PES Environmental, Inc.
Engineering & Environmental Services

February 15, 2019

1413.001.02

Washington Department of Ecology
Northwest Regional Office Toxics Control Program
3190 – 160th Ave. SE
Bellevue, WA 98008-5452
Attn: Ms. Tamara Cardona

BY EMAIL ONLY

PROGRESS REPORT NO. 15 – JANUARY 2019
FORMER AMERICAN LINEN SUPPLY CO.
AGREED ORDER NO. DE 14302

Dear Ms. Cardona:

On behalf of BMR-Dexter LLC ("BMRD"), PES Environmental, Inc. ("PES") is submitting this monthly progress report in accordance with the requirements of Agreed Order No. DE 14302 (the "AO") between the State of Washington Department of Ecology ("Ecology") and BMRD. Specifically, the progress report was prepared to fulfill the requirements of Sections VII.F and VII.G of the AO. This progress report provides information pertaining to work conducted during January 2019.

This progress report discusses: (1) activities that took place during the reporting period, (2) deviations from approved work plans or other required tasks not already documented in project plans or reports, (3) deviations or anticipated problems in meeting the schedule or objectives set forth in the AO or approved work plans, (4) validated laboratory data received and data entered into Ecology's Environmental Information Management ("EIM") database during the reporting period, (5) work planned and anticipated deliverables for the next reporting period (i.e., February 2019), and (6) summaries of contacts with representatives of the local community, public interest groups, press, and federal, state or tribal governments.

ACTIVITIES CONDUCTED DURING THE REPORTING PERIOD

During the reporting period, BMRD conducted the following work:

- Continued the third round of ISCO injections that were started in December 2018. The third round of ISCO injections was completed on January 20, 2019. All planned ISCO injections are now complete. Table 1 (attached) provides the Round 3 injection statistics for each treatment zone;

- Met with Ecology on January 4, 2019, to discuss: 1) the status of the third round of ISCO injections; 2) preliminary responses to Ecology's comments on the Draft Contingent Action Addendum ("CAA"); and 3) response to comments on the Contaminated Media Management Plan ("CMMP"), including modifications to the air monitoring plan.

- Began installing perimeter injection wells on 8th Avenue on January 7, 2019. Well installation and development activities continued through the remainder of the reporting period;

- Continued decommissioning ERH wells pursuant to the approved variance request. The initial stage of decommissioning (filling well casings with bentonite) was completed on January 29, 2019;

- Prepared a summary of the second-round ISCO injection event (conducted in December 2018) that includes the post-injection groundwater monitoring information and the additional water quality monitoring collected per PES's December 12, 2018 email to Ecology. This summary is attached to this progress report.

- Submitted Progress Report No. 14 to Ecology on January 15, 2018.

- Met with Ecology on January 18, 2019 to discuss the status of the on-Property site characterization, addressing Ecology's comments on the CMMP, provide the status of CAA final review/comments and provide an update on the status of the remedial investigation and feasibility study ("RI/FS") work plan.

- Began the first post-ISCO quarterly groundwater monitoring event. This included sampling two upgradient wells on Dexter Avenue earlier than previously scheduled (MW112 on December 21, 2018 and MW-138 and R-MW5 on January 3, 2019) due to the City of Seattle's pending moratorium for conducting any work on Dexter Avenue. The remainder of the post-ISCO monitoring event began on January 21, 2019 and continued through the remainder of the reporting period.

- Submitted a technical memorandum to Ecology on January 22, 2019 from Morrison Hershfield entitled "700 Dexter – Below Grade Waterproofing and Vapor Control" dated October 11, 2018, and a letter prepared by Colloid Environmental Technologies Company dated January 17, 2019 that indicates the CoreFlex 60 product specified in the Morrison Hershfield memorandum provides both waterproofing and chemical vapor intrusion protection. These two documents combined fulfilled the requirement of the Vapor Intrusion Addendum specified in the Final Interim Action Work Plan.

- Received comments on the revised CAA from Ecology on January 23, 2019.

- Submitted a request to Ecology on January 24, 2019, to extend the January 25, 2019 due date for the revised RI/FS Work Plan addressing Ecology's comments to February 28, 2019.

- Submitted a technical memorandum describing the proposed installation of three additional deep monitoring wells on the Property to Ecology on January 25, 2019. These wells were installed and developed between January 24 and 31, 2019.

- Submitted the Final Draft CAA to Ecology for review on January 28, 2019.

DEVIATIONS FROM REQUIRED TASKS NOT ALREADY REPORTED

No unreported deviations from required tasks occurred during the reporting period.

DEVIATIONS FROM THE SCHEDULE

No deviations were encountered during the reporting period, and there are no anticipated problems in meeting the schedule or objectives set forth in the AO, with the exception of the requested extension to the due date of the revised RI/FS Work Plan (see below for details).

VALIDATED DATA RECEIVED, AND DATA ENTERED INTO EIM

Data associated with the second inter-injection performance groundwater monitoring event were validated and uploaded into the EIM during the January 2019 reporting period. Groundwater data for the post-ISCO quarterly monitoring event are still being received from the laboratory. Once all of the groundwater data have been received, they will be validated in February 2019 and uploaded into the EIM once the validation has been completed.

WORK PLANNED AND ANTICIPATED DELIVERABLES DURING UPCOMING REPORTING PERIOD

Work planned during the February 2019 reporting period includes implementing the interim action activities pursuant to the approved Final Interim Action Work Plan, including:

- Completing the first quarterly groundwater monitoring event after the completion of the third round of ISCO injections.
- Completing installing perimeter injection wells on 8th Avenue. Final locations for the perimeter injection wells on Roy Street continue to be under discussion with the City of Seattle to accommodate the significant utility conflicts present in this area, but it is expected that this will be resolved and, once the wells on 8th Avenue are completed, drilling of the Roy Street wells will begin;
- Responding to Ecology's comments on the Draft CMMP;
- Finalizing the CAA pursuant to Ecology's comments;
- Pending Ecology approval of the CAA, initiating injection of EVO; and
- Continuing to revise the RI/FS Work plan to address Ecology's comments.

There are no other deliverables anticipated to be submitted to Ecology during the February 2019 reporting period.

CONTACTS WITH PUBLIC AND GOVERNMENTAL PERSONNEL

In addition to routine communications with Ecology regarding the ongoing work, BMRD did not issue any press releases or fact sheets related to the project and participated in no major meetings with interested public or local governments.

Please call if you have any questions or comments regarding information included in this progress report.

Sincerely,

PES ENVIRONMENTAL, INC.

