-126			0.653	20
1,2-Dichloroethane	5.00	4.68	4.73	93.6	94.6	70.0-128			1.06	20
1,1-Dichloroethene	5.00	4.45	4.69	89.0	93.8	71.0-124			5.25	20
cis-1,2-Dichloroethene	5.00	5.00	4.98	100	99.6	73.0-120			0.401	20
trans-1,2-Dichloroethene	5.00	4.81	4.82	96.2	96.4	73.0-120			0.208	20
1,2-Dichloropropane	5.00	4.53	4.45	90.6	89.0	77.0-125			1.78	20
cis-1,3-Dichloropropene	5.00	4.33	4.27	86.6	85.4	80.0-123			1.40	20
trans-1,3-Dichloropropene	5.00	4.24	4.28	84.8	85.6	78.0-124			0.939	20
Ethylbenzene	5.00	4.74	4.73	94.8	94.6	79.0-123			0.211	20
2-Hexanone	25.0	21.3	21.5	85.2	86.0	67.0-149			0.935	20
2-Butanone (MEK)	25.0	20.6	21.3	82.4	85.2	44.0-160			3.34	20
Methylene Chloride	5.00	4.55	4.66	91.0	93.2	67.0-120			2.39	20
4-Methyl-2-pentanone (MIBK)	25.0	20.8	21.5	83.2	86.0	68.0-142			3.31	20
Styrene	5.00	4.67	4.56	93.4	91.2	73.0-130			2.38	20
1,1,2,2-Tetrachloroethane	5.00	4.28	4.29	85.6	85.8	65.0-130			0.233	20
Tetrachloroethene	5.00	5.11	5.17	102	103	72.0-132			1.17	20
Toluene	5.00	4.65	4.84	93.0	96.8	79.0-120			4.00	20
1,1,1-Trichloroethane	5.00	4.90	5.10	98.0	102	73.0-124			4.00	20
1,1,2-Trichloroethane	5.00	4.82	4.87	96.4	97.4	80.0-120			1.03	20
Trichloroethene	5.00	4.79	4.97	95.8	99.4	78.0-124			3.69	20
Vinyl chloride	5.00	4.26	4.29	85.2	85.8	67.0-131			0.702	20
Xylenes, Total	15.0	14.4	14.6	96.0	97.3	79.0-123			1.38	20
(S) Toluene-d8				*107*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*101*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*96.3*	*98.1*	*70.0-130*				

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

L1222752-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1222752-14 06/09/20 01:43 • (MS) R3536529-4 06/09/20 07:11 • (MSD) R3536529-5 06/09/20 07:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	20.0	22.1	80.0	88.4	1	10.0-160			9.98	35
Benzene	5.00	U	3.25	3.95	65.0	79.0	1	17.0-158			19.4	27
Bromodichloromethane	5.00	U	3.32	3.98	66.4	79.6	1	31.0-150			18.1	27
Bromoform	5.00	U	3.51	4.36	70.2	87.2	1	29.0-150			21.6	29
Bromomethane	5.00	U	3.33	4.08	66.6	81.6	1	10.0-160			20.2	38
Carbon disulfide	5.00	U	2.68	3.20	53.6	64.0	1	10.0-156			17.7	28
Carbon tetrachloride	5.00	U	3.74	4.54	74.8	90.8	1	23.0-159			19.3	28
Chlorobenzene	5.00	U	3.64	4.36	72.8	87.2	1	33.0-152			18.0	27
Chlorodibromomethane	5.00	U	3.72	4.45	74.4	89.0	1	37.0-149			17.9	27
Chloroethane	5.00	U	2.92	3.56	58.4	71.2	1	10.0-160			19.8	30
Chloroform	5.00	U	3.17	3.94	63.4	78.8	1	29.0-154			21.7	28
Chloromethane	5.00	U	2.00	2.33	40.0	46.6	1	10.0-160			15.2	29
1,1-Dichloroethane	5.00	U	3.31	4.02	66.2	80.4	1	25.0-158			19.4	27
1,2-Dichloroethane	5.00	U	3.51	4.14	70.2	82.8	1	29.0-151			16.5	27
1,1-Dichloroethene	5.00	U	3.34	4.13	66.8	82.6	1	11.0-160			21.2	29
cis-1,2-Dichloroethene	5.00	U	3.55	4.25	71.0	85.0	1	10.0-160			17.9	27
trans-1,2-Dichloroethene	5.00	U	3.28	4.02	65.6	80.4	1	17.0-153			20.3	27
1,2-Dichloropropane	5.00	0.642	3.25	4.15	52.2	70.2	1	30.0-156			24.3	27
cis-1,3-Dichloropropene	5.00	U	2.99	3.65	59.8	73.0	1	34.0-149			19.9	28
trans-1,3-Dichloropropene	5.00	U	3.12	3.69	62.4	73.8	1	32.0-149			16.7	28
Ethylbenzene	5.00	U	3.28	4.06	65.6	81.2	1	30.0-155			21.3	27
2-Hexanone	25.0	U	16.9	19.8	67.6	79.2	1	21.0-160			15.8	29
2-Butanone (MEK)	25.0	U	16.9	19.0	67.6	76.0	1	10.0-160			11.7	32
Methylene Chloride	5.00	U	3.30	4.02	66.0	80.4	1	23.0-144			19.7	28
4-Methyl-2-pentanone (MIBK)	25.0	U	16.7	19.6	66.8	78.4	1	29.0-160			16.0	29
Styrene	5.00	U	3.28	4.07	65.6	81.4	1	33.0-155			21.5	28
1,1,2,2-Tetrachloroethane	5.00	0.613	3.50	4.13	57.7	70.3	1	33.0-150			16.5	28
Tetrachloroethene	5.00	U	3.53	4.62	70.6	92.4	1	10.0-160			26.7	27
Toluene	5.00	U	3.36	4.21	67.2	84.2	1	26.0-154			22.5	28
1,1,1-Trichloroethane	5.00	U	3.73	4.54	74.6	90.8	1	23.0-160			19.6	28
1,1,2-Trichloroethane	5.00	U	3.71	4.50	74.2	90.0	1	35.0-147			19.2	27
Trichloroethene	5.00	U	3.49	4.16	69.8	83.2	1	10.0-160			17.5	25
Vinyl chloride	5.00	U	2.79	3.32	55.8	66.4	1	10.0-160			17.3	27
Xylenes, Total	15.0	U	10.4	12.7	69.3	84.7	1	29.0-154			19.9	28
(S) Toluene-d8					*104*	*104*		*80.0-120*				
(S) 4-Bromofluorobenzene					*98.8*	*102*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*95.9*	*97.1*		*70.0-130*				

Method Blank (MB)

(MB) R3537442-1 06/10/20 16:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TPH (GC/FID) High Fraction	U		24.7	100
(S) o-Terphenyl	*95.5*			*31.0-160*

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

(LCS) R3537442-2 06/10/20 17:04 • (LCSD) R3537442-3 06/10/20 17:26

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TPH (GC/FID) High Fraction	1500	1400	1410	93.3	94.0	50.0-150			0.712	20
(S) o-Terphenyl				*98.0*	*100*	*31.0-160*				

Method Blank (MB)

(MB) R3537420-3 06/11/20 03:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acenaphthene	U		0.0886	1.00
Acenaphthylene	U		0.0921	1.00
Anthracene	U		0.0804	1.00
Benzo(a)anthracene	U		0.199	1.00
Benzo(b)fluoranthene	U		0.130	1.00
Benzo(k)fluoranthene	U		0.120	1.00
Benzo(g,h,i)perylene	U		0.121	1.00
Benzo(a)pyrene	U		0.0381	0.200
Bis(2-chlorethoxy)methane	U		0.116	10.0
Bis(2-chloroethyl)ether	U		0.137	10.0
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0
4-Bromophenyl-phenylether	U		0.0877	10.0
Carbazole	U		0.111	10.0
4-Chloroaniline	U		0.234	10.0
2-Chloronaphthalene	U		0.0648	1.00
4-Chlorophenyl-phenylether	U		0.0926	10.0
Chrysene	U		0.130	1.00
Dibenz(a,h)anthracene	U		0.0644	0.200
Dibenzofuran	U		0.0970	10.0
1,2-Dichlorobenzene	U		0.0713	10.0
1,3-Dichlorobenzene	U		0.132	10.0
1,4-Dichlorobenzene	U		0.0942	10.0
3,3-Dichlorobenzidine	U		0.212	10.0
2,4-Dinitrotoluene	U		0.0983	10.0
2,6-Dinitrotoluene	U		0.250	10.0
Fluoranthene	U		0.102	1.00
Fluorene	U		0.0844	1.00
Hexachlorobenzene	U		0.0755	1.00
Hexachloro-1,3-butadiene	U		0.0968	10.0
Hexachlorocyclopentadiene	U		0.0598	10.0
Hexachloroethane	U		0.127	10.0
Indeno(1,2,3-cd)pyrene	U		0.279	1.00
Isophorone	U		0.143	10.0
2-Methylnaphthalene	U		0.117	1.00
Naphthalene	U		0.159	1.00
2-Nitroaniline	U		0.102	10.0
3-Nitroaniline	U		0.0869	10.0
4-Nitroaniline	U		0.0910	10.0
Nitrobenzene	U		0.297	10.0
n-Nitrosodiphenylamine	U		2.37	10.0

Method Blank (MB)

(MB) R3537420-3 06/11/20 03:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
n-Nitrosodi-n-propylamine	U		0.261	10.0
Phenanthrene	U		0.112	1.00
Benzylbutyl phthalate	U		0.765	3.00
Bis(2-ethylhexyl)phthalate	U		0.895	3.00
Di-n-butyl phthalate	U		0.453	3.00
Diethyl phthalate	U		0.287	3.00
Dimethyl phthalate	U		0.260	3.00
Di-n-octyl phthalate	U		0.932	3.00
Pyrene	U		0.107	1.00
1,2,4-Trichlorobenzene	U		0.0698	10.0
4-Chloro-3-methylphenol	U		0.131	10.0
2-Chlorophenol	U		0.133	10.0
2-Methylphenol	U		0.0929	10.0
3&4-Methyl Phenol	U		0.168	10.0
2,4-Dichlorophenol	U		0.102	10.0
2,4-Dimethylphenol	U		0.0636	10.0
4,6-Dinitro-2-methylphenol	U		1.12	10.0
2,4-Dinitrophenol	U		5.93	10.0
2-Nitrophenol	U		0.117	10.0
4-Nitrophenol	U		0.143	10.0
Pentachlorophenol	U		0.313	10.0
Phenol	U		4.33	10.0
2,4,5-Trichlorophenol	U		0.109	10.0
2,4,6-Trichlorophenol	U		0.100	10.0
(S) Nitrobenzene-d5	*43.8*			*10.0-127*
(S) 2-Fluorobiphenyl	*53.9*			*10.0-130*
(S) p-Terphenyl-d14	*66.1*			*10.0-128*
(S) Phenol-d5	*18.6*			*10.0-120*
(S) 2-Fluorophenol	*36.3*			*10.0-120*
(S) 2,4,6-Tribromophenol	*51.5*			*10.0-155*

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

(LCS) R3537420-1 06/11/20 02:39 • (LCSD) R3537420-2 06/11/20 03:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	50.0	31.9	32.1	63.8	64.2	41.0-120			0.625	22
Acenaphthylene	50.0	33.5	33.9	67.0	67.8	43.0-120			1.19	22
Anthracene	50.0	33.9	33.4	67.8	66.8	45.0-120			1.49	20

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

(LCS) R3537420-1 06/11/20 02:39 • (LCSD) R3537420-2 06/11/20 03:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzo(a)anthracene	50.0	35.8	36.5	71.6	73.0	47.0-120			1.94	20
Benzo(b)fluoranthene	50.0	35.1	34.8	70.2	69.6	46.0-120			0.858	20
Benzo(k)fluoranthene	50.0	32.7	34.1	65.4	68.2	46.0-120			4.19	21
Benzo(g,h,i)perylene	50.0	35.3	35.9	70.6	71.8	48.0-121			1.69	20
Benzo(a)pyrene	50.0	34.8	35.5	69.6	71.0	47.0-120			1.99	20
Bis(2-chlorethoxy)methane	50.0	27.0	26.7	54.0	53.4	33.0-120			1.12	24
Bis(2-chloroethyl)ether	50.0	25.3	23.9	50.6	47.8	23.0-120			5.69	33
2,2-Oxybis(1-Chloropropane)	50.0	30.6	30.5	61.2	61.0	28.0-120			0.327	31
4-Bromophenyl-phenylether	50.0	33.5	32.8	67.0	65.6	45.0-120			2.11	20
Carbazole	50.0	35.7	35.8	71.4	71.6	51.0-122			0.280	20
4-Chloroaniline	50.0	28.4	28.0	56.8	56.0	25.0-120			1.42	25
2-Chloronaphthalene	50.0	29.7	30.7	59.4	61.4	37.0-120			3.31	25
4-Chlorophenyl-phenylether	50.0	34.2	33.0	68.4	66.0	44.0-120			3.57	20
Chrysene	50.0	33.2	34.1	66.4	68.2	48.0-120			2.67	20
Dibenz(a,h)anthracene	50.0	36.6	37.3	73.2	74.6	47.0-120			1.89	20
Dibenzofuran	50.0	33.6	33.1	67.2	66.2	44.0-120			1.50	22
1,2-Dichlorobenzene	50.0	29.5	31.4	59.0	62.8	20.0-120			6.24	34
1,3-Dichlorobenzene	50.0	29.3	31.9	58.6	63.8	17.0-120			8.50	35
1,4-Dichlorobenzene	50.0	29.2	31.5	58.4	63.0	18.0-120			7.58	34
3,3-Dichlorobenzidine	100	77.6	78.0	77.6	78.0	44.0-120			0.514	20
2,4-Dinitrotoluene	50.0	39.5	39.3	79.0	78.6	49.0-124			0.508	20
2,6-Dinitrotoluene	50.0	37.1	36.7	74.2	73.4	46.0-120			1.08	21
Fluoranthene	50.0	33.7	34.4	67.4	68.8	51.0-120			2.06	20
Fluorene	50.0	33.9	33.3	67.8	66.6	47.0-120			1.79	20
Hexachlorobenzene	50.0	30.3	29.9	60.6	59.8	44.0-120			1.33	20
Hexachloro-1,3-butadiene	50.0	28.1	30.4	56.2	60.8	19.0-120			7.86	32
Hexachlorocyclopentadiene	50.0	9.43	10.0	18.9	20.0	15.0-120			5.87	31
Hexachloroethane	50.0	27.7	30.8	55.4	61.6	15.0-120			10.6	37
Indeno(1,2,3-cd)pyrene	50.0	35.9	36.5	71.8	73.0	49.0-122			1.66	20
Isophorone	50.0	29.4	29.6	58.8	59.2	36.0-120			0.678	23
2-Methylnaphthalene	50.0	27.1	28.4	54.2	56.8	33.0-120			4.68	25
Naphthalene	50.0	28.6	30.1	57.2	60.2	27.0-120			5.11	27
2-Nitroaniline	50.0	39.7	38.0	79.4	76.0	43.0-120			4.38	22
3-Nitroaniline	50.0	38.6	37.1	77.2	74.2	38.0-120			3.96	21
4-Nitroaniline	50.0	40.4	38.5	80.8	77.0	18.0-160			4.82	21
Nitrobenzene	50.0	28.7	27.9	57.4	55.8	27.0-120			2.83	29
n-Nitrosodiphenylamine	50.0	33.1	32.7	66.2	65.4	47.0-120			1.22	20
n-Nitrosodi-n-propylamine	50.0	31.1	30.1	62.2	60.2	31.0-120			3.27	28
Phenanthrene	50.0	33.0	32.9	66.0	65.8	46.0-120			0.303	20
Benzylbutyl phthalate	50.0	39.9	41.0	79.8	82.0	43.0-121			2.72	20

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

(LCS) R3537420-1 06/11/20 02:39 • (LCSD) R3537420-2 06/11/20 03:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bis(2-ethylhexyl)phthalate	50.0	39.4	40.6	78.8	81.2	43.0-122			3.00	20
Di-n-butyl phthalate	50.0	37.3	37.3	74.6	74.6	49.0-121			0.000	20
Diethyl phthalate	50.0	36.3	35.8	72.6	71.6	48.0-122			1.39	20
Dimethyl phthalate	50.0	37.0	35.6	74.0	71.2	48.0-120			3.86	20
Di-n-octyl phthalate	50.0	40.3	41.2	80.6	82.4	42.0-125			2.21	20
Pyrene	50.0	35.2	36.1	70.4	72.2	47.0-120			2.52	20
1,2,4-Trichlorobenzene	50.0	27.5	29.5	55.0	59.0	24.0-120			7.02	29
4-Chloro-3-methylphenol	50.0	32.7	32.3	65.4	64.6	40.0-120			1.23	21
2-Chlorophenol	50.0	30.0	28.0	60.0	56.0	25.0-120			6.90	35
2-Methylphenol	50.0	28.7	27.6	57.4	55.2	28.0-120			3.91	29
3&4-Methyl Phenol	50.0	29.1	28.3	58.2	56.6	31.0-120			2.79	30
2,4-Dichlorophenol	50.0	31.4	30.6	62.8	61.2	36.0-120			2.58	26
2,4-Dimethylphenol	50.0	31.3	31.9	62.6	63.8	33.0-120			1.90	26
4,6-Dinitro-2-methylphenol	50.0	37.7	38.2	75.4	76.4	38.0-138			1.32	25
2,4-Dinitrophenol	50.0	38.5	38.2	77.0	76.4	10.0-120			0.782	39
2-Nitrophenol	50.0	32.0	31.4	64.0	62.8	31.0-120			1.89	29
4-Nitrophenol	50.0	15.5	15.5	31.0	31.0	10.0-120			0.000	33
Pentachlorophenol	50.0	42.3	42.3	84.6	84.6	23.0-120			0.000	25
Phenol	50.0	12.0	11.7	24.0	23.4	10.0-120			2.53	36
2,4,5-Trichlorophenol	50.0	37.8	37.6	75.6	75.2	44.0-120			0.531	22
2,4,6-Trichlorophenol	50.0	33.4	33.2	66.8	66.4	42.0-120			0.601	23
(S) Nitrobenzene-d5				*47.6*	*47.4*	*10.0-127*				
(S) 2-Fluorobiphenyl				*61.9*	*63.6*	*10.0-130*				
(S) p-Terphenyl-d14				*67.3*	*68.6*	*10.0-128*				
(S) Phenol-d5				*22.8*	*21.8*	*10.0-120*				
(S) 2-Fluorophenol				*43.9*	*41.5*	*10.0-120*				
(S) 2,4,6-Tribromophenol				*69.0*	*68.0*	*10.0-155*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

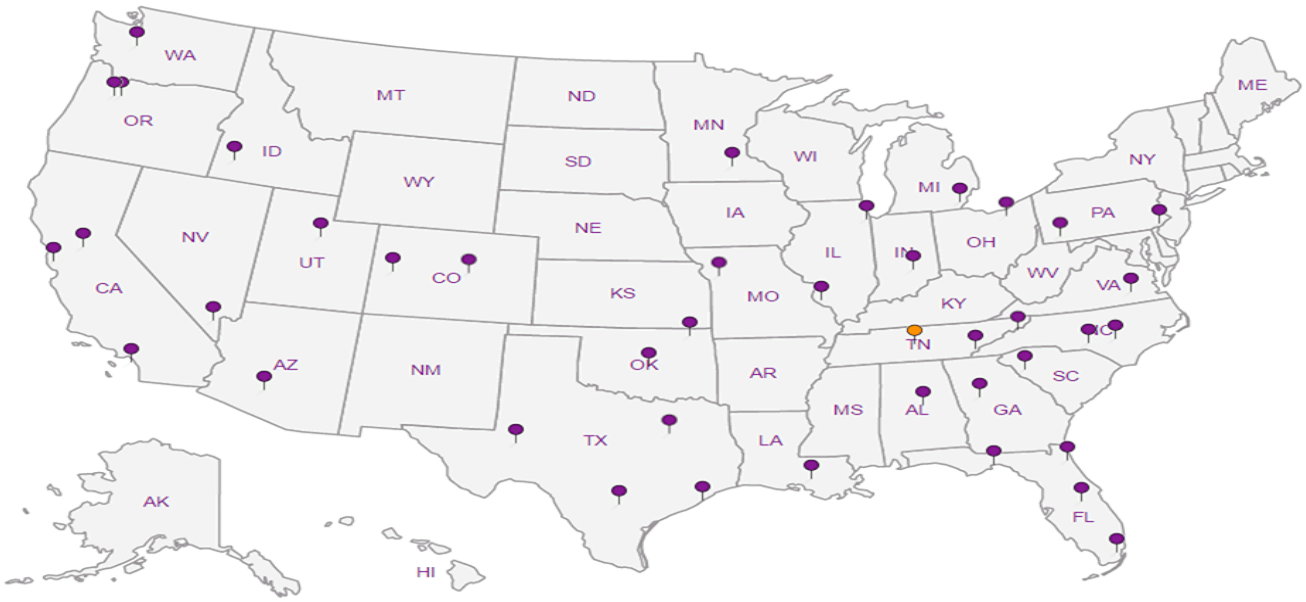
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



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Chain of Custody — Page 1 of 2

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Fax: 615-758-5859

Report to: Sheri Finn

Email To: sheri.finn@ghd.com;BSmith@WesternWateran

Project Description: Logan Wash Mine

City/State Collected:

Please Circle: PT MT CT ET

Phone: 716-297-6150

Client Project #: 14266DM

Lab Project #: GHDGSH-14266DM

Collected by (print): Nick Solawetz

Site/Facility ID #:

P.O. #: 4502201620

Collected by (signature): [signature]

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

Quote #

Date Results Needed: 6-18-20

Immediately Packed on Ice N Y ✓

SDG # L1225720 C084

Acctnum: GHDGSH
Template: T156873
Prelogin: P773899
PM: 134 - Mark W. Beasley
PB: LC 5/18
Shipped Via: FedEX Ground

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	**WetChem 500mlHDPE-NoPres	8270TCL 100ml Amb NoPres	DROLVI 40mlAmb-HCl-BT	Dissolved Metals- FF 250mlHDPE-HNO3	Fluoride(Lab Filter) 125mlHDPE-NoPres	GRO 40mlAmb-HCl	NH3, PT 250mlHDPE-H2SO4	OGHEX 1L-Clr-WT-HCl	PHT 250mlAmb-H2SO4	SULFIDE 125mlAmb-S-NaOH+ZnAc	Remarks	Sample # (lab only)
LW-LM	Grab	GW	NA	6-4-20	900	18	X	X	X	X	X	X	X	X	X	X		-01
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
~~TRIP BLANK~~ None		GW				1												

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

Remarks: **WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
Dis. Metals Field Filtered

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking # 1790 3028 6090

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
[signature]	6-4-20	1030			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: .6+.1=.7 °C Bottles Received: 18	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 6/5/20 Time: 8:30	Hold: Condition: NCF / OK

GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Report to: **Sheri Finn**

Email To: **sheri.finn@ghd.com;BSmith@WesternWateran**

Project Description: **Logan Wash Mine**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **716-297-6150**

Client Project # **14266DM**

Lab Project # **GHDGSH-14266DM**

Collected by (print): **Nick Sokvetz**

Site/Facility ID #

P.O. # **4502201620**

Collected by (signature):

Immediately Packed on Ice N___ Y X

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

Quote #

Date Results Needed: 6-18-20

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TOC 250mlHDPE-HCl	TSS 1L-HDPE NoPres	Total Silica, HARD 250mlHDPE-HNO3	V8260TCL 40mlAmb-HCl	Remarks	Sample # (lab only)
LW-LM	Grab	GW	NA	6-4-20	900	18	X	X	X	X		-01
		GW				18	X	X	X	X		
		GW				18	X	X	X	X		
		GW				18	X	X	X	X		
		GW				18	X	X	X	X		
		GW				18	X	X	X	X		
TRIP BLANK X None		GW				1				X		

Chain of Custody Page 2 of 2

Pace Analytical
National Center for Testing & Innovation

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

SDG # L1225720

Table #

Acctnum: GHDGSH

Template: T156873

Prelogin: P773899

PM: 134 - Mark W. Beasley

PB: LC 5/18

Shipped Via: FedEX Ground

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

Remarks:**WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
Dis. Metals Field Filtered

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

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

Relinquished by : (Signature)	Date: 6-4-20	Time: 1030	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: WPAS °C .6+1=.7 Bottles Received: 18	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/5/20 Time: 8:30	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 16, 2020

Revised Report

GHD-Houston, TX-Glenn Springs Holdings

Sample Delivery Group:	L1270981
Samples Received:	10/08/2020
Project Number:	14266DM
Description:	Logan Wash Mine