Daniel A. Balbiani, P.E.
Principal Engineer

Attachment: Table 1 – Round 3 ISCO Injection Statistics
Technical Memorandum - Summary of Round 2 ISCO Injections

cc: John Moshy, BMRD

Table 1
Round #3 ISCO Injection Statistics
Former American Linen Supply Co
Seattle, Washington

Treatment Zone	Number of Wells	Total Reagent Injected	Average Reagent Per Well	Wells Receiving Minimum Volume (380 gal)	Wells Exceeding 500 gallons
A	57	26,805	470	35	33
B	56	27,730	495	38	34
C	28	11,290	403	16	15
D	16	9,930	621	14	13
Overall	157	75,755	483	103	95

PES Environmental, Inc.
Engineering & Environmental Services

MEMORANDUM

TO: John Moshy, BMR-Dexter LLC

FROM: Brian O'Neal/Dan Balbiani

DATE: February 15, 2019

SUBJECT: Summary of Round #2 ISCO Injection
American Linen Supply Co – Dexter Ave. Site
Seattle, Washington

PROJECT NO.: 1413.001.05(305)

PES Environmental, Inc. ("PES") has prepared this memorandum to summarize the second round of *in situ* chemical oxidation (ISCO) injections at the American Linen Supply Co - Dexter Ave Site ("Site") located at 700 Dexter Avenue North, Seattle, Washington. The second round of ISCO injections was conducted consistent with the Final Interim Action Work Plan ("IAWP")[1]. PES provided the Washington Department of Ecology (Ecology) with a preliminary summary of the second-round injections during the December 13, 2018 meeting, and information presented in that meeting is included in this memorandum. In addition to summarizing the injection activities, this memorandum presents the results of the second inter-injection round groundwater sampling event.

SECOND ROUND ISCO INJECTION SUMMARY

The second round of ISCO injections was conducted, consistent with the IAWP, between November 5 and December 1, 2018. These injections were conducted using the 155 injection wells existing at the time; 133 injection wells installed earlier in 2018 and 22 additional injection wells installed in late August and September 2018. Figure 1 shows the location of these injection wells, and Table 1 provides an overall summary of the quantity of reagents injected into each of the four treatment zones. Table 2 provides a summary on a well-by-well basis, including the quantity of reagents injected and maximum injection pressure encountered, and identifies where surfacing of reagents occurred. A total of just over 78,000 gallons of reagents were injected during round two (compared to just over 75,000 gallons in round one), including approximately 38,300 gallons of the peroxide solution. For the second round, peroxide was injected at a concentration of 8 percent (compared to 6 percent in round one). The combination of higher peroxide concentration and slightly higher injection volume increased the total amount of peroxide delivered during round two by 38 percent compared to round one. As expected and consistent with the round one results, round two injections into Treatment Zones A, B, and D delivered greater volumes at lower pressures compared with Treatment Zone C.

[1] PES Environmental, Inc. 2018. *Final Interim Action Work Plan, American Linen Supply Co-Dexter Avenue Site, 700 Dexter Avenue North, Seattle, Washington.* August.

As shown on Table 2, a total of 41 on-Property injection wells experienced surfacing of reagents at some stage during the injection process (compared to 34 during round one); no surfacing occurred off the Property. In 6 of these wells, a minimum of 300 gallons of reagent was injected before surfacing occurred. Approximately half of the wells that surfaced were Treatment Zone A injection wells (19 wells), with the remaining surfacing occurring in Treatment Zone B (13 wells), Treatment Zone C (7 wells), and Treatment Zone D (2 wells).

Where surfacing occurred during round two, it generally occurred through the soil; the ERH wells that had surfaced during round one were sealed prior to round two and no surfacing occurred through ERH wells. As noted in the round one summary memorandum, there were several wells that accepted little or no reagents at pressures up to 100 psi. These wells were redeveloped prior to round two injections in an effort to improve their performance. During the second round, only two of these wells would not accept any reagents, and in the remaining cases, the quantity of reagents injected increased, in some cases by several hundred gallons of peroxide per well (e.g., IW-10C, IW-23C)

INTER-INJECTION ROUND GROUNDWATER SAMPLING RESULTS

The second inter-injection round groundwater monitoring event was conducted consistent with the IAWP between December 12 and 17, 2018. Table 18 from the IAWP identifies 19 existing wells to be sampled after each injection round. Note that monitoring well MW-140 was one of these 19 wells to be sampled, but this well had to be decommissioned due to conflicts with undergrounding of utilities and could not be sampled. The locations of these wells are shown on Figure 54 from the IAWP, which is attached for reference.

The analytical results for the primary chlorinated volatile organic compounds (CVOCs) for the 18 wells that were sampled are summarized on Table 1 along with previous results for these wells from the baseline monitoring event conducted in April 2018 and the first inter-injection round monitoring event. The analytical data from the December 2018 monitoring was validated consistent with the Quality Assurance Project Plan (Appendix M of the IAWP), and the data was deemed acceptable for use in the interim action. The laboratory reports and data validation memoranda for these samples are attached. Specific observations are discussed below.

As described in the IAWP and noted during the summary of the first round injection, CVOC concentrations in groundwater may temporarily increase after initial injections of modified Fenton's reagent due to desorption of VOCs from soil. It is also possible to see a temporary increase in concentration of degradation daughter products (cDCE and vinyl chloride); this is not a direct result of the chemical oxidation reactions, as these do not generate the partially dechlorinated daughter products. Rather, the oxidation reactions with organic carbon in soil can result in dissolved organic carbon in groundwater that can be metabolized by aerobic bacteria and lead to reducing conditions and, as a result, reductive dechlorination reactions may be occurring following the ISCO injection.

Both of these processes upset the equilibrium between CVOC concentrations in soil and groundwater in the treatment zone which can lead to transitory increases in dissolved concentrations, especially early in the treatment program. These changes are generally localized to the areas around the injection wells and are not expected to cause increased migration of CVOCs off the Property. As described below, CVOC concentrations in the downgradient monitoring wells sampled to date (e.g., MW-134, MW-141) have not increased.

Former Loading Dock Area. Intermediate A well MW-149, located just downgradient from the loading dock, showed an increase in tetrachloroethene (PCE) concentration to approximately 20 percent above the baseline concentration after declining after the first-round injection. Concentrations of trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), and vinyl chloride concentrations also increased compared to the post-first-round monitoring results, but were still 32 to 71 percent below the baseline concentrations. In the adjacent Intermediate B monitoring well MW-150, concentrations of PCE and TCE decreased by 99 and 94 percent, respectively compared to the post-first-round results and below baseline concentrations. Conversely, cDCE and vinyl chloride concentrations continued to increase by approximately a factor 1.5 to 2. Intermediate B monitoring well MW-135, located in the center of the north-central source area, showed an increase in PCE concentrations by approximately a factor of 2 compared to the post-first-round results (97,200 µg/L compared to 45,900 µg/L) and is now above baseline concentrations. Concentrations of TCE also increased by approximately 32 percent while concentrations of cDCE and vinyl chloride showed slight increases.

Former Western Boiler Room Area. CVOC concentrations in Intermediate A monitoring well MW-151 showed significant increases compared to generally low concentrations observed in both the baseline and post-first-round monitoring events. For adjacent Intermediate B monitoring well MW-152, the concentration of PCE increased by roughly an order of magnitude after dropping by 97 percent after the first-round injection and is now approximately 35 percent of the baseline concentration. The concentrations of TCE, cDCE, and vinyl chloride both increased by approximately a factor of 2 or less. In Intermediate B monitoring well MW-130 (inadvertently not monitored after the first-round injection), concentrations of PCE and TCE decreased by 29 and 56 percent, respectively compared to the baseline concentrations, while cDCE and vinyl chloride concentrations showed a slight decline. There are four monitoring wells located generally downgradient of the former western boiler room: MW-131, MW-136, MW-137, and MW-139. As with the post-first-round results, CVOC concentrations in these wells were generally low and either decreased or remained generally the same.

MW-132. This Intermediate B monitoring well located in the middle of the Property and showed more than a 99 percent reduction in concentrations of PCE, TCE, and cDCE after the first round. After the second round, PCE and TCE concentrations both dropped to nondetectable levels, while the cDCE concentrations increased slightly from 12.1 µg/L to 39.8 µg/L. The concentration of vinyl chloride increased approximately 25 percent compared to the post-first-round result to 199 µg/L.

Downgradient Wells. Consistent with the post-first-round results, CVOC concentrations in downgradient monitoring wells along 8th Avenue (MW-134, MW-141, W-MW-01, W-MW-02, and MW104) generally decreased in concentration or remained approximately the same compared to the baseline event.

As noted above, increasing and/or variable CVOC concentration are to be expected following the initial ISCO injections as contaminants are desorbed from soil into the dissolved phase, and this appears to be occurring at several location (MW-149, MW-152). In other cases (MW-135 and MW-152), temporary increases in the concentrations of daughter products may be observed as increases in the organic carbon concentrations in groundwater may cause conditions conducive to reductive dechlorination. Combined with temporary increases in parent compound (PCE and TCE)

concentrations due to desorption from soil, this may lead to a short-term increase in concentrations of cDCE and vinyl chloride. These dissolved phase CVOCs will be directly oxidized during the next round of injections, and as noted above, are transitory and not anticipated to lead to increased migration off the Property.

Attachments:

Table 1 – Round 2 ISCO Injection Statistics
Table 2 – Round 2 Injection Well Reagent Totals
Table 3 – Primary CVOCs Detected in Groundwater after Round 2 ISCO Injection
Figure 1 – Interim Action Injection Wells
IAWP Figure 54 – Interim Action Performance Monitoring Wells
Laboratory Reports and Data Validation Memorandum for December 2108 Groundwater Sampling

Table 1
Round #2 ISCO Injection Statistics
Former American Linen Supply Co
Seattle, Washington

Treatment Zone	Number of Wells	Total Reagent Injected	Average Reagent Per Well	Wells Receiving Minimum Volume (380 gal)	Wells Exceeding 500 gallons
A	57	28,565	501	39	36
B	56	29,250	522	38	38
C	28	11,075	396	16	16
D	16	9,325	583	13	13
Overall	155	78,215	505	106	103

Table 2
Round #2 Injection Well Reagent Totals
November 5-December 1, 2018
Former American Linen Suppy
Seattle, Washington

Location ID	Catalyst	Peroxide	Total	Maximum Pressure	Surfaced
IW-1A	350	350	700	18	
IW-2A	350	350	700	20	
IW-3A	350	350	700	14	
IW-4A	350	350	700	20	
IW-5A	350	350	700	18	
IW-6A	350	350	700	10	
IW-7A	350	350	700	24	
IW-8A	350	350	700	10	
IW-9A	350	350	700	26	
IW-10A	350	350	700	12	
IW-11A	350	350	700	18	
IW-12A	350	350	700	16	
IW-13A	350	350	700	26	
IW-14A	350	350	700	18	
IW-15A	350	350	700	28	
IW-16A	350	350	700	12	
IW-17A	350	350	700	14	
IW-18A	350	350	700	14	
IW-19A	350	350	700	14	
IW-20A	350	350	700	22	
IW-21A	350	350	700	18	
IW-22A	350	350	700	18	
IW-23A	350	350	700	20	
IW-24A	350	350	700	18	
IW-25A	350	350	700	16	
IW-26A	350	350	700	18	
IW-27A	350	350	700	18	
IW-28A	350	350	700	14	
IW-29A	350	350	700	16	
IW-30A	350	350	700	18	
IW-31A	250	175	425	20	x
IW-32A	50	35	85	10	x
IW-33A	350	350	700	14	
IW-34A	70	30	100	24	x
IW-35A	75	35	110	24	x
IW-36A	10	0	10	6	x
IW-37A	55	0	55	10	x
IW-38A	30	0	30	0	x
IW-39A	100	20	120	6	x
IW-40A	135	100	235	20	x
IW-41A	350	350	700	20	
IW-42A	350	325	675	40	x
IW-43A	150	150	300	20	x
IW-44A	100	50	150	7	x
IW-45A	200	200	400	68	
IW-46A	150	135	285	50	x
IW-47A	250	250	500	72	
IW-48A	50	25	75	18	x
IW-50A	50	30	80	32	x
IW-51A	50	50	100	16	x
IW-52A	100	100	200	12	x
IW-53A	350	350	700	28	
IW-54A	150	100	250	20	
IW-55A	70	35	105	10	x

Table 2
Round #2 Injection Well Reagent Totals
November 5-December 1, 2018
Former American Linen Suppy
Seattle, Washington