Report To: Sheri Finn
2055 Niagara Falls Blvd. #3
Niagara Falls, NY 14034

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

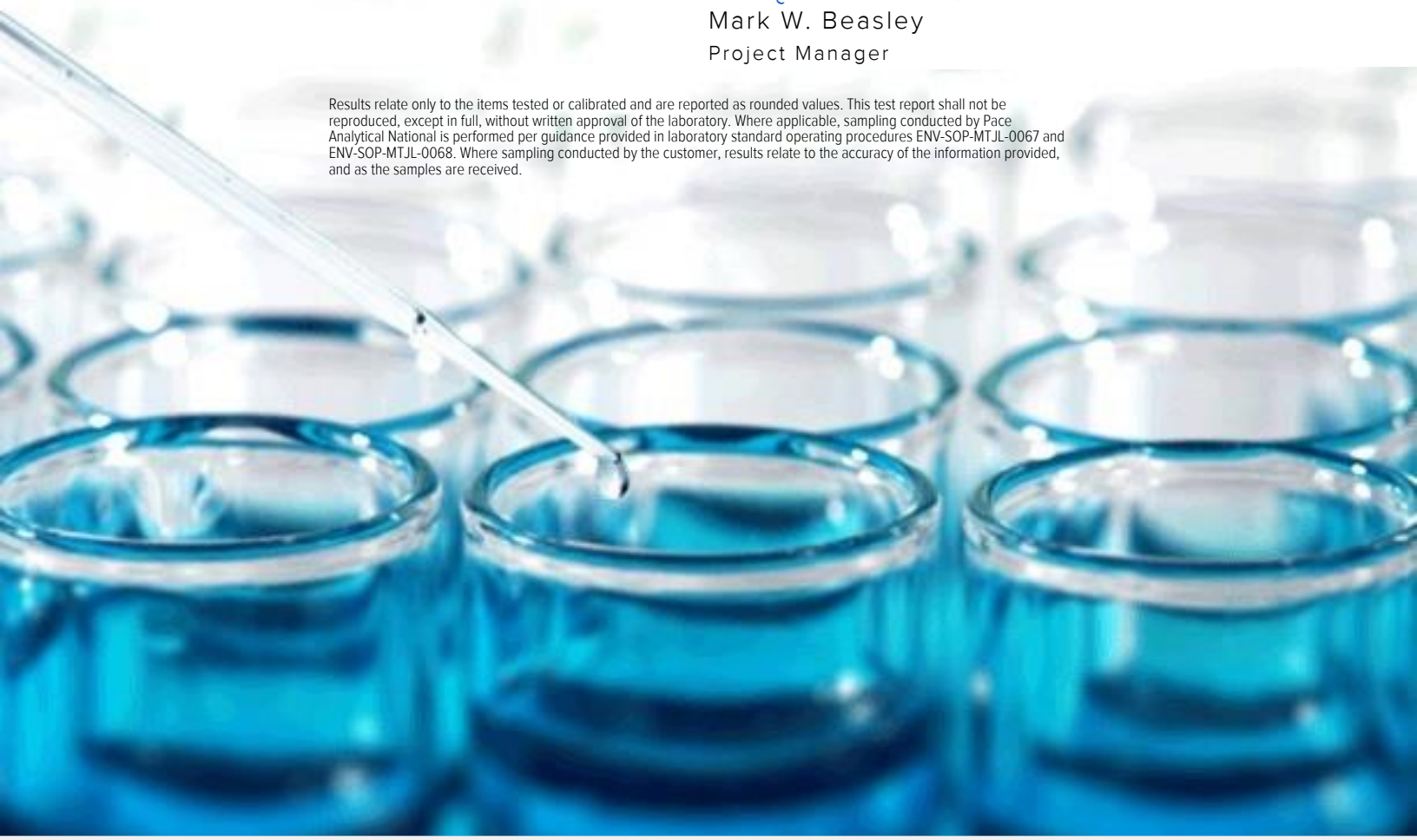


TABLE OF CONTENTS

LW-POND L1270981-01 WW

Collected by: Bruce Smith
Collected date/time: 10/07/20 10:40
Received date/time: 10/08/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1556464	1	10/13/20 09:35	10/13/20 09:35	CCE	Mt. Juliet, TN
Calculated Results	WG1556464	1	10/13/20 00:14	10/13/20 00:14	CCE	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1558060	1	10/14/20 04:00	10/14/20 06:16	CAT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1557539	1	10/11/20 16:14	10/11/20 17:06	KAB	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1558231	1	10/13/20 17:46	10/13/20 17:46	MMF	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1558479	1	10/13/20 16:02	10/13/20 22:41	LTC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1557944	3.33	10/14/20 09:17	10/14/20 09:17	SL	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1556043	10	10/08/20 22:42	10/08/20 22:42	MSP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1556043	100	10/08/20 22:59	10/08/20 22:59	MSP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1556043	1000	10/08/20 23:16	10/08/20 23:16	MSP	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1558825	1	10/15/20 01:17	10/15/20 01:17	DGR	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1558909	1	10/14/20 11:00	10/15/20 16:45	SDL	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1557652	1	10/12/20 18:00	10/12/20 23:26	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1556682	1	10/09/20 12:00	10/09/20 12:00	KLS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1556683	1	10/09/20 18:36	10/09/20 18:36	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1556061	5	10/09/20 23:54	10/09/20 23:54	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1556464	1	10/12/20 08:15	10/13/20 00:14	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1556464	10	10/12/20 08:15	10/13/20 09:35	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1556471	10	10/11/20 17:26	10/12/20 14:05	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1557602	100	10/12/20 08:04	10/13/20 15:32	JDG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1558298	1	10/13/20 16:04	10/13/20 16:04	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1559181	1	10/14/20 21:17	10/14/20 21:17	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1557909	4	10/13/20 07:16	10/14/20 07:31	AEG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1557921	1	10/13/20 22:46	10/15/20 11:49	JNJ	Mt. Juliet, TN

LW-LM L1270981-02 WW

Collected by: Bruce Smith
Collected date/time: 10/07/20 11:20
Received date/time: 10/08/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1556464	1	10/13/20 09:38	10/13/20 09:38	CCE	Mt. Juliet, TN
Calculated Results	WG1557121	1	10/11/20 21:59	10/11/20 21:59	CCE	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1558060	1	10/14/20 04:00	10/14/20 06:16	CAT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG1557539	1	10/11/20 16:14	10/11/20 17:06	KAB	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG1558231	1	10/13/20 17:46	10/13/20 17:46	MMF	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG1558479	1	10/13/20 16:02	10/13/20 22:41	LTC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1557944	1	10/14/20 09:26	10/14/20 09:26	SL	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1556043	10	10/08/20 23:33	10/08/20 23:33	MSP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1556043	100	10/08/20 23:50	10/08/20 23:50	MSP	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG1558825	1	10/15/20 01:18	10/15/20 01:18	DGR	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1558909	1	10/14/20 11:00	10/15/20 16:46	SDL	Mt. Juliet, TN
Wet Chemistry by Method 420.4	WG1557652	1	10/12/20 18:00	10/12/20 23:27	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1556682	1	10/09/20 12:00	10/09/20 12:00	KLS	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1556683	1	10/09/20 18:37	10/09/20 18:37	MJA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2011	WG1556061	1	10/10/20 00:15	10/10/20 00:15	VRP	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1556464	5	10/12/20 08:15	10/13/20 09:38	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1556471	1	10/11/20 17:26	10/12/20 12:44	CCE	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1557121	1	10/11/20 08:46	10/11/20 21:59	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG1557602	50	10/12/20 08:04	10/13/20 15:38	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1558298	1	10/13/20 16:24	10/13/20 16:24	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1559181	1	10/14/20 21:37	10/14/20 21:37	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1557909	1	10/13/20 07:16	10/15/20 02:46	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1557921	1	10/13/20 22:46	10/15/20 11:28	JNJ	Mt. Juliet, TN

TRIP BLANK L1270981-03 GW

Collected by	Collected date/time	Received date/time
Bruce Smith	10/07/20 00:00	10/08/20 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1559181	1	10/14/20 18:34	10/14/20 18:34	ACG	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 10/16/20 12:27

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1270981-01	LW-POND	1664A

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silica	23800		1650	4280	1	10/13/2020 09:35	WG1556464

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Hardness (calculated) as CaCO3	1970000		118	2500	1	10/13/2020 00:14	WG1556464

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	111000000		282000	1000000	1	10/14/2020 06:16	WG1558060

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Suspended Solids	688000		3500	25000	1	10/11/2020 17:06	WG1557539

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	97000		10.0	1	10/13/2020 17:46	WG1558231

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	4180	J	1270	5490	1	10/13/2020 22:41	WG1558479

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	2810000		8450	20000	3.33	10/14/2020 09:17	WG1557944
Alkalinity,Bicarbonate	988000		8450	20000	3.33	10/14/2020 09:17	WG1557944
Alkalinity,Carbonate	1830000		8450	20000	3.33	10/14/2020 09:17	WG1557944

Sample Narrative:

L1270981-01 WG1557944: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bromide	U		3530	10000	10	10/08/2020 22:42	WG1556043
Chloride	1350000		37900	100000	100	10/08/2020 22:59	WG1556043
Fluoride	58300		640	1500	10	10/08/2020 22:42	WG1556043
Nitrate	U		480	1000	10	10/08/2020 22:42	WG1556043
Nitrite	U		420	1000	10	10/08/2020 22:42	WG1556043
Sulfate	78400000		594000	5000000	1000	10/08/2020 23:16	WG1556043

Sample Narrative:

L1270981-01 WG1556043: Dilution due to high sulfate

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ammonia Nitrogen	U		117	250	1	10/15/2020 01:17	WG1558825

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	176		35.0	100	1	10/15/2020 16:45	WG1558909

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	U		8.30	40.0	1	10/12/2020 23:26	WG1557652

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	9.17	T8	1	10/09/2020 12:00	WG1556682

Sample Narrative:

L1270981-01 WG1556682: 9.17 at 19.8C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	248		25.0	50.0	1	10/09/2020 18:36	WG1556683

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	243000		510	5000	5	10/09/2020 23:54	WG1556061

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	181000		396	2000	10	10/12/2020 14:05	WG1556471
Calcium	91400		47.3	1000	1	10/13/2020 00:14	WG1556464
Magnesium	424000		115	1000	1	10/13/2020 00:14	WG1556464
Silicon	11100		771	2000	10	10/13/2020 09:35	WG1556464

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	369		19.5	100	100	10/13/2020 15:32	WG1557602
Calcium,Dissolved	91600	J	11200	100000	100	10/13/2020 15:32	WG1557602
Iron,Dissolved	U		4470	10000	100	10/13/2020 15:32	WG1557602
Magnesium,Dissolved	359000		6900	100000	100	10/13/2020 15:32	WG1557602
Potassium,Dissolved	16400000		15100	100000	100	10/13/2020 15:32	WG1557602
Selenium,Dissolved	78.3	J	43.7	200	100	10/13/2020 15:32	WG1557602
Sodium,Dissolved	22600000		51300	200000	100	10/13/2020 15:32	WG1557602

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	34.2	B J	31.4	100	1	10/13/2020 16:04	WG1558298
(S) a,a,a-Trifluorotoluene(FID)	*92.9*			*78.0-120*		*10/13/2020 16:04*	WG1558298

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	51.0	J4	11.3	50.0	1	10/14/2020 21:17	WG1559181
Benzene	U		0.0941	1.00	1	10/14/2020 21:17	WG1559181
Bromodichloromethane	U		0.136	1.00	1	10/14/2020 21:17	WG1559181
Bromoform	U		0.129	1.00	1	10/14/2020 21:17	WG1559181
Bromomethane	U		0.605	5.00	1	10/14/2020 21:17	WG1559181
Carbon disulfide	U		0.0962	1.00	1	10/14/2020 21:17	WG1559181
Carbon tetrachloride	U		0.128	1.00	1	10/14/2020 21:17	WG1559181
Chlorobenzene	U		0.116	1.00	1	10/14/2020 21:17	WG1559181
Chlorodibromomethane	U		0.140	1.00	1	10/14/2020 21:17	WG1559181
Chloroethane	U		0.192	5.00	1	10/14/2020 21:17	WG1559181
Chloroform	U		0.111	5.00	1	10/14/2020 21:17	WG1559181
Chloromethane	U		0.960	2.50	1	10/14/2020 21:17	WG1559181
1,1-Dichloroethane	U		0.100	1.00	1	10/14/2020 21:17	WG1559181
1,2-Dichloroethane	U		0.0819	1.00	1	10/14/2020 21:17	WG1559181
1,1-Dichloroethene	U		0.188	1.00	1	10/14/2020 21:17	WG1559181
cis-1,2-Dichloroethene	U		0.126	1.00	1	10/14/2020 21:17	WG1559181
trans-1,2-Dichloroethene	U		0.149	1.00	1	10/14/2020 21:17	WG1559181
1,2-Dichloropropane	U		0.149	1.00	1	10/14/2020 21:17	WG1559181
cis-1,3-Dichloropropene	U		0.111	1.00	1	10/14/2020 21:17	WG1559181
trans-1,3-Dichloropropene	U		0.118	1.00	1	10/14/2020 21:17	WG1559181
Ethylbenzene	U		0.137	1.00	1	10/14/2020 21:17	WG1559181
2-Hexanone	U		0.787	10.0	1	10/14/2020 21:17	WG1559181
2-Butanone (MEK)	5.04	J	1.19	10.0	1	10/14/2020 21:17	WG1559181
Methylene Chloride	U		0.430	5.00	1	10/14/2020 21:17	WG1559181
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	10/14/2020 21:17	WG1559181
Styrene	U		0.118	1.00	1	10/14/2020 21:17	WG1559181
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	10/14/2020 21:17	WG1559181
Tetrachloroethene	U		0.300	1.00	1	10/14/2020 21:17	WG1559181
Toluene	U		0.278	1.00	1	10/14/2020 21:17	WG1559181
1,1,1-Trichloroethane	U		0.149	1.00	1	10/14/2020 21:17	WG1559181
1,1,2-Trichloroethane	U		0.158	1.00	1	10/14/2020 21:17	WG1559181
Trichloroethene	U		0.190	1.00	1	10/14/2020 21:17	WG1559181
Vinyl chloride	U		0.234	1.00	1	10/14/2020 21:17	WG1559181
Xylenes, Total	U		0.174	3.00	1	10/14/2020 21:17	WG1559181
(S) Toluene-d8	*103*			*80.0-120*		*10/14/2020 21:17*	WG1559181
(S) 4-Bromofluorobenzene	*95.1*			*77.0-126*		*10/14/2020 21:17*	WG1559181
(S) 1,2-Dichloroethane-d4	*129*			*70.0-130*		*10/14/2020 21:17*	WG1559181

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) High Fraction	3260		98.8	400	4	10/14/2020 07:31	WG1557909
(S) o-Terphenyl	*28.9*	J2		*31.0-160*		*10/14/2020 07:31*	WG1557909

Sample Narrative:

L1270981-01 WG1557909: Sample produced heavy emulsion during Extraction process, low surr/spike recoveries due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acenaphthene	U		0.0886	1.00	1	10/15/2020 11:49	WG1557921
Acenaphthylene	1.43		0.0921	1.00	1	10/15/2020 11:49	WG1557921
Anthracene	U		0.0804	1.00	1	10/15/2020 11:49	WG1557921
Benzo(a)anthracene	U		0.199	1.00	1	10/15/2020 11:49	WG1557921
Benzo(b)fluoranthene	U		0.130	1.00	1	10/15/2020 11:49	WG1557921
Benzo(k)fluoranthene	U		0.120	1.00	1	10/15/2020 11:49	WG1557921
Benzo(g,h,i)perylene	U		0.121	1.00	1	10/15/2020 11:49	WG1557921
Benzo(a)pyrene	U		0.0381	1.00	1	10/15/2020 11:49	WG1557921
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	10/15/2020 11:49	WG1557921
Bis(2-chloroethyl)ether	U		0.137	10.0	1	10/15/2020 11:49	WG1557921
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	10/15/2020 11:49	WG1557921
4-Bromophenyl-phenylether	U		0.0877	10.0	1	10/15/2020 11:49	WG1557921
Carbazole	U		0.111	10.0	1	10/15/2020 11:49	WG1557921
4-Chloroaniline	U		0.234	10.0	1	10/15/2020 11:49	WG1557921
2-Chloronaphthalene	U		0.0648	1.00	1	10/15/2020 11:49	WG1557921
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	10/15/2020 11:49	WG1557921
Chrysene	U		0.130	1.00	1	10/15/2020 11:49	WG1557921
Dibenz(a,h)anthracene	U		0.0644	1.00	1	10/15/2020 11:49	WG1557921
Dibenzofuran	U		0.0970	10.0	1	10/15/2020 11:49	WG1557921
3,3-Dichlorobenzidine	U		0.212	10.0	1	10/15/2020 11:49	WG1557921
2,4-Dinitrotoluene	U		0.0983	10.0	1	10/15/2020 11:49	WG1557921
2,6-Dinitrotoluene	U		0.250	10.0	1	10/15/2020 11:49	WG1557921
Fluoranthene	U		0.102	1.00	1	10/15/2020 11:49	WG1557921
Fluorene	U		0.0844	1.00	1	10/15/2020 11:49	WG1557921
Hexachlorobenzene	U		0.0755	1.00	1	10/15/2020 11:49	WG1557921
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	10/15/2020 11:49	WG1557921
Hexachlorocyclopentadiene	U		0.0598	10.0	1	10/15/2020 11:49	WG1557921
Hexachloroethane	U		0.127	10.0	1	10/15/2020 11:49	WG1557921
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	10/15/2020 11:49	WG1557921
Isophorone	U		0.143	10.0	1	10/15/2020 11:49	WG1557921
2-Methylnaphthalene	U		0.117	1.00	1	10/15/2020 11:49	WG1557921
Naphthalene	U		0.159	1.00	1	10/15/2020 11:49	WG1557921
2-Nitroaniline	U		0.102	10.0	1	10/15/2020 11:49	WG1557921
3-Nitroaniline	U		0.0869	10.0	1	10/15/2020 11:49	WG1557921
4-Nitroaniline	U		0.0910	10.0	1	10/15/2020 11:49	WG1557921
Nitrobenzene	U		0.297	10.0	1	10/15/2020 11:49	WG1557921
n-Nitrosodiphenylamine	U		2.37	10.0	1	10/15/2020 11:49	WG1557921
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	10/15/2020 11:49	WG1557921
Phenanthrene	U		0.112	1.00	1	10/15/2020 11:49	WG1557921
Benzylbutyl phthalate	U		0.765	3.00	1	10/15/2020 11:49	WG1557921
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	10/15/2020 11:49	WG1557921
Di-n-butyl phthalate	U		0.453	3.00	1	10/15/2020 11:49	WG1557921
Diethyl phthalate	U		0.287	3.00	1	10/15/2020 11:49	WG1557921
Dimethyl phthalate	U		0.260	3.00	1	10/15/2020 11:49	WG1557921
Di-n-octyl phthalate	U		0.932	3.00	1	10/15/2020 11:49	WG1557921
Pyrene	U		0.107	1.00	1	10/15/2020 11:49	WG1557921
4-Chloro-3-methylphenol	U		0.131	10.0	1	10/15/2020 11:49	WG1557921
2-Chlorophenol	U		0.133	10.0	1	10/15/2020 11:49	WG1557921
2-Methylphenol	U		0.0929	10.0	1	10/15/2020 11:49	WG1557921
3&4-Methyl Phenol	U		0.168	10.0	1	10/15/2020 11:49	WG1557921
2,4-Dichlorophenol	U		0.102	10.0	1	10/15/2020 11:49	WG1557921
2,4-Dimethylphenol	U		0.0636	10.0	1	10/15/2020 11:49	WG1557921
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	10/15/2020 11:49	WG1557921
2,4-Dinitrophenol	U		5.93	10.0	1	10/15/2020 11:49	WG1557921
2-Nitrophenol	U		0.117	10.0	1	10/15/2020 11:49	WG1557921
4-Nitrophenol	U		0.143	10.0	1	10/15/2020 11:49	WG1557921

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Pentachlorophenol	U		0.313	10.0	1	10/15/2020 11:49	WG1557921
Phenol	U		4.33	10.0	1	10/15/2020 11:49	WG1557921
2,4,5-Trichlorophenol	U		0.109	10.0	1	10/15/2020 11:49	WG1557921
2,4,6-Trichlorophenol	U		0.100	10.0	1	10/15/2020 11:49	WG1557921
1,2-Dichlorobenzene	U		0.0713	10.0	1	10/15/2020 11:49	WG1557921
1,3-Dichlorobenzene	U		0.132	10.0	1	10/15/2020 11:49	WG1557921
1,4-Dichlorobenzene	U		0.0942	10.0	1	10/15/2020 11:49	WG1557921
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	10/15/2020 11:49	WG1557921
(S) 2-Fluorophenol	*47.2*			*10.0-120*		*10/15/2020 11:49*	WG1557921
(S) Phenol-d5	*37.2*			*10.0-120*		*10/15/2020 11:49*	WG1557921
(S) Nitrobenzene-d5	*56.7*			*10.0-127*		*10/15/2020 11:49*	WG1557921
(S) 2-Fluorobiphenyl	*60.2*			*10.0-130*		*10/15/2020 11:49*	WG1557921
(S) 2,4,6-Tribromophenol	*68.5*			*10.0-155*		*10/15/2020 11:49*	WG1557921
(S) p-Terphenyl-d14	*58.1*			*10.0-128*		*10/15/2020 11:49*	WG1557921

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silica	17000		825	2140	1	10/13/2020 09:38	WG1556464

Calculated Results

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Hardness (calculated) as CaCO3	318000		118	2500	1	10/11/2020 21:59	WG1557121

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	7380000		14100	50000	1	10/14/2020 06:16	WG1558060

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Suspended Solids	2000	J	350	2500	1	10/11/2020 17:06	WG1557539

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	9210		10.0	1	10/13/2020 17:46	WG1558231

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	1510	J	1250	5380	1	10/13/2020 22:41	WG1558479

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	385000		8450	20000	1	10/14/2020 09:26	WG1557944
Alkalinity,Bicarbonate	382000		8450	20000	1	10/14/2020 09:26	WG1557944
Alkalinity,Carbonate	U		8450	20000	1	10/14/2020 09:26	WG1557944

Sample Narrative:

L1270981-02 WG1557944: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Bromide	U		3530	10000	10	10/08/2020 23:33	WG1556043
Chloride	87200		3790	10000	10	10/08/2020 23:33	WG1556043
Fluoride	10200		640	1500	10	10/08/2020 23:33	WG1556043
Nitrate	1010		480	1000	10	10/08/2020 23:33	WG1556043
Nitrite	U		420	1000	10	10/08/2020 23:33	WG1556043
Sulfate	4330000		59400	500000	100	10/08/2020 23:50	WG1556043

Sample Narrative:

L1270981-02 WG1556043: Dilution due to high sulfate

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ammonia Nitrogen	U		117	250	1	10/15/2020 01:18	WG1558825

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Phosphorus,Total	90.3	J	35.0	100	1	10/15/2020 16:46	WG1558909

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Total Phenol by 4AAP	15.4	B J	8.30	40.0	1	10/12/2020 23:27	WG1557652

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.18	T8	1	10/09/2020 12:00	WG1556682

Sample Narrative:

L1270981-02 WG1556682: 8.18 at 20.5C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Sulfide	U		25.0	50.0	1	10/09/2020 18:37	WG1556683

Wet Chemistry by Method 5310 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	13300		102	1000	1	10/10/2020 00:15	WG1556061

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Boron,Dissolved	11900		39.6	200	1	10/12/2020 12:44	WG1556471
Calcium	51900		47.3	1000	1	10/11/2020 21:59	WG1557121
Magnesium	45800		115	1000	1	10/11/2020 21:59	WG1557121
Silicon	7940		386	1000	5	10/13/2020 09:38	WG1556464

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic,Dissolved	12.0	J	9.75	50.0	50	10/13/2020 15:38	WG1557602
Calcium,Dissolved	14600	J	5600	50000	50	10/13/2020 15:38	WG1557602
Iron,Dissolved	U		2240	5000	50	10/13/2020 15:38	WG1557602
Magnesium,Dissolved	12300	J	3450	50000	50	10/13/2020 15:38	WG1557602
Potassium,Dissolved	268000		7550	50000	50	10/13/2020 15:38	WG1557602
Selenium,Dissolved	U		21.8	100	50	10/13/2020 15:38	WG1557602
Sodium,Dissolved	394000		25600	100000	50	10/13/2020 15:38	WG1557602

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) Low Fraction	38.4	B J	31.4	100	1	10/13/2020 16:24	WG1558298
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*78.0-120*		*10/13/2020 16:24*	WG1558298

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U	J4	11.3	50.0	1	10/14/2020 21:37	WG1559181
Benzene	U		0.0941	1.00	1	10/14/2020 21:37	WG1559181
Bromodichloromethane	U		0.136	1.00	1	10/14/2020 21:37	WG1559181
Bromoform	U		0.129	1.00	1	10/14/2020 21:37	WG1559181
Bromomethane	U		0.605	5.00	1	10/14/2020 21:37	WG1559181
Carbon disulfide	U		0.0962	1.00	1	10/14/2020 21:37	WG1559181
Carbon tetrachloride	U		0.128	1.00	1	10/14/2020 21:37	WG1559181
Chlorobenzene	U		0.116	1.00	1	10/14/2020 21:37	WG1559181
Chlorodibromomethane	U		0.140	1.00	1	10/14/2020 21:37	WG1559181
Chloroethane	U		0.192	5.00	1	10/14/2020 21:37	WG1559181
Chloroform	U		0.111	5.00	1	10/14/2020 21:37	WG1559181
Chloromethane	U		0.960	2.50	1	10/14/2020 21:37	WG1559181
1,1-Dichloroethane	U		0.100	1.00	1	10/14/2020 21:37	WG1559181
1,2-Dichloroethane	U		0.0819	1.00	1	10/14/2020 21:37	WG1559181
1,1-Dichloroethene	U		0.188	1.00	1	10/14/2020 21:37	WG1559181
cis-1,2-Dichloroethene	U		0.126	1.00	1	10/14/2020 21:37	WG1559181
trans-1,2-Dichloroethene	U		0.149	1.00	1	10/14/2020 21:37	WG1559181
1,2-Dichloropropane	U		0.149	1.00	1	10/14/2020 21:37	WG1559181
cis-1,3-Dichloropropene	U		0.111	1.00	1	10/14/2020 21:37	WG1559181
trans-1,3-Dichloropropene	U		0.118	1.00	1	10/14/2020 21:37	WG1559181
Ethylbenzene	U		0.137	1.00	1	10/14/2020 21:37	WG1559181
2-Hexanone	U		0.787	10.0	1	10/14/2020 21:37	WG1559181
2-Butanone (MEK)	U		1.19	10.0	1	10/14/2020 21:37	WG1559181
Methylene Chloride	U		0.430	5.00	1	10/14/2020 21:37	WG1559181
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	10/14/2020 21:37	WG1559181
Styrene	U		0.118	1.00	1	10/14/2020 21:37	WG1559181
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	10/14/2020 21:37	WG1559181
Tetrachloroethene	U		0.300	1.00	1	10/14/2020 21:37	WG1559181
Toluene	U		0.278	1.00	1	10/14/2020 21:37	WG1559181
1,1,1-Trichloroethane	U		0.149	1.00	1	10/14/2020 21:37	WG1559181
1,1,2-Trichloroethane	U		0.158	1.00	1	10/14/2020 21:37	WG1559181
Trichloroethene	U		0.190	1.00	1	10/14/2020 21:37	WG1559181
Vinyl chloride	U		0.234	1.00	1	10/14/2020 21:37	WG1559181
Xylenes, Total	U		0.174	3.00	1	10/14/2020 21:37	WG1559181
(S) Toluene-d8	*102*			*80.0-120*		*10/14/2020 21:37*	WG1559181
(S) 4-Bromofluorobenzene	*94.8*			*77.0-126*		*10/14/2020 21:37*	WG1559181
(S) 1,2-Dichloroethane-d4	*126*			*70.0-130*		*10/14/2020 21:37*	WG1559181

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPH (GC/FID) High Fraction	1730		24.7	100	1	10/15/2020 02:46	WG1557909
(S) o-Terphenyl	*100*			*31.0-160*		*10/15/2020 02:46*	WG1557909