Location ID	Catalyst	Peroxide	Total	Maximum Pressure	Surfaced
IW-56A	200	200	400	100	
IW-57A	50	25	75	20	x
IW-58A	350	350	700	48	
IW-1B	350	350	700	22	
IW-2B	350	350	700	32	
IW-3B	350	350	700	14	
IW-4B	350	350	700	20	
IW-5B	350	350	700	16	
IW-6B	350	350	700	16	
IW-7B	350	350	700	20	
IW-8B	350	350	700	22	
IW-9B	350	350	700	18	
IW-10B	350	350	700	60	
IW-11B	350	350	700	20	
IW-12B	350	350	700	18	
IW-13B	350	350	700	18	
IW-14B	350	350	700	18	
IW-15B	350	350	700	20	
IW-16B	350	350	700	16	
IW-17B	300	300	600	14	
IW-18B	350	350	700	20	
IW-19B	350	350	700	22	
IW-20B	350	350	700	12	
IW-21B	350	350	700	22	
IW-22B	350	350	700	20	
IW-23B	100	35	135	10	x
IW-24B	110	100	210	10	x
IW-25B	350	350	700	18	
IW-26B	350	350	700	18	
IW-27B	350	350	700	20	
IW-28B	100	50	150	38	x
IW-29B	350	350	700	14	
IW-30B	350	350	700	16	
IW-31B	350	350	700	22	
IW-32B	350	350	700	60	
IW-33B	350	350	700	12	
IW-34B	100	50	150	60	x
IW-35B	75	10	85	28	x
IW-36B	100	50	150	76	
IW-37B	100	50	150	48	x
IW-38B	100	50	150	36	x
IW-39B	350	350	700	18	
IW-40B	100	30	130	90	x
IW-41B	100	100	200	62	
IW-42B	75	20	95	42	x
IW-43B	100	140	240	64	x
IW-44B	100	100	200	40	
IW-45B	90	100	190	48	x
IW-46B	300	270	570	40	x
IW-47B	200	200	400	15	x
IW-48B	350	350	700	18	
IW-49B	350	350	700	22	
IW-50B	350	350	700	20	
IW-51B	350	350	700	22	

Table 2
Round #2 Injection Well Reagent Totals
November 5-December 1, 2018
Former American Linen Suppy
Seattle, Washington

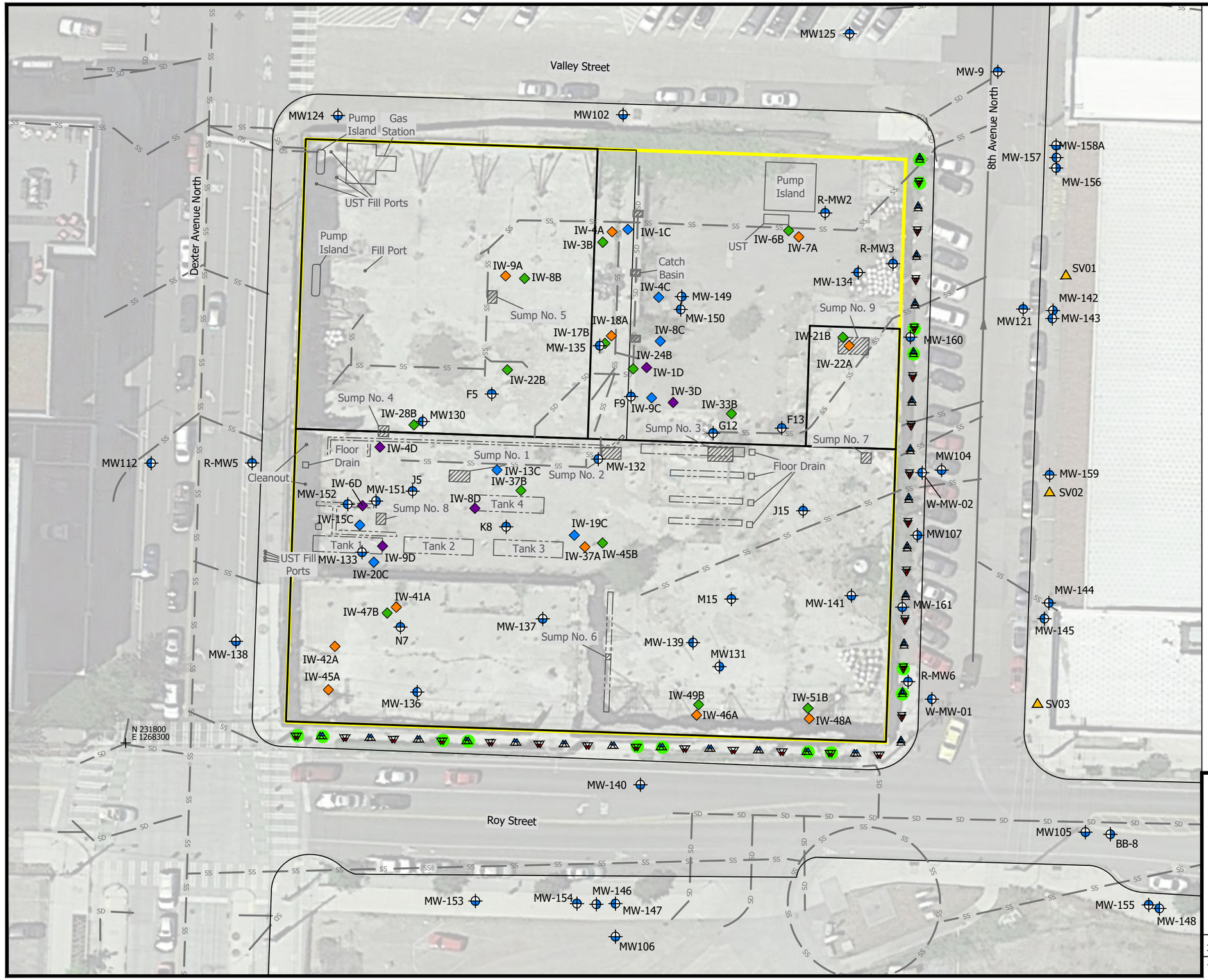
Location ID	Catalyst	Peroxide	Total	Maximum Pressure	Surfaced
IW-52B	350	350	700	30	
IW-53B	350	350	700	24	
IW-54B	5	0	5	90	
IW-55B	50	15	65	100	
IW-56B	100	75	175	80	
IW-1C	350	350	700	14	
IW-2C	350	350	700	16	
IW-3C	350	350	700	26	
IW-4C	350	350	700	34	
IW-5C	350	350	700	24	
IW-6C	350	350	700	20	
IW-7C	350	350	700	28	
IW-8C	350	350	700	16	
IW-9C	350	350	700	38	
IW-10C	250	250	500	90	
IW-11C	300	300	600	66	
IW-12C	350	250	600	68	x
IW-13C	100	50	150	18	x
IW-14C	50	50	100	52	x
IW-15C	200	200	400	80	
IW-16C	100	20	120	84	x
IW-17C	100	100	200	54	x
IW-18C	250	250	500	70	
IW-19C	30	0	30	76	x
IW-20C	200	250	450	48	
IW-21C	100	100	200	90	
IW-22C	10	0	10	100	
IW-23C	250	250	500	84	
IW-24C	90	70	160	100	
IW-25C	40	0	40	24	x
IW-26C	50	25	75	100	
IW-27C	50	15	65	100	
IW-28C	50	25	75	100	
IW-1D	175	70	245	40	x
IW-2D	300	300	600	96	
IW-3D	350	350	700	38	
IW-4D	350	350	700	58	
IW-5D	100	160	260	36	x
IW-6D	350	350	700	32	
IW-7D	350	350	700	32	
IW-8D	350	350	700	24	
IW-9D	350	350	700	40	
IW-10D	350	350	700	38	
IW-11D	350	350	700	80	
IW-12D	225	180	405	100	
IW-13D	350	350	700	42	
IW-14D	350	350	700	52	
IW-15D	350	350	700	68	
IW-16D	65	50	115	100	
	39935	**38280**	**78215**		

Table 1
Round #2 ISCO Injection Statistics
Former American Linen Supply Co
Seattle, Washington

Sample Location	PCE (Screening Level: 2.4)			TCE (Screening Level: 1)			cDCE (Screening Level: 16)			Vinyl Chloride (Screening Level: 0.2)		
	Baseline	Post-First Event	Post-Second Event	Baseline	Post-First Event	Post-Second Event	Baseline	Post-First Event	Post-Second Event	Baseline	Post-First Event	Post-Second Event
On-Site Monitoring Wells												
Intermediate A Water-Bearing Zone												
MW131	**7.05**	**0.895**	0.199 U	**3.25**	**0.347 J**	**0.172 J**	**10.4**	**1.65 J+**	**1.20**	**18.0**	**1.83**	**1.39**
MW-149	**19,200**	**6,100**	**23,300**	**8,050**	**2,720**	**5,470**	**10,500**	**3,320**	**5,150**	**863**	**100**	**253**
MW-151	**1.13**	**2.28**	**1,460**	**0.310 J**	**1.38**	**155**	**59.1 J-**	**5.80**	**1,690**	**11.4**	**7.70**	**530**
Intermediate B Water-Bearing Zone												
MW130	**13,500**	—	**9,650**	**7,400**	—	**3,220**	**29,500**	—	**26,400**	**1,650**	—	**1,420**
MW-132	**2,830**	**3.53**	0.995 U	**840**	**0.750**	0.765 U	**3,300**	**12.1**	**39.8**	**10.2**	**158**	**199**
MW-134	**1.49**	0.199 U	0.199 U	0.153 U	0.153 U	0.153 U	**0.287 J**	0.0933 U	**0.259 J**	**68.6**	**20.9**	**21.9**
MW-135	**75,800**	**45,900**	**97,200**	**7,890**	**8,330**	**11,000**	**27,700**	**40,400**	**42,100**	**989**	**1,170**	**1,380**
MW-136	**2.59**	0.199 U	0.199 U	**0.365 J**	**0.177 J**	**0.237 J**	**4.73**	**1.44**	**0.962**	**8.57**	**0.236 J**	0.118 U
MW-139	0.199 U	**1.29**	0.199 U	0.153 U	**0.282 J**	0.153 U	**0.175 J**	0.454 U	**0.216**	0.118 U	0.118 U	0.118 U
MW-150	**2,500**	**15,200**	**75.6**	**3,200**	**8,800**	**533**	**9,710**	**17,700**	**32,800**	**766**	**1,430**	**2,040**
MW-152	**67,300**	**1,960**	**23,600**	**6,550**	**3,150**	**6,870**	**35,300**	**73,000**	**77,100**	**3,660**	**4,510**	**7,830**
Deep Water-Bearing Zone												
MW-133	**0.646**	**1.92 J+**	**1.71**	**0.516**	**1.63 J+**	**2.75**	**10.7**	**7.94**	**7.88**	**3.51**	**3.43**	**5.95**
MW-137	0.199 U	**0.896 J+**	0.199 U	0.153 U	0.463 U	0.153 U	**1.79**	**0.893 J+**	**0.437 J**	**4.26**	0.118 U	**0.357 J**
MW-141	**71.3 J+**	0.199 U	0.199 U	**25.6 J+**	0.153 U	0.153 U	**91.6 J+**	**3.10**	**1.46**	**7.01 J+**	0.118 U	**0.520**
Off-Site Monitoring Wells												
Intermediate B Water-Bearing Zone												
W-MW-01	**5.33**	**0.22 J**	0.199 U	**1.68**	**0.696**	**1.77**	**1.31**	**0.629**	**0.538**	**8.79**	**3.9**	**3.86**
W-MW-02	0.199 U	0.199 U	0.199 U	0.153 U	0.153 U	0.153 U	**4.72**	**2.01**	**1.80**	**4.95**	**1.41**	**2.3**
Deep Water-Bearing Zone							mw-149					
MW104	**0.541**	**1.87 J+**	**0.381 J**	**2.00**	**2.94 J+**	**2.36**	**176**	**71.2**	**48.3**	**32.3**	**43.5**	**43.8**
MW-138	0.199 U	0.199 U	0.199 U	0.153 U	0.153 U	0.153 U	0.0933 U	0.0933 U	0.0933 U	0.118 U	**0.169 J**	0.118 U

Notes:

1. PCE = perchloroethylene (tetrachloroethene)
2. TCE = trichloroethene
3. cDCE = cis-1,2-dichloroethene
4. Baseline sampling events occurred from April to June, 2018.
5. Post-First Event sampling occurred October 25-29, 2018.
6. Post-Second Event sampling occurred December 12-17, 2018.
7. Third injection event TBD.
8. All values reported in micrograms per liter (µg/L)
9. Detected results shown in bold, detections above the screening level highlighted in gray
10. U = not detected at or above the laboratory method detection limit (MDL); detections above the MDL but below the laboratory reported detection limit (RDL) are qualified with a "J"
11. J = the analyte was poitively identified, the associated numerical value is the approximate concentration of the analyte in the sample
12. J+ = the analyte was poitively identified, the associated numerical value is the approximate concentration of the analyte in the sample: likely to have a high bias
13. J- = the analyte was poitively identified, the associated numerical value is the approximate concentration of the analyte in the sample: likely to have a low bias



Explanation

- Approximate Property Boundary
- Sanitary Sewer Line
- Storm Drain Line
- Combined Main
- MW101 — Shallow Zone Monitoring Well
- MW107 — Intermediate A Zone Monitoring Well
- W-MW-02 — Intermediate B Zone Monitoring Well
- MW105 — Deep Zone Monitoring Well
- N 231800 E 1268300 — Coordinate Reference Point (NAD83, Washington State Plane North, US Feet)
- Treatment Zone A Injection Well
- Treatment Zone B Injection Well
- Treatment Zone C Injection Well
- Treatment Zone D Injection Well
- Type 1 Perimeter Injection Well
- Type 2 Perimeter Injection Well
- Perimeter Injection wells to be sampled prior to injecting EVO
- SV01 — Soil Gas Monitoring Point