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acenaphthene	U		0.0886	1.00	1	10/15/2020 11:28	WG1557921
Acenaphthylene	0.488	J	0.0921	1.00	1	10/15/2020 11:28	WG1557921
Anthracene	U		0.0804	1.00	1	10/15/2020 11:28	WG1557921
Benzo(a)anthracene	U		0.199	1.00	1	10/15/2020 11:28	WG1557921
Benzo(b)fluoranthene	U		0.130	1.00	1	10/15/2020 11:28	WG1557921
Benzo(k)fluoranthene	U		0.120	1.00	1	10/15/2020 11:28	WG1557921
Benzo(g,h,i)perylene	U		0.121	1.00	1	10/15/2020 11:28	WG1557921
Benzo(a)pyrene	U		0.0381	1.00	1	10/15/2020 11:28	WG1557921
Bis(2-chlorethoxy)methane	U		0.116	10.0	1	10/15/2020 11:28	WG1557921
Bis(2-chloroethyl)ether	U		0.137	10.0	1	10/15/2020 11:28	WG1557921
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0	1	10/15/2020 11:28	WG1557921
4-Bromophenyl-phenylether	U		0.0877	10.0	1	10/15/2020 11:28	WG1557921
Carbazole	U		0.111	10.0	1	10/15/2020 11:28	WG1557921
4-Chloroaniline	U		0.234	10.0	1	10/15/2020 11:28	WG1557921
2-Chloronaphthalene	U		0.0648	1.00	1	10/15/2020 11:28	WG1557921
4-Chlorophenyl-phenylether	U		0.0926	10.0	1	10/15/2020 11:28	WG1557921
Chrysene	U		0.130	1.00	1	10/15/2020 11:28	WG1557921
Dibenz(a,h)anthracene	U		0.0644	1.00	1	10/15/2020 11:28	WG1557921
Dibenzofuran	U		0.0970	10.0	1	10/15/2020 11:28	WG1557921
3,3-Dichlorobenzidine	U		0.212	10.0	1	10/15/2020 11:28	WG1557921
2,4-Dinitrotoluene	U		0.0983	10.0	1	10/15/2020 11:28	WG1557921
2,6-Dinitrotoluene	U		0.250	10.0	1	10/15/2020 11:28	WG1557921
Fluoranthene	U		0.102	1.00	1	10/15/2020 11:28	WG1557921
Fluorene	U		0.0844	1.00	1	10/15/2020 11:28	WG1557921
Hexachlorobenzene	U		0.0755	1.00	1	10/15/2020 11:28	WG1557921
Hexachloro-1,3-butadiene	U		0.0968	10.0	1	10/15/2020 11:28	WG1557921
Hexachlorocyclopentadiene	U		0.0598	10.0	1	10/15/2020 11:28	WG1557921
Hexachloroethane	U		0.127	10.0	1	10/15/2020 11:28	WG1557921
Indeno(1,2,3-cd)pyrene	U		0.279	1.00	1	10/15/2020 11:28	WG1557921
Isophorone	U		0.143	10.0	1	10/15/2020 11:28	WG1557921
2-Methylnaphthalene	U		0.117	1.00	1	10/15/2020 11:28	WG1557921
Naphthalene	U		0.159	1.00	1	10/15/2020 11:28	WG1557921
2-Nitroaniline	U		0.102	10.0	1	10/15/2020 11:28	WG1557921
3-Nitroaniline	U		0.0869	10.0	1	10/15/2020 11:28	WG1557921
4-Nitroaniline	U		0.0910	10.0	1	10/15/2020 11:28	WG1557921
Nitrobenzene	U		0.297	10.0	1	10/15/2020 11:28	WG1557921
n-Nitrosodiphenylamine	U		2.37	10.0	1	10/15/2020 11:28	WG1557921
n-Nitrosodi-n-propylamine	U		0.261	10.0	1	10/15/2020 11:28	WG1557921
Phenanthrene	U		0.112	1.00	1	10/15/2020 11:28	WG1557921
Benzylbutyl phthalate	U		0.765	3.00	1	10/15/2020 11:28	WG1557921
Bis(2-ethylhexyl)phthalate	U		0.895	3.00	1	10/15/2020 11:28	WG1557921
Di-n-butyl phthalate	U		0.453	3.00	1	10/15/2020 11:28	WG1557921
Diethyl phthalate	U		0.287	3.00	1	10/15/2020 11:28	WG1557921
Dimethyl phthalate	U		0.260	3.00	1	10/15/2020 11:28	WG1557921
Di-n-octyl phthalate	U		0.932	3.00	1	10/15/2020 11:28	WG1557921
Pyrene	U		0.107	1.00	1	10/15/2020 11:28	WG1557921
4-Chloro-3-methylphenol	U		0.131	10.0	1	10/15/2020 11:28	WG1557921
2-Chlorophenol	U		0.133	10.0	1	10/15/2020 11:28	WG1557921
2-Methylphenol	U		0.0929	10.0	1	10/15/2020 11:28	WG1557921
3&4-Methyl Phenol	U		0.168	10.0	1	10/15/2020 11:28	WG1557921
2,4-Dichlorophenol	U		0.102	10.0	1	10/15/2020 11:28	WG1557921
2,4-Dimethylphenol	U		0.0636	10.0	1	10/15/2020 11:28	WG1557921
4,6-Dinitro-2-methylphenol	U		1.12	10.0	1	10/15/2020 11:28	WG1557921
2,4-Dinitrophenol	U		5.93	10.0	1	10/15/2020 11:28	WG1557921
2-Nitrophenol	U		0.117	10.0	1	10/15/2020 11:28	WG1557921
4-Nitrophenol	U		0.143	10.0	1	10/15/2020 11:28	WG1557921

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Pentachlorophenol	U		0.313	10.0	1	10/15/2020 11:28	WG1557921
Phenol	U		4.33	10.0	1	10/15/2020 11:28	WG1557921
2,4,5-Trichlorophenol	U		0.109	10.0	1	10/15/2020 11:28	WG1557921
2,4,6-Trichlorophenol	U		0.100	10.0	1	10/15/2020 11:28	WG1557921
1,2-Dichlorobenzene	U		0.0713	10.0	1	10/15/2020 11:28	WG1557921
1,3-Dichlorobenzene	U		0.132	10.0	1	10/15/2020 11:28	WG1557921
1,4-Dichlorobenzene	U		0.0942	10.0	1	10/15/2020 11:28	WG1557921
1,2,4-Trichlorobenzene	U		0.0698	10.0	1	10/15/2020 11:28	WG1557921
(S) 2-Fluorophenol	*42.6*			*10.0-120*		*10/15/2020 11:28*	WG1557921
(S) Phenol-d5	*27.3*			*10.0-120*		*10/15/2020 11:28*	WG1557921
(S) Nitrobenzene-d5	*55.9*			*10.0-127*		*10/15/2020 11:28*	WG1557921
(S) 2-Fluorobiphenyl	*67.8*			*10.0-130*		*10/15/2020 11:28*	WG1557921
(S) 2,4,6-Tribromophenol	*67.9*			*10.0-155*		*10/15/2020 11:28*	WG1557921
(S) p-Terphenyl-d14	*65.9*			*10.0-128*		*10/15/2020 11:28*	WG1557921

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U	J4	11.3	50.0	1	10/14/2020 18:34	WG1559181
Benzene	U		0.0941	1.00	1	10/14/2020 18:34	WG1559181
Bromodichloromethane	U		0.136	1.00	1	10/14/2020 18:34	WG1559181
Bromoform	U		0.129	1.00	1	10/14/2020 18:34	WG1559181
Bromomethane	U		0.605	5.00	1	10/14/2020 18:34	WG1559181
Carbon disulfide	U		0.0962	1.00	1	10/14/2020 18:34	WG1559181
Carbon tetrachloride	U		0.128	1.00	1	10/14/2020 18:34	WG1559181
Chlorobenzene	U		0.116	1.00	1	10/14/2020 18:34	WG1559181
Chlorodibromomethane	U		0.140	1.00	1	10/14/2020 18:34	WG1559181
Chloroethane	U		0.192	5.00	1	10/14/2020 18:34	WG1559181
Chloroform	U		0.111	5.00	1	10/14/2020 18:34	WG1559181
Chloromethane	U		0.960	2.50	1	10/14/2020 18:34	WG1559181
1,1-Dichloroethane	U		0.100	1.00	1	10/14/2020 18:34	WG1559181
1,2-Dichloroethane	U		0.0819	1.00	1	10/14/2020 18:34	WG1559181
1,1-Dichloroethene	U		0.188	1.00	1	10/14/2020 18:34	WG1559181
cis-1,2-Dichloroethene	U		0.126	1.00	1	10/14/2020 18:34	WG1559181
trans-1,2-Dichloroethene	U		0.149	1.00	1	10/14/2020 18:34	WG1559181
1,2-Dichloropropane	U		0.149	1.00	1	10/14/2020 18:34	WG1559181
cis-1,3-Dichloropropene	U		0.111	1.00	1	10/14/2020 18:34	WG1559181
trans-1,3-Dichloropropene	U		0.118	1.00	1	10/14/2020 18:34	WG1559181
Ethylbenzene	U		0.137	1.00	1	10/14/2020 18:34	WG1559181
2-Hexanone	U		0.787	10.0	1	10/14/2020 18:34	WG1559181
2-Butanone (MEK)	U		1.19	10.0	1	10/14/2020 18:34	WG1559181
Methylene Chloride	U		0.430	5.00	1	10/14/2020 18:34	WG1559181
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	10/14/2020 18:34	WG1559181
Styrene	U		0.118	1.00	1	10/14/2020 18:34	WG1559181
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	10/14/2020 18:34	WG1559181
Tetrachloroethene	U		0.300	1.00	1	10/14/2020 18:34	WG1559181
Toluene	U		0.278	1.00	1	10/14/2020 18:34	WG1559181
1,1,1-Trichloroethane	U		0.149	1.00	1	10/14/2020 18:34	WG1559181
1,1,2-Trichloroethane	U		0.158	1.00	1	10/14/2020 18:34	WG1559181
Trichloroethene	U		0.190	1.00	1	10/14/2020 18:34	WG1559181
Vinyl chloride	U		0.234	1.00	1	10/14/2020 18:34	WG1559181
Xylenes, Total	U		0.174	3.00	1	10/14/2020 18:34	WG1559181
(S) Toluene-d8	*102*			*80.0-120*		*10/14/2020 18:34*	WG1559181
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*		*10/14/2020 18:34*	WG1559181
(S) 1,2-Dichloroethane-d4	*124*			*70.0-130*		*10/14/2020 18:34*	WG1559181

Method Blank (MB)

(MB) R3581771-1 10/14/20 06:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1270924-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270924-01 10/14/20 06:16 • (DUP) R3581771-3 10/14/20 06:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	686000	682000	1	0.585		5

L1271022-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1271022-02 10/14/20 06:16 • (DUP) R3581771-4 10/14/20 06:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	7360000	7440000	1	1.15		5

Laboratory Control Sample (LCS)

(LCS) R3581771-2 10/14/20 06:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800000	8780000	99.8	77.4-123	

Method Blank (MB)

(MB) R3580642-1 10/11/20 17:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Suspended Solids	U		350	2500

L1270953-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270953-01 10/11/20 17:06 • (DUP) R3580642-3 10/11/20 17:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	12400000	12800000	1	3.17		5

L1270986-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1270986-02 10/11/20 17:06 • (DUP) R3580642-4 10/11/20 17:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	204000	280000	1	31.4	P1	5

Laboratory Control Sample (LCS)

(LCS) R3580642-2 10/11/20 17:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773000	832000	108	85.7-114	

Method Blank (MB)

(MB) R3581095-1 10/13/20 17:46

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

L1270204-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270204-01 10/13/20 17:46 • (DUP) R3581095-3 10/13/20 17:46

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	230	230	1	0.0870		20

L1270926-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270926-01 10/13/20 17:46 • (DUP) R3581095-4 10/13/20 17:46

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	16000	16000	1	0.187		20

Laboratory Control Sample (LCS)

(LCS) R3581095-2 10/13/20 17:46

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	741	741	100	85.0-115	

Method Blank (MB)

(MB) R3581171-1 10/13/20 22:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Oil & Grease (Hexane Extr)	U		1160	5000

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

(LCS) R3581171-2 10/13/20 22:41 • (LCSD) R3581171-3 10/13/20 22:41

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Oil & Grease (Hexane Extr)	40000	40000	41200	100	103	78.0-114			2.96	20

L1270948-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1270948-02 10/13/20 22:41 • (MS) R3581171-4 10/13/20 22:41

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Oil & Grease (Hexane Extr)	40000	66100	111000	113	1	78.0-114	

Method Blank (MB)

(MB) R3581278-1 10/13/20 22:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity	U		8450	20000
Alkalinity,Bicarbonate	U		8450	20000
Alkalinity,Carbonate	U		8450	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1268418-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1268418-01 10/13/20 22:31 • (DUP) R3581278-2 10/13/20 22:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	83600	83800	1	0.272		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L1271022-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1271022-02 10/14/20 01:38 • (DUP) R3581278-4 10/14/20 01:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	402000	399000	1	0.766		20
Alkalinity,Bicarbonate	398000	397000	1	0.402		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3581278-3 10/13/20 23:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100000	95900	95.9	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3580015-1 10/08/20 14:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Bromide	U		353	1000
Chloride	U		379	1000
Fluoride	U		64.0	150
Nitrate	U		48.0	100
Nitrite	U		42.0	100
Sulfate	U		594	5000

L1270989-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270989-01 10/09/20 01:48 • (DUP) R3580015-5 10/09/20 02:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	U	10	0.000		20
Chloride	56500	56800	10	0.413		20
Fluoride	U	U	10	0.000		20
Nitrate	U	U	10	0.000		20
Nitrite	U	U	10	0.000		20
Sulfate	16000	15900	10	0.000		20

Sample Narrative:

OS: Dilution due to matrix

L1271051-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1271051-01 10/09/20 02:39 • (DUP) R3580015-6 10/09/20 03:12

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	354	357	1	0.957	J	20
Chloride	417000	416000	1	0.157	E	20
Fluoride	90.5	94.1	1	3.90	J	20
Nitrate	U	U	1	0.000		20
Nitrite	U	U	1	0.000		20
Sulfate	28400	28400	1	0.0334		20

Laboratory Control Sample (LCS)

(LCS) R3580015-2 10/08/20 14:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40000	39600	99.0	90.0-110	
Chloride	40000	39500	98.8	90.0-110	
Fluoride	8000	7940	99.2	90.0-110	
Nitrate	8000	7920	99.1	90.0-110	
Nitrite	8000	8000	100	90.0-110	
Sulfate	40000	39900	99.8	90.0-110	

L1270979-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270979-02 10/08/20 16:41 • (MS) R3580015-3 10/08/20 16:58 • (MSD) R3580015-4 10/08/20 17:14

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50000	U	48600	48900	97.2	97.8	1	80.0-120			0.574	20
Chloride	50000	121000	165000	165000	88.1	88.0	1	80.0-120	E	E	0.0228	20
Fluoride	5000	802	5770	5790	99.4	99.8	1	80.0-120			0.334	20
Nitrate	5000	206	5170	5200	99.4	99.8	1	80.0-120			0.469	20
Nitrite	5000	U	5050	5060	101	101	1	80.0-120			0.174	20
Sulfate	50000	123000	166000	166000	86.0	86.4	1	80.0-120	E	E	0.122	20

L1271051-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1271051-02 10/09/20 03:28 • (MS) R3580015-7 10/09/20 03:45