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SCALE IN FEET

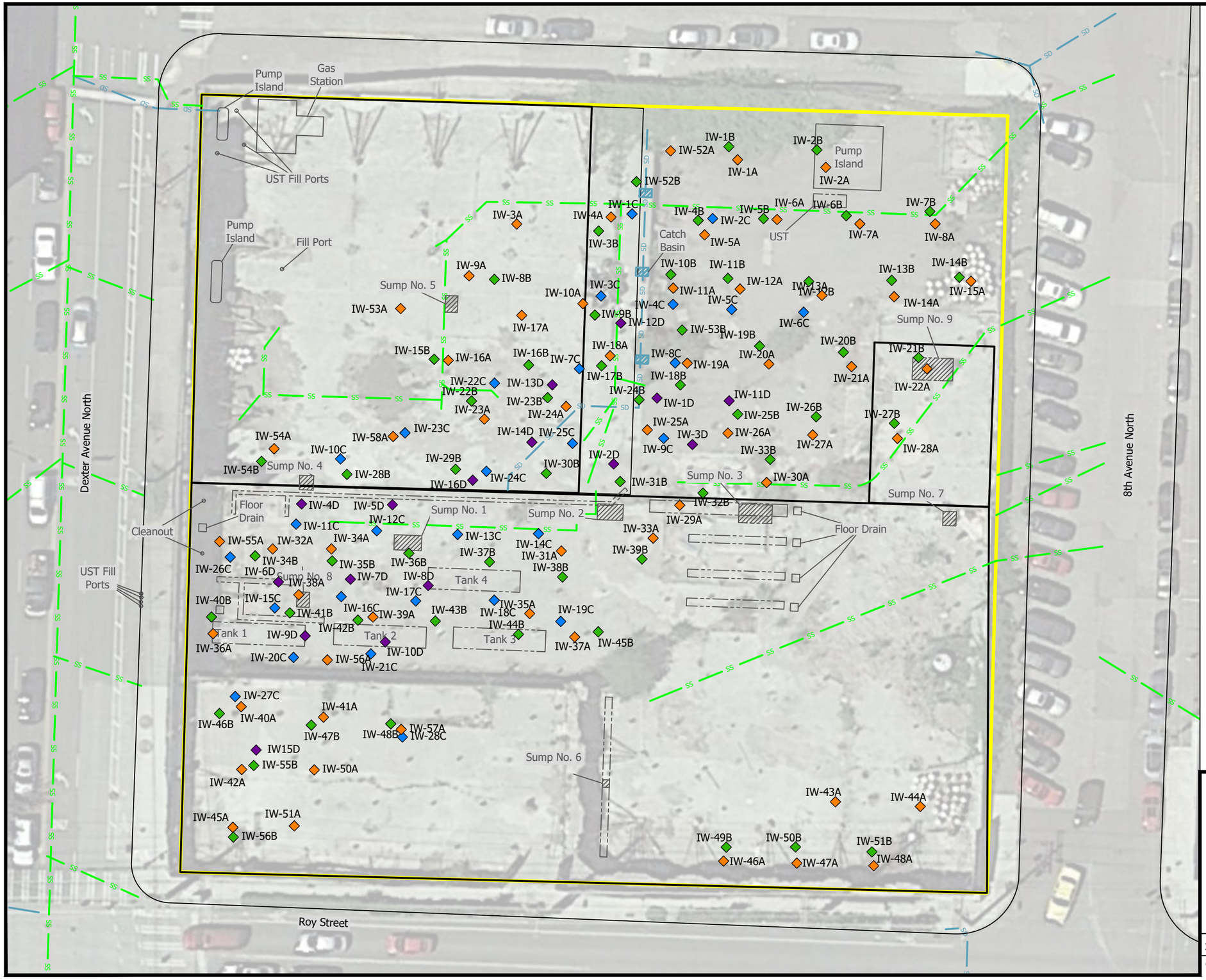
Aerial Photo: June 27, 2016 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

Interim Action Performance Monitoring Network
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

FIGURE
54

1413.001.02.404	141300102404_IAWP_54	WRH	8/18
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Sanitary Sewer Line
- Storm Drain Line
- Combined Main
- N 231800 / E 1268300 — Coordinate Reference Point (NAD83, Washington State Plane North, US Feet)
- IW-1A — Treatment Zone A Injection Well
- IW-13B — Treatment Zone B Injection Well
- IW-6C — Treatment Zone C Injection Well
- IW-11D — Treatment Zone D Injection Well

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SCALE IN FEET

Aerial Photo: June 27, 2016 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

Interim Action Injection Wells
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

FIGURE
1

1413.001.02.404	141300102404_Inj_FM_1	DRAFT	12/18
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

MEMORANDUM

TO: Project File **DATE:** January 21, 2019

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: American Linen Data Validation

PROJECT #: 1413.001.05.601

TASK: EIM Data Validation Level EPA2A for December 2018 - Groundwater Samples

LAB: Pace Sample Delivery Groups L1053029, L1053394, L1053462, and L1053929

Twenty-two (22) groundwater samples including one field duplicate, one equipment blank, and one trip blank were collected as Round 2 Interim Action Compliance Monitoring sampling event at the Former American Linen Supply Site, in Seattle, Washington, on December 12-14, and 17, 2018. The samples were shipped and delivered to PACE Lab Sciences (PACE) of Mount Juliet, TN for laboratory analysis. Selected samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C;
- Total petroleum hydrocarbons as gasoline (TPH-Gx) by NWTPH-Gx per analytical method stipulated by Washington State Department of Ecology;
- VOCs by EPA SOP RSK 175;
- Alkalinity by Method 2320 B-2011;
- Anions (Chloride, Nitrate, and Sulfate) by USEPA Method 9056A;
- Total Organic Carbon (TOC) by USEPA Method 9060A; and
- Metals (iron and manganese) by USEPA Method 6020A.

Associated sample data are reported in four Pace SDGs (SDGs L1053029, L1053394, L1053462, and L1053929). The quality assurance review of the sample data are summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with PACE control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2017) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested with the following discussions:

- SDG L1053394: Review of the COC and *PACE Lab Sciences Non-Conformance Form* shows that no analytical requests were made. PES clarified the sample analyses requests on December 14, 2018.

- SDG L1053462: Review of the chain of custody (COC) form and *PACE Lab Sciences Non-Conformance Form* shows a full suite of analytical requests for the Trip Blank. PES clarified that the Trip Blank should only be analyzed for VOCs and gasoline on December 15, 2018.

Sample Collection and Preservation

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and delivered by courier to the analytical laboratory. The laboratory reported that the coolers were received at a cooler temperature less than the recommended temperature preservation less than 6°C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

Holding Times

USEPA Method 8260C:
All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria were met.

NWTPH-Gx Method:
All samples were analyzed within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:
All samples were analyzed within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

USEPA Method 6020A:
All samples were analyzed within the USEPA recommended holding time for arsenic of 180 days for preserved waters from the date of sample collection. All holding time criteria were met.