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	50000	U	47000	94.0	1	80.0-120	
Chloride	50000	402000	431000	57.8	1	80.0-120	E V
Fluoride	5000	156	4880	94.5	1	80.0-120	
Nitrate	5000	4610	9220	92.2	1	80.0-120	
Nitrite	5000	U	4850	96.9	1	80.0-120	
Sulfate	50000	26600	73200	93.0	1	80.0-120	

Method Blank (MB)

(MB) R3581649-1 10/15/20 01:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ammonia Nitrogen	U		117	250

L1271012-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1271012-02 10/15/20 01:27 • (DUP) R3581649-5 10/15/20 01:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ammonia Nitrogen	U	U	1	0.000		10

L1271944-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1271944-01 10/15/20 02:07 • (DUP) R3581649-8 10/15/20 02:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ammonia Nitrogen	U	U	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3581649-6 10/15/20 01:35

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Ammonia Nitrogen	7500	6850	91.3	90.0-110	

L1271012-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271012-01 10/15/20 01:22 • (MS) R3581649-3 10/15/20 01:23 • (MSD) R3581649-4 10/15/20 01:25

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Ammonia Nitrogen	5000	U	4390	3840	87.8	76.7	1	90.0-110	J6	J3 J6	13.4	10

L1271412-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1271412-07 10/15/20 01:50 • (MS) R3581649-7 10/15/20 01:57

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Ammonia Nitrogen	5000	U	3990	79.8	1	90.0-110	J6

Method Blank (MB)

(MB) R3581989-1 10/15/20 16:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Phosphorus,Total	U		35.0	100

L1270871-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1270871-02 10/15/20 16:28 • (DUP) R3581989-3 10/15/20 16:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	1240	1290	1	3.95		20

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3581989-4 10/15/20 16:32

Analyte	Original Result	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total		231	1	0.870		20

Laboratory Control Sample (LCS)

(LCS) R3581989-2 10/15/20 16:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	4260	4140	97.3	82.4-117	

L1270929-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270929-02 10/15/20 16:36 • (MS) R3581989-5 10/15/20 16:37 • (MSD) R3581989-6 10/15/20 16:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2500	11000	13200	13400	88.0	96.0	1	90.0-110	E V	E	1.50	20

L1271353-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271353-01 10/15/20 16:51 • (MS) R3581989-7 10/15/20 16:53 • (MSD) R3581989-8 10/15/20 16:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2500	2220	4620	4610	96.0	95.6	1	90.0-110			0.217	20

Method Blank (MB)

(MB) R3580762-9 10/13/20 00:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Total Phenol by 4AAP	31.1	J	8.30	40.0

L1268056-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1268056-04 10/12/20 23:08 • (DUP) R3580762-1 10/12/20 23:09

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	U	U	1	0.000		20

L1270796-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270796-01 10/12/20 23:22 • (DUP) R3580762-6 10/12/20 23:23

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Phenol by 4AAP	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3580762-3 10/12/20 23:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Phenol by 4AAP	500	545	109	90.0-110	

L1270419-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270419-02 10/12/20 23:18 • (MS) R3580762-4 10/12/20 23:19 • (MSD) R3580762-5 10/12/20 23:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Phenol by 4AAP	1000	78.4	84.6	85.5	0.620	0.712	1	90.0-110	J6	J6	1.08	20

L1270991-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1270991-01 10/12/20 23:28 • (MS) R3580762-8 10/12/20 23:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Total Phenol by 4AAP	1000	U	881	88.1	1	90.0-110	J6

L1270991-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270991-01 10/09/20 12:00 • (DUP) R3579690-2 10/09/20 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.20	8.21	1	0.122		1

Sample Narrative:

OS: 8.2 at 20.3C

DUP: 8.21 at 20.2C

L1271277-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1271277-01 10/09/20 12:00 • (DUP) R3579690-3 10/09/20 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.74	7.77	1	0.387		1

Sample Narrative:

OS: 7.74 at 19.9C

DUP: 7.77 at 19.8C

Laboratory Control Sample (LCS)

(LCS) R3579690-1 10/09/20 12:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.03 at 21.1C

Method Blank (MB)

(MB) R3579897-1 10/09/20 18:28

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfide	U		25.0	50.0

L1270747-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270747-01 10/09/20 18:29 • (DUP) R3579897-3 10/09/20 18:29

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

L1270991-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270991-01 10/09/20 18:37 • (DUP) R3579897-6 10/09/20 18:38

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3579897-2 10/09/20 18:28

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	500	571	114	85.0-115	

L1270981-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270981-02 10/09/20 18:37 • (MS) R3579897-4 10/09/20 18:37 • (MSD) R3579897-5 10/09/20 18:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	1000	U	926	924	92.6	92.4	1	80.0-120			0.216	20

Method Blank (MB)

(MB) R3580011-1 10/09/20 16:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOC (Total Organic Carbon)	160	J	102	1000

L1270682-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1270682-03 10/09/20 19:04 • (DUP) R3580011-5 10/09/20 19:16

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	722	695	1	0.000		20

L1270991-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1270991-01 10/10/20 00:29 • (DUP) R3580011-8 10/10/20 00:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	7420	7360	1	0.812		20

Laboratory Control Sample (LCS)

(LCS) R3580011-2 10/09/20 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	75000	67900	90.5	85.0-115	

L1270682-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270682-02 10/09/20 18:22 • (MS) R3580011-3 10/09/20 18:37 • (MSD) R3580011-4 10/09/20 18:51

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	50000	1200	45600	45500	88.8	88.5	1	80.0-120			0.242	20

L1270682-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270682-05 10/09/20 20:44 • (MS) R3580011-6 10/09/20 20:59 • (MSD) R3580011-7 10/09/20 21:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	50000	1780	47500	48200	91.4	92.9	1	80.0-120			1.48	20

Method Blank (MB)

(MB) R3580774-1 10/12/20 23:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Calcium	U		47.3	1000
Magnesium	U		115	1000
Silicon	U		77.1	200

Laboratory Control Sample (LCS)

(LCS) R3580774-2 10/12/20 23:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10000	10200	102	85.0-115	
Magnesium	10000	10400	104	85.0-115	
Silicon	1000	1000	100	85.0-115	

L1271270-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271270-01 10/12/20 23:55 • (MS) R3580774-4 10/13/20 00:00 • (MSD) R3580774-5 10/13/20 00:03

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	15000	26000	25900	110	109	1	70.0-130			0.532	20
Magnesium	10000	14000	23900	23900	99.0	98.4	1	70.0-130			0.264	20
Silicon	1000	U	1010	1010	101	101	1	70.0-130			0.615	20

L1271272-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271272-02 10/13/20 00:06 • (MS) R3580774-6 10/13/20 00:08 • (MSD) R3580774-7 10/13/20 00:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10000	68000	72900	71800	49.1	37.7	1	70.0-130	V	V	1.58	20
Magnesium	10000	11900	20800	20800	88.9	88.5	1	70.0-130			0.194	20
Silicon	1000	3100	3960	3870	86.5	77.6	1	70.0-130			2.28	20

Method Blank (MB)

(MB) R3580553-1 10/12/20 12:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Boron,Dissolved	U		39.6	200

Laboratory Control Sample (LCS)

(LCS) R3580553-2 10/12/20 12:03

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Boron,Dissolved	1000	1000	100	85.0-115	

L1271000-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271000-04 10/12/20 12:06 • (MS) R3580553-4 10/12/20 12:11 • (MSD) R3580553-5 10/12/20 12:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron,Dissolved	1000	U	1020	985	102	98.5	1	70.0-130			3.28	20

L1271000-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271000-05 10/12/20 12:16 • (MS) R3580553-6 10/12/20 12:19 • (MSD) R3580553-7 10/12/20 12:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Boron,Dissolved	1000	U	1030	1020	103	102	1	70.0-130			0.575	20

Method Blank (MB)

(MB) R3580350-1 10/11/20 21:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Calcium	U		47.3	1000
Magnesium	U		115	1000

Laboratory Control Sample (LCS)

(LCS) R3580350-2 10/11/20 21:25

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Calcium	10000	9820	98.2	85.0-115	
Magnesium	10000	9950	99.5	85.0-115	

L1269842-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1269842-03 10/11/20 21:28 • (MS) R3580350-4 10/11/20 21:33 • (MSD) R3580350-5 10/11/20 21:35

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	47400	58700	59700	113	123	1	70.0-130			1.75	20
Magnesium	10000	26700	35900	36400	91.8	97.3	1	70.0-130			1.52	20

L1271386-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271386-01 10/11/20 21:38 • (MS) R3580350-6 10/11/20 21:40 • (MSD) R3580350-7 10/11/20 21:43

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	37100	48500	48000	114	109	1	70.0-130			1.02	20
Magnesium	10000	12500	22600	22500	101	99.8	1	70.0-130			0.607	20

Method Blank (MB)

(MB) R3581012-1 10/13/20 11:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic,Dissolved	U		0.195	1.00
Calcium,Dissolved	U		112	1000
Iron,Dissolved	U		44.7	100
Magnesium,Dissolved	U		69.0	1000
Potassium,Dissolved	U		151	1000
Selenium,Dissolved	U		0.437	2.00
Sodium,Dissolved	U		513	2000

Laboratory Control Sample (LCS)

(LCS) R3581012-2 10/13/20 11:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic,Dissolved	50.0	50.6	101	85.0-115	
Calcium,Dissolved	5000	5140	103	85.0-115	
Iron,Dissolved	5000	5080	102	85.0-115	
Magnesium,Dissolved	5000	5160	103	85.0-115	
Potassium,Dissolved	5000	5030	101	85.0-115	
Selenium,Dissolved	50.0	55.1	110	85.0-115	
Sodium,Dissolved	5000	5230	105	85.0-115	

L1270488-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270488-01 10/13/20 11:19 • (MS) R3581012-4 10/13/20 11:26 • (MSD) R3581012-5 10/13/20 11:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	U	51.6	50.8	103	102	1	70.0-130			1.57	20
Calcium,Dissolved	5000	10400	16000	15600	113	104	1	70.0-130			2.97	20
Iron,Dissolved	5000	U	5070	4990	101	99.7	1	70.0-130			1.61	20
Magnesium,Dissolved	5000	5090	10700	10300	112	104	1	70.0-130			3.74	20
Potassium,Dissolved	5000	830	5890	5880	101	101	1	70.0-130			0.156	20
Selenium,Dissolved	50.0	U	56.6	55.1	113	110	1	70.0-130			2.69	20
Sodium,Dissolved	5000	4130	9440	9290	106	103	1	70.0-130			1.57	20

L1270552-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270552-01 10/13/20 11:32 • (MS) R3581012-6 10/13/20 11:36 • (MSD) R3581012-7 10/13/20 11:39

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	50.0	2.57	53.0	51.7	101	98.2	1	70.0-130			2.46	20
Calcium,Dissolved	5000	42700	46900	46000	84.4	67.0	1	70.0-130		V	1.88	20
Iron,Dissolved	5000	U	4930	4890	98.6	97.8	1	70.0-130			0.890	20
Magnesium,Dissolved	5000	8050	13000	12800	98.7	95.9	1	70.0-130			1.09	20
Potassium,Dissolved	5000	4610	9400	9280	95.8	93.5	1	70.0-130			1.24	20
Selenium,Dissolved	50.0	1.55	56.1	55.8	109	109	1	70.0-130			0.477	20
Sodium,Dissolved	5000	10900	16200	15800	105	96.4	1	70.0-130			2.81	20

Method Blank (MB)

(MB) R3581500-2 10/13/20 14:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPH (GC/FID) Low Fraction	37.7	J	31.4	100
(S) a,a,a-Trifluorotoluene(FID)	*96.1*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3581500-1 10/13/20 13:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5500	4560	82.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*78.0-120*	

L1270981-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1270981-02 10/13/20 16:24 • (MS) R3581500-3 10/13/20 23:34 • (MSD) R3581500-4 10/13/20 23:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5500	38.4	5530	5540	99.8	100	1	10.0-160			0.181	22
(S) a,a,a-Trifluorotoluene(FID)					*110*	*109*		*78.0-120*				

Method Blank (MB)

(MB) R3581878-3 10/14/20 17:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Benzene	U		0.0941	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
Ethylbenzene	U		0.137	1.00
2-Hexanone	U		0.787	10.0
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Styrene	U		0.118	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*

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

(LCS) R3581878-1 10/14/20 16:32 • (LCSD) R3581878-2 10/14/20 16:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	47.4	50.6	190	202	19.0-160	J4	J4	6.53	27
Benzene	5.00	5.06	4.78	101	95.6	70.0-123			5.69	20
Bromodichloromethane	5.00	5.42	5.12	108	102	75.0-120			5.69	20
Bromoform	5.00	5.78	5.74	116	115	68.0-132			0.694	20
Bromomethane	5.00	5.16	5.13	103	103	10.0-160			0.583	25
Carbon disulfide	5.00	4.83	4.50	96.6	90.0	61.0-128			7.07	20
Carbon tetrachloride	5.00	5.68	5.35	114	107	68.0-126			5.98	20
Chlorobenzene	5.00	5.32	4.98	106	99.6	80.0-121			6.60	20
Chlorodibromomethane	5.00	5.72	5.33	114	107	77.0-125			7.06	20
Chloroethane	5.00	4.52	4.26	90.4	85.2	47.0-150			5.92	20
Chloroform	5.00	5.60	5.39	112	108	73.0-120			3.82	20
Chloromethane	5.00	4.37	4.13	87.4	82.6	41.0-142			5.65	20
1,1-Dichloroethane	5.00	5.17	5.07	103	101	70.0-126			1.95	20
1,2-Dichloroethane	5.00	6.09	5.76	122	115	70.0-128			5.57	20
1,1-Dichloroethene	5.00	4.83	4.76	96.6	95.2	71.0-124			1.46	20
cis-1,2-Dichloroethene	5.00	5.13	4.90	103	98.0	73.0-120			4.59	20
trans-1,2-Dichloroethene	5.00	5.24	5.12	105	102	73.0-120			2.32	20
1,2-Dichloropropane	5.00	4.95	4.66	99.0	93.2	77.0-125			6.04	20
cis-1,3-Dichloropropene	5.00	5.33	5.09	107	102	80.0-123			4.61	20
trans-1,3-Dichloropropene	5.00	5.13	4.92	103	98.4	78.0-124			4.18	20
Ethylbenzene	5.00	5.25	5.09	105	102	79.0-123			3.09	20
2-Hexanone	25.0	23.6	23.3	94.4	93.2	67.0-149			1.28	20
2-Butanone (MEK)	25.0	33.3	33.6	133	134	44.0-160			0.897	20
Methylene Chloride	5.00	5.84	5.34	117	107	67.0-120			8.94	20
4-Methyl-2-pentanone (MIBK)	25.0	26.3	25.8	105	103	68.0-142			1.92	20
Styrene	5.00	4.93	4.74	98.6	94.8	73.0-130			3.93	20
1,1,2,2-Tetrachloroethane	5.00	4.92	4.96	98.4	99.2	65.0-130			0.810	20
Tetrachloroethene	5.00	5.74	5.50	115	110	72.0-132			4.27	20
Toluene	5.00	5.03	4.93	101	98.6	79.0-120			2.01	20
1,1,1-Trichloroethane	5.00	5.50	5.36	110	107	73.0-124			2.58	20
1,1,2-Trichloroethane	5.00	5.38	5.02	108	100	80.0-120			6.92	20
Trichloroethene	5.00	5.44	5.24	109	105	78.0-124			3.75	20
Vinyl chloride	5.00	4.32	4.21	86.4	84.2	67.0-131			2.58	20
Xylenes, Total	15.0	15.2	15.0	101	100	79.0-123			1.32	20
(S) Toluene-d8				*101*	*101*	*80.0-120*				
(S) 4-Bromofluorobenzene				*99.8*	*99.3*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*119*	*121*	*70.0-130*				

Method Blank (MB)

(MB) R3581226-1 10/13/20 18:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TPH (GC/FID) High Fraction	U		24.7	100
(S) o-Terphenyl	*97.0*			*31.0-160*

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

(LCS) R3581226-2 10/13/20 19:06 • (LCSD) R3581226-3 10/13/20 19:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TPH (GC/FID) High Fraction	1500	1470	1470	98.0	98.0	50.0-150			0.000	20
(S) o-Terphenyl				*105*	*99.5*	*31.0-160*				

Method Blank (MB)

(MB) R3581700-2 10/14/20 10:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acenaphthene	U		0.0886	1.00
Acenaphthylene	U		0.0921	1.00
Anthracene	U		0.0804	1.00
Benzo(a)anthracene	U		0.199	1.00
Benzo(b)fluoranthene	U		0.130	1.00
Benzo(k)fluoranthene	U		0.120	1.00
Benzo(g,h,i)perylene	U		0.121	1.00
Benzo(a)pyrene	U		0.0381	1.00
Bis(2-chlorethoxy)methane	U		0.116	10.0
Bis(2-chloroethyl)ether	U		0.137	10.0
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0
4-Bromophenyl-phenylether	U		0.0877	10.0
Carbazole	U		0.111	10.0
4-Chloroaniline	U		0.234	10.0
2-Chloronaphthalene	U		0.0648	1.00
4-Chlorophenyl-phenylether	U		0.0926	10.0
Chrysene	U		0.130	1.00
Dibenz(a,h)anthracene	U		0.0644	1.00
Dibenzofuran	U		0.0970	10.0
1,2-Dichlorobenzene	U		0.0713	10.0
1,3-Dichlorobenzene	U		0.132	10.0
1,4-Dichlorobenzene	U		0.0942	10.0
3,3-Dichlorobenzidine	U		0.212	10.0
2,4-Dinitrotoluene	U		0.0983	10.0
2,6-Dinitrotoluene	U		0.250	10.0
Fluoranthene	U		0.102	1.00
Fluorene	U		0.0844	1.00
Hexachlorobenzene	U		0.0755	1.00
Hexachloro-1,3-butadiene	U		0.0968	10.0
Hexachlorocyclopentadiene	U		0.0598	10.0
Hexachloroethane	U		0.127	10.0
Indeno(1,2,3-cd)pyrene	U		0.279	1.00
Isophorone	U		0.143	10.0
2-Methylnaphthalene	U		0.117	1.00
Naphthalene	U		0.159	1.00
2-Nitroaniline	U		0.102	10.0
3-Nitroaniline	U		0.0869	10.0
4-Nitroaniline	U		0.0910	10.0
Nitrobenzene	U		0.297	10.0
n-Nitrosodiphenylamine	U		2.37	10.0

Method Blank (MB)

(MB) R3581700-2 10/14/20 10:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
n-Nitrosodi-n-propylamine	U		0.261	10.0
Phenanthrene	U		0.112	1.00
Benzylbutyl phthalate	U		0.765	3.00
Bis(2-ethylhexyl)phthalate	U		0.895	3.00
Di-n-butyl phthalate	U		0.453	3.00
Diethyl phthalate	U		0.287	3.00
Dimethyl phthalate	U		0.260	3.00
Di-n-octyl phthalate	U		0.932	3.00
Pyrene	U		0.107	1.00
1,2,4-Trichlorobenzene	U		0.0698	10.0
4-Chloro-3-methylphenol	U		0.131	10.0
2-Chlorophenol	U		0.133	10.0
2-Methylphenol	U		0.0929	10.0
3&4-Methyl Phenol	U		0.168	10.0
2,4-Dichlorophenol	U		0.102	10.0
2,4-Dimethylphenol	U		0.0636	10.0
4,6-Dinitro-2-methylphenol	U		1.12	10.0
2,4-Dinitrophenol	U		5.93	10.0
2-Nitrophenol	U		0.117	10.0
4-Nitrophenol	U		0.143	10.0
Pentachlorophenol	U		0.313	10.0
Phenol	U		4.33	10.0
2,4,5-Trichlorophenol	U		0.109	10.0
2,4,6-Trichlorophenol	U		0.100	10.0
(S) Nitrobenzene-d5	*60.3*			*10.0-127*
(S) 2-Fluorobiphenyl	*68.0*			*10.0-130*
(S) p-Terphenyl-d14	*66.8*			*10.0-128*
(S) Phenol-d5	*26.5*			*10.0-120*
(S) 2-Fluorophenol	*42.4*			*10.0-120*
(S) 2,4,6-Tribromophenol	*49.1*			*10.0-155*

Laboratory Control Sample (LCS)

(LCS) R3581700-1 10/14/20 10:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	50.0	31.7	63.4	41.0-120	
Acenaphthylene	50.0	33.5	67.0	43.0-120	
Anthracene	50.0	35.0	70.0	45.0-120	

Laboratory Control Sample (LCS)

(LCS) R3581700-1 10/14/20 10:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzo(a)anthracene	50.0	34.7	69.4	47.0-120	
Benzo(b)fluoranthene	50.0	34.7	69.4	46.0-120	
Benzo(k)fluoranthene	50.0	36.4	72.8	46.0-120	
Benzo(g,h,i)perylene	50.0	36.7	73.4	48.0-121	
Benzo(a)pyrene	50.0	37.7	75.4	47.0-120	
Bis(2-chlorethoxy)methane	50.0	33.2	66.4	33.0-120	
Bis(2-chloroethyl)ether	50.0	42.5	85.0	23.0-120	
2,2-Oxybis(1-Chloropropane)	50.0	36.3	72.6	28.0-120	
4-Bromophenyl-phenylether	50.0	30.4	60.8	45.0-120	
Carbazole	50.0	37.4	74.8	51.0-122	
4-Chloroaniline	50.0	23.6	47.2	25.0-120	
2-Chloronaphthalene	50.0	32.9	65.8	37.0-120	
4-Chlorophenyl-phenylether	50.0	32.4	64.8	44.0-120	
Chrysene	50.0	34.8	69.6	48.0-120	
Dibenz(a,h)anthracene	50.0	36.8	73.6	47.0-120	
Dibenzofuran	50.0	33.0	66.0	44.0-120	
1,2-Dichlorobenzene	50.0	33.9	67.8	20.0-120	
1,3-Dichlorobenzene	50.0	33.1	66.2	17.0-120	
1,4-Dichlorobenzene	50.0	32.9	65.8	18.0-120	
3,3-Dichlorobenzidine	100	72.7	72.7	44.0-120	
2,4-Dinitrotoluene	50.0	36.3	72.6	49.0-124	
2,6-Dinitrotoluene	50.0	34.1	68.2	46.0-120	
Fluoranthene	50.0	35.5	71.0	51.0-120	
Fluorene	50.0	34.0	68.0	47.0-120	
Hexachlorobenzene	50.0	29.9	59.8	44.0-120	
Hexachloro-1,3-butadiene	50.0	26.0	52.0	19.0-120	
Hexachlorocyclopentadiene	50.0	17.4	34.8	15.0-120	
Hexachloroethane	50.0	34.8	69.6	15.0-120	
Indeno(1,2,3-cd)pyrene	50.0	36.4	72.8	49.0-122	
Isophorone	50.0	31.9	63.8	36.0-120	
2-Methylnaphthalene	50.0	27.0	54.0	33.0-120	
Naphthalene	50.0	29.5	59.0	27.0-120	
2-Nitroaniline	50.0	35.7	71.4	43.0-120	
3-Nitroaniline	50.0	32.1	64.2	38.0-120	
4-Nitroaniline	50.0	40.1	80.2	18.0-160	
Nitrobenzene	50.0	33.2	66.4	27.0-120	
n-Nitrosodiphenylamine	50.0	33.8	67.6	47.0-120	
n-Nitrosodi-n-propylamine	50.0	41.6	83.2	31.0-120	
Phenanthrene	50.0	33.6	67.2	46.0-120	
Benzylbutyl phthalate	50.0	38.6	77.2	43.0-121	

Laboratory Control Sample (LCS)

(LCS) R3581700-1 10/14/20 10:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bis(2-ethylhexyl)phthalate	50.0	39.9	79.8	43.0-122	
Di-n-butyl phthalate	50.0	39.7	79.4	49.0-121	
Diethyl phthalate	50.0	35.6	71.2	48.0-122	
Dimethyl phthalate	50.0	35.2	70.4	48.0-120	
Di-n-octyl phthalate	50.0	39.5	79.0	42.0-125	
Pyrene	50.0	34.5	69.0	47.0-120	
1,2,4-Trichlorobenzene	50.0	27.1	54.2	24.0-120	
4-Chloro-3-methylphenol	50.0	27.1	54.2	40.0-120	
2-Chlorophenol	50.0	32.4	64.8	25.0-120	
2-Methylphenol	50.0	31.2	62.4	28.0-120	
3&4-Methyl Phenol	50.0	32.1	64.2	31.0-120	
2,4-Dichlorophenol	50.0	27.6	55.2	36.0-120	
2,4-Dimethylphenol	50.0	30.9	61.8	33.0-120	
4,6-Dinitro-2-methylphenol	50.0	34.3	68.6	38.0-138	
2,4-Dinitrophenol	50.0	35.7	71.4	10.0-120	
2-Nitrophenol	50.0	31.0	62.0	31.0-120	
4-Nitrophenol	50.0	12.7	25.4	10.0-120	
Pentachlorophenol	50.0	27.9	55.8	23.0-120	
Phenol	50.0	15.2	30.4	10.0-120	
2,4,5-Trichlorophenol	50.0	31.9	63.8	44.0-120	
2,4,6-Trichlorophenol	50.0	31.3	62.6	42.0-120	
(S) Nitrobenzene-d5			*54.8*	*10.0-127*	
(S) 2-Fluorobiphenyl			*63.1*	*10.0-130*	
(S) p-Terphenyl-d14			*63.5*	*10.0-128*	
(S) Phenol-d5			*29.0*	*10.0-120*	
(S) 2-Fluorophenol			*44.4*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*54.0*	*10.0-155*	

L1271867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271867-01 10/16/20 00:37 • (MS) R3582433-1 10/16/20 00:58 • (MSD) R3582433-2 10/16/20 01:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	50.0	U	26.4	26.2	52.8	52.4	10	28.0-120			0.760	25
Acenaphthylene	50.0	U	29.5	26.8	59.0	53.6	10	31.0-121			9.59	25
Anthracene	50.0	U	24.2	21.4	48.4	42.8	10	36.0-120			12.3	23
Benzo(a)anthracene	50.0	U	29.8	24.5	59.6	49.0	10	39.0-120			19.5	23
Benzo(b)fluoranthene	50.0	U	21.5	21.9	43.0	43.8	10	37.0-120			1.84	23
Benzo(k)fluoranthene	50.0	U	24.2	21.1	48.4	42.2	10	37.0-120			13.7	26