General Chemistry (Alkalinity, Chloride, Sulfate, Nitrate, and TOC):
All samples were analyzed within the USEPA recommended holding time for alkalinity (14 days), chloride (28 days), sulfate (28 days), and nitrate (48 hours), and TOC (28 days) for preserved waters from the date of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however PACE's notes indicate the following:

- SDG L1053462 - *USEPA Method 8260C:* Continuing calibration verification (CCV) issues were noted by PACE for 1,2,3-trichlorobenzene associated with analytical batch WG1211777 (analyzed on December 16, 2018). Associated sample (MW-151-121418 and MW-152-121418) results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **Associated sample 1,2,3-trichlorobenzene results are estimated and qualified (UJ).**

- SDG L1053462 - *USEPA Method 8260C:* Continuing calibration verification (CCV) issues were noted by PACE for dichlorodifluoromethane, 2,2-dichloropropane, and trichlorofluoromethane associated with analytical batch WG1212450 (analyzed on December 18, 2018). Trip blank results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **Trip blank results with laboratory qualified (J0) results are estimated and qualified (J/UJ) but the qualifiers do not impact associated sample results.**

Method Blank Results

USEPA Method 8260C:
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were not detected in the method blanks at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1053462 - Analytical batch WG1211777: Low levels of naphthalene and 1,2,4-trimethylbenzene are detected in the method blank. No action was necessary for naphthalene as it was not detected in the associated samples. **Compound 1,2,4-trimethylbenzene was detected below the RDL (at a dilution) in sample MW-152-121418 and is considered non-detected (U) due to blank contamination.**

NWTPH-Gx Method:
Laboratory method blanks were included with the analytical batches per method requirement. The target analyte (gasoline) was not detected in the method blanks at or above the RDLs with the following exception:

- SDG L1053929 - Analytical batch WG1213027: Gasoline is detected at a low level (below the RDL) in the method blank. No action was taken since gasoline is not detected in sample MW-138-121718 and is detected significantly greater than the RDL in sample MW-130-121718.

Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (dissolved gases) are not detected in the method blanks at or above the RDLs.

USEPA Method 6020A:

Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were not detected in the method blanks at or above the RDLs with the following exceptions:

- SDG L1053029 - Analytical batch WG1211333: Iron was detected at a low level (below the RDL) in the method blank. **Sample MW-132-121318 iron result is estimated with high bias (J+) due to blank contamination.**

General Chemistry (Alkalinity, Chloride, Sulfate, Nitrate, and TOC):
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were not detected in the method blanks at or above the RDLs with the following exceptions:

- SDG L1053029 - Analytical batch WG1212038: Alkalinity was detected at a low level in the method blank. No action was necessary as alkalinity detections in the associated samples are far greater than the detection in the method blank.

- SDGs L1053029 and L1053462 - Analytical batch WG1211292: Chloride was detected at a low level in the method blank. No action was necessary as chloride detections in the associated samples are far greater than the detection in the method blank.

- SDGs L1053462 and L1053929 - Analytical batch WG1213167: Alkalinity was detected at a low level in the method blank. No action was necessary as alkalinity detections in the associated samples are far greater than the detection in the method blank.

- SDG L1053929 - Analytical batch WG1218013: Total organic carbon (TOC) was detected at a low level in the method blank. No action was necessary as the TOC detection in the associated sample is are far greater than the detection in the method blank.

Trip Blank Results

USEPA Method 8260C:
One trip blank was collected and analyzed (refer to SDG L1053462) for VOCs. The target analytes were not detected in the trip blank at or above the RDLs.

Field, Rinsate, or Equipment Blank Results

USEPA Method 8260Cand NWTPH-Gx Method:
An equipment blank sample (EQ-121218) was collected on December 12, 2018 from the bladder pump (refer to SDG L1053029). Samples from monitoring wells MW-133, MW-141, MW-134 were collected using the bladder pump on December 12, 2018 (refer to SDG L1053394). The target analytes were not detected in the equipment blank at or above the RDLs with the following exceptions:

- SDG L1053394 - Analytical batch WG1212222: A low level of acetone (below the RDL) was detected in the equipment blank. **Sample MW-133-121218 and MW-141-121218**

acetone detections are less than the RDL and are qualified (U) as not detected due to equipment blank contamination.

Field Duplicate Analyses

Field duplicate pairs were submitted and analyzed. Field duplicate sample pair is as follows:

- PACE SDG L1053029: Samples MW-149-121318 and MW-904-121318

VOC target analyte results are comparable and within a relative percent difference (RPD) of 30% for the field duplicate pair.

Laboratory Duplicate Analyses

USEPA Method 8260C:
A laboratory duplicate sample was not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicates (MS/MSDs) results for precision data.

NWTPH-Gx Method:
A laboratory duplicate sample was not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicates (MS/MSDs) results for precision data.

Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:
Laboratory duplicate sample analyses were performed on client and non-client samples within the analytical batches. The primary/duplicate RPDs for dissolved gas analyses are within the laboratory control limit of 20%.

USEPA Method 6020A:
A laboratory duplicate sample was not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicates (MS/MSDs) results for precision data.

General Chemistry (Alkalinity, Chloride, Sulfate, Nitrate, and TOC):
A laboratory duplicate sample was performed on client samples and on non-client samples. The primary/duplicate RPDs for general chemistry parameters are within the laboratory control limits.

Surrogate Recoveries

USEPA Method 8260C:
The surrogate recovery results for the samples, laboratory control samples, matrix spike samples, trip blank, and the method blanks are within the laboratory surrogate control limits for all the analyses with the following exceptions:

- SDG L1053462 - Analytical batch WG1211777 on December 16, 2018: Surrogate *4-bromofluorobenzene* was recovered at 137% and above laboratory control limit criteria in sample MW-152-121418. **All positively detected sample MW-152-121418 results (December 16, 2018) are estimated with potential high bias (J+) due to elevated surrogate recovery with the exception of 1,2,4-trimethylbenzene which is qualified as not detected due to blank contamination.** Refer to the section on Method Blank Results for further discussion.

NWTPH-Gx Method:
The surrogate recovery results for the samples, laboratory control samples, matrix spike samples, trip blank, and the method blanks are within the laboratory surrogate control limits for all the analyses.

Laboratory Control Samples

USEPA Method 8260C:

Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) or laboratory control sample (LCS) were analyzed by USEPA Method 8260C method. The LCS % Rs or LCS/LCSD %Rs and RPDs for the all target compounds are within the laboratory control criteria for waters with the following discussions and exceptions:

- SDG L1053462- Analytical batch WG1211777: LCS/LCSD recoveries and RPDs are within criteria except for bromobenzene and 4-chlorotoluene which are above control limit criteria and laboratory qualified (J4). No action is required since these compounds were not detected in the associated samples. LCS/LCSD sec-butylbenzene recoveries were within but are recovered wide and laboratory qualified (J3). No action was taken since sec-butylbenzene recoveries are within laboratory control limit criteria.