L1271867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271867-01 10/16/20 00:37 • (MS) R3582433-1 10/16/20 00:58 • (MSD) R3582433-2 10/16/20 01:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzo(g,h,i)perylene	50.0	U	19.4	20.8	38.8	41.6	10	37.0-123			6.97	25
Benzo(a)pyrene	50.0	U	25.2	22.2	50.4	44.4	10	37.0-120			12.7	24
Bis(2-chlorethoxy)methane	50.0	U	51.5	43.1	103	86.2	10	17.0-120			17.8	31
Bis(2-chloroethyl)ether	50.0	U	U	34.2	0.000	68.4	10	14.0-120	J6	J3	200	33
2,2-Oxybis(1-Chloropropane)	50.0	U	27.6	24.3	55.2	48.6	10	18.0-120			12.7	34
4-Bromophenyl-phenylether	50.0	U	28.8	22.4	57.6	44.8	10	37.0-120		J3	25.0	24
2-Chloronaphthalene	50.0	U	26.7	24.3	53.4	48.6	10	29.0-120			9.41	28
4-Chlorophenyl-phenylether	50.0	U	25.5	18.9	51.0	37.8	10	36.0-120		J3	29.7	23
Chrysene	50.0	U	25.1	20.5	50.2	41.0	10	38.0-120			20.2	23
Dibenz(a,h)anthracene	50.0	U	17.9	19.5	35.8	39.0	10	36.0-121	J6		8.56	24
3,3-Dichlorobenzidine	100	U	U	U	0.000	0.000	10	10.0-134	J6	J6	0.000	30
2,4-Dinitrotoluene	50.0	U	23.0	23.5	46.0	47.0	10	39.0-125			2.15	25
2,6-Dinitrotoluene	50.0	U	36.0	31.4	72.0	62.8	10	36.0-120			13.6	27
Fluoranthene	50.0	U	26.0	21.6	52.0	43.2	10	41.0-121			18.5	22
Fluorene	50.0	U	25.7	20.0	51.4	40.0	10	37.0-120		J3	24.9	24
Hexachlorobenzene	50.0	U	26.8	21.3	53.6	42.6	10	35.0-122			22.9	24
Hexachloro-1,3-butadiene	50.0	U	47.2	39.1	94.4	78.2	10	12.0-120			18.8	34
Hexachlorocyclopentadiene	50.0	U	11.6	11.1	23.2	22.2	10	10.0-120			4.41	33
Hexachloroethane	50.0	U	27.2	24.0	54.4	48.0	10	10.0-120			12.5	40
Indeno(1,2,3-cd)pyrene	50.0	U	19.2	21.8	38.4	43.6	10	38.0-125			12.7	24
Isophorone	50.0	U	55.5	46.0	111	92.0	10	21.0-120			18.7	27
Naphthalene	50.0	U	25.3	22.1	50.6	44.2	10	10.0-120			13.5	31
Nitrobenzene	50.0	U	58.1	98.5	116	197	10	12.0-120		J3 J5	51.6	30
n-Nitrosodiphenylamine	50.0	U	26.1	U	52.2	0.000	10	37.0-120		J3 J6	200	24
n-Nitrosodi-n-propylamine	50.0	U	378	333	756	666	10	16.0-120	J5	J5	12.7	30
Phenanthrene	50.0	U	25.0	22.9	50.0	45.8	10	33.0-120			8.77	22
Benzylbutyl phthalate	50.0	U	35.7	30.4	71.4	60.8	10	34.0-126			16.0	24
Bis(2-ethylhexyl)phthalate	50.0	U	30.0	24.1	60.0	48.2	10	33.0-126			21.8	25
Di-n-butyl phthalate	50.0	U	34.7	27.6	69.4	55.2	10	35.0-128			22.8	23
Diethyl phthalate	50.0	77.2	109	83.3	63.6	12.2	10	39.0-125		J3 J6	26.7	24
Dimethyl phthalate	50.0	26.4	56.6	51.3	113	103	10	37.0-120			9.82	24
Di-n-octyl phthalate	50.0	U	30.8	23.6	61.6	47.2	10	25.0-135		J3	26.5	26
Pyrene	50.0	U	30.2	24.3	60.4	48.6	10	39.0-120			21.7	22
1,2,4-Trichlorobenzene	50.0	U	56.3	48.1	113	96.2	10	15.0-120			15.7	31
4-Chloro-3-methylphenol	50.0	U	51.9	40.8	104	81.6	10	26.0-120			23.9	27
2-Chlorophenol	50.0	U	26.3	23.5	52.6	47.0	10	18.0-120			11.2	34
2,4-Dichlorophenol	50.0	U	7.00	5.64	14.0	11.3	10	19.0-120	J6	J6	21.5	27
2,4-Dimethylphenol	50.0	9.13	15.4	11.1	30.8	22.2	10	15.0-120		J3	32.5	28
4,6-Dinitro-2-methylphenol	50.0	U	75.0	66.7	150	133	10	10.0-144	J5		11.7	39
2,4-Dinitrophenol	50.0	U	60.4	U	121	0.000	10	10.0-120	J5	J3 J6	200	40

L1271867-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1271867-01 10/16/20 00:37 • (MS) R3582433-1 10/16/20 00:58 • (MSD) R3582433-2 10/16/20 01:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2-Nitrophenol	50.0	U	59.0	47.7	118	95.4	10	20.0-120			21.2	30
4-Nitrophenol	50.0	U	20.6	22.7	41.2	45.4	10	10.0-120			9.70	40
Pentachlorophenol	50.0	U	49.0	33.7	98.0	67.4	10	10.0-128			37.0	37
Phenol	50.0	320	336	303	32.0	0.000	10	10.0-120		V	10.3	40
2,4,6-Trichlorophenol	50.0	U	31.9	28.6	63.8	57.2	10	26.0-120			10.9	31
4-Chloroaniline	50.0	U	U	U	0.000	0.000	10	10.0-120	J6	J6	0.000	31
Dibenzofuran	50.0	U	26.9	26.0	53.8	52.0	10	32.0-120			3.40	26
Carbazole	50.0	U	27.0	23.1	54.0	46.2	10	38.0-127			15.6	21
2-Methylnaphthalene	50.0	U	43.9	35.1	87.8	70.2	10	17.0-120			22.3	28
2-Methylphenol	50.0	54.5	78.1	69.1	47.2	29.2	10	10.0-120			12.2	30
3&4-Methyl Phenol	50.0	34.4	61.1	64.3	53.4	59.8	10	10.0-120			5.10	36
2-Nitroaniline	50.0	U	32.0	25.9	64.0	51.8	10	33.0-120			21.1	27
3-Nitroaniline	50.0	U	U	7.68	0.000	15.4	10	20.0-120	J6	J3 J6	200	27
4-Nitroaniline	50.0	U	U	U	0.000	0.000	10	10.0-160	J6	J6	0.000	26
2,4,5-Trichlorophenol	50.0	U	31.9	29.0	63.8	58.0	10	33.0-120			9.52	31
1,2-Dichlorobenzene	50.0	U	27.2	23.9	54.4	47.8	10	18.0-120			12.9	40
1,3-Dichlorobenzene	50.0	U	25.6	20.0	51.2	40.0	10	15.0-120			24.6	40
1,4-Dichlorobenzene	50.0	U	26.1	22.9	52.2	45.8	10	17.0-120			13.1	40
(S) Nitrobenzene-d5					*233*	*247*		*10.0-127*	J1	J1		
(S) 2-Fluorobiphenyl					*59.2*	*51.9*		*10.0-130*				
(S) p-Terphenyl-d14					*64.7*	*47.5*		*10.0-128*				
(S) Phenol-d5					*44.5*	*39.8*		*10.0-120*				
(S) 2-Fluorophenol					*64.0*	*39.9*		*10.0-120*				
(S) 2,4,6-Tribromophenol					*73.5*	*55.5*		*10.0-155*				

Sample Narrative:

OS: Dilution due to matrix.

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

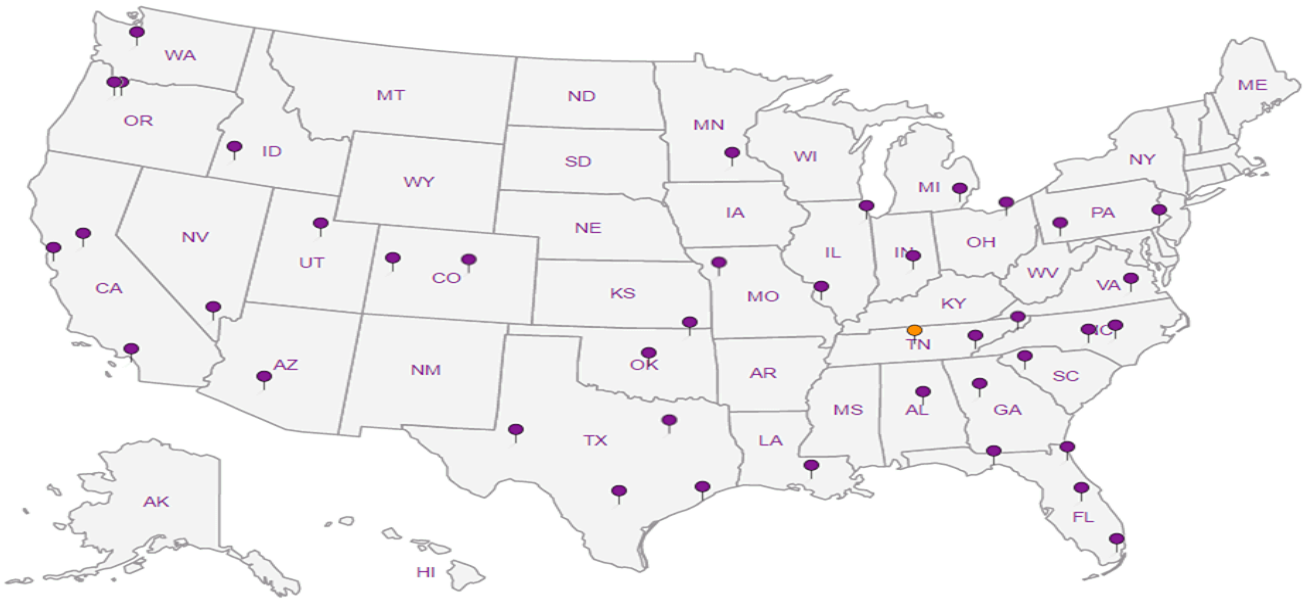
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Report to: Sheri Finn

Email To: sheri.finn@ghd.com;BSmith@WesternWateran

Project Description: Logan Wash Mine

City/State Collected: Colorado

Please Circle: PT (MT) CT ET

Phone: 716-297-6150

Client Project # 14266DM

Lab Project # GHDGSH-14266DM

Collected by (print): Bruce Smith

Collected by (signature): Bruce Smith

Immediately Packed on Ice N ___ Y X

Site/Facility ID #

P.O. # 4502201620

Quote #

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

Date Results Needed: 2 Weeks

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	**WetChem 500mlHDPE-NoPres	8270TCL 100ml Amb NoPres	DROLVI 40mlAmb-HCl-BT	Dissolved Metals- FF 250mlHDPE-HNO3	Fluoride(Lab Filter) 125mlHDPE-NoPres	GRO 40mlAmb-HCl	NH3, PT 250mlHDPE-H2SO4	OGHEX 1L-Cl-WT-HCl	PHT 250mlAmb-H2SO4	SULFIDE 125mlAmb-S-NaOH+ZnAc	Remarks	Sample # (lab only)
LW-Pond	Grab	GW	N/A	10-7-20	1040	18	X	X	X	X	X	X	X	X	X	X		-01
LW-LM	Grab	GW	N/A	10-7-20	1120	18	X	X	X	X	X	X	X	X	X	X		-02
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
		GW				18	X	X	X	X	X	X	X	X	X	X		
TRIP BLANK		GW				1												-03
		GW				18	X	X	X	X	X	X	X	X	X	X		

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

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

SDG # L1270981

D111

Acctnum: GHDGSH
Template: T156873
Prelogin: P800607
PM: 134 - Mark W. Beasley
PB: DN 9/30
Shipped Via: FedEX Ground

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

Remarks: **WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
Drs. metals Field Filtered

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP (X)Y __N
COC Signed/Accurate: (Y) __N
Bottles arrive intact: (Y) __N
Correct bottles used: (Y) __N
Sufficient volume sent: (Y) __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: (Y) __N
RAD Screen <0.5 mR/hr: (Y) __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No (HCL) / MeoH TBR	If preservation required by Login: Date/Time
	10-7-20	1600		1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.7-3.0-4.4 °C Bottles Received: 36	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10-8 Time: 0900	Hold: Condition: NCF / (OK)

GHD-Houston, TX-Glenn Springs Holdings

2055 Niagara Falls Blvd. #3

Billing Information:
Accounts Payable
PO Box 2148
Houston, TX 77252

Pres Chk

Pace Analytical®
National Center for Testing & Innovation

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

Report to: Sheri Finn

Email To: sheri.finn@ghd.com;BSmith@WesternWateran

Project Description: Logan Wash Mine

City/State Collected: Colorado

Please Circle: PT (MT) CT ET

Phone: 716-297-6150

Client Project #: 14266DM

Lab Project #: GHDGSH-14266DM

Collected by (print): Bruce Smith

Site/Facility ID #:

P.O. #: 4502201620

Collected by (signature): Bruce D. Smith

Quote #:

Immediately Packed on Ice N ___ Y ✓

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

Date Results Needed: 2 weeks

SDG # L1270981

Table #

Acctnum: GHDGSH
Template: T156873
Prelogin: P800607
PM: 134 - Mark W. Beasley
PB: DN 9/30
Shipped Via: FedEX Ground

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TOC 250mlHDPE-HCl	TSS 1L-HDPE NoPres	Total Silica, HARD 250mlHDPE-HNO3	V8260TCL 40mlAmb-HCl						Remarks	Sample # (lab only)
LW-Pond	Grab	GW	N/A	10-7-20	1040	18	X	X	X	X							-01
LW-LM	Grab	GW	N/A	10-7-20	1120	18	X	X	X	X							-02
		GW				18	X	X	X	X							
		GW				18	X	X	X	X							
		GW				18	X	X	X	X							
		GW				18	X	X	X	X							
TRIP BLANK		GW				1				X							-03
		GW				18	X	X	X	X							

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

Remarks: **WetChem=ALK,ALKBI,ALKCA,Br,Cl,NO2,NO3,SO4,pH,SPCON,TDS
Dissolved Metals = As,B,Ca,Fe,K,Mg,Na,Se
Dis. Metals Field Filtered

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
[signature]	10-7-20	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C 0.2-3=0.4 NC ck Bottles Received: 36	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 10-8 Time: 0900	Hold: Condition: NCF / (OK)