NWTPH-Gx Method:

The LCS/LCSD %Rs and RPDs for the target compound (gasoline) are within the laboratory control criteria for waters.

Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:
The LCS/LCSD %Rs and RPDs for the target compound (dissolved gases) are within the laboratory control criteria for waters.

USEPA Method 6020A:
The LCS/LCSD %Rs and RPDs for the target compound (iron and manganese) are within the laboratory control criteria for waters.

General Chemistry (Alkalinity, Chloride, Sulfate, Nitrate, and TOC):
The LCS or LCS/LCSD %Rs and RPDs for general chemistry parameters are within the laboratory control criteria for waters.

Matrix Spike/Matrix Spike Duplicates

USEPA Method 8260C:

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS/LCSD and/or field duplicate data for accuracy and precision data.

NWTPH-Gx Method:
MS/MSD analyses were performed on non-client samples within the analytical batches. In cases where MS/MSD spike analyses are not performed refer to LCS/LCSD for accuracy and precision data. The MS/MSD %Rs and RPDs for all target compounds are within the laboratory control criteria for waters with the following exceptions:

- SDGs L1053029 and L1053394 - Analytical batch WG1211498: MS/MSD was performed on sample MW-136-121318 (SDG L1053029). MS/MSD gasoline spike recoveries were within laboratory QC acceptance criteria but recovered wide and laboratory qualified (J3). No action was taken, and no qualification is applied since MS/MSD gasoline recoveries are within laboratory control limit criteria.

Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:
Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS/LCSD or laboratory duplicate data for accuracy and precision data.

USEPA Method 6020A:
MS/MSD analyses were performed on client and non-client samples within the analytical batches. The MS/MSD % Rs and RPD were acceptable and within laboratory control limit criteria for water samples with the following exceptions:

- SDG L1053029 - Analytical batch WG1211321: MS/MSD was performed on sample MW-135-121318. Sample MW-135-121318 manganese concentration was greater than four times the spike concentration and qualified (V) by the laboratory. Per National Functional Guidelines, no qualification is necessary.

- SDG L1053462 - Analytical batch WG1212648: MS/MSD was performed on sample MW-152-121418. Sample MW-152-121418 manganese concentration was greater than four times the spike concentration and qualified (V) by the laboratory. Per National Functional Guidelines, no qualification is necessary.

General Chemistry (Alkalinity, Chloride, Sulfate, Nitrate, and TOC):
MS/MSD analyses were performed on client and/or non-client samples within the analytical batches. In cases where MS/MSD spike analyses are not performed refer to LCS/LCSD or laboratory duplicate data for accuracy and precision data. The MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria for water samples with the following exceptions:

- SDG L1053029 - Analytical batch WG1216768: MS/MSD was performed on sample MW-149-121318. Sample MW-149-121318 TOC MS/MSD results are qualified (E) by the laboratory to indicate that the spiked analyte concentration exceeded the upper calibration range. No action was taken other than to note that duplicate and LCS results are within criteria.

- SDG L1053462- Analytical batch WG1211292: One MS was performed on a non-client sample within the analytical batch. Nitrate recovery is above QC criteria and laboratory qualified (J5) to indicate that the spike was recovered high due to matrix effect. No action is taken since the spike was performed on a non-client sample. Refer to LCS and laboratory duplicate data for accuracy and precision results.

Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory report with the following discussion:

- SDGs L1053029, L1053462, and L1053929: Selected sample narratives for alkalinity results indicate that several sample containers had some headspace and exposure to air may have impacted the reported results. No action was taken other than to note this.

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

Quantitation Limits

Results of the analyses were reported based on laboratory RDLs for all compounds. RDLs for selected compounds are elevated due to method-required dilutions. Though no action is taken other than to note that PACE sample narrative notes indicate that VOC target compounds were too high to run at lower dilution for seven (including a field duplicate) samples:

SDG Number	Laboratory Identification	Client Sample Identification
L1053029	L1053029-01	MW-150-121218
L1053029	L1053029-07	MW-149-121318
L1053029	L1053029-08	MW-132-121318
L1053029	L1053029-09	MW-904-121318
L1053029	L1053029-10	MW-135-121318
L1053462	L1053462-04	MW-152-121418
L1053929	L1053929-02	MW-130-121718

- SDG L1053394: Sample W-MW-02-121218 was analyzed for gasoline at the lowest possible dilution factor (five-fold) due to sample foaming observed during laboratory analysis. Gasoline was not detected in the sample. **Sample W-MW-02-121218 gasoline result is estimated and qualified (UJ) due to the unexplained sample foaming.** Future sampling rounds at this location may include collection of sample for gasoline analysis in both preserved and unpreserved vials.

Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2017); and
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2017).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity	260000		2710	20000	1	12/18/2018 23:25	WG1212038

Sample Narrative:

L1053029-08 WG1212038: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	40400		51.9	1000	1	12/14/2018 19:53	WG1210790
Nitrate	U		22.7	100	1	12/14/2018 19:53	WG1210790
Sulfate	7210		77.4	5000	1	12/14/2018 19:53	WG1210790

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	3440		102	1000	1	12/28/2018 21:30	WG1216768

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Iron	544	J+ B	15.0	100	1	12/18/2018 11:14	WG1211333
Manganese	278		0.250	5.00	1	12/18/2018 11:14	WG1211333

JC 1/20/19

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 19:34	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*12/15/2018 19:34*	WG1211498

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	89.7		0.287	0.678	1	12/18/2018 09:41	WG1212060
Ethane	0.925	J	0.296	1.29	1	12/18/2018 09:41	WG1212060
Ethene	41.0		0.422	1.27	1	12/18/2018 09:41	WG1212060

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		5.25	125	5	12/18/2018 03:50	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 14:55	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 14:55	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 14:55	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 14:55	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 14:55	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 14:55	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 14:55	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 14:55	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 14:55	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 14:55	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 14:55	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 14:55	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch	
	ug/l		ug/l	ug/l		date / time		
Chlorobenzene	U		0.140	0.500	1	12/16/2018 14:55	WG1211567	
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 14:55	WG1211567	
Chloroethane	U		0.141	2.50	1	12/16/2018 14:55	WG1211567	
Chloroform	U		0.0860	0.500	1	12/16/2018 14:55	WG1211567	
Chloromethane	U		0.153	1.25	1	12/16/2018 14:55	WG1211567	
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 14:55	WG1211567	
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 14:55	WG1211567	
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 14:55	WG1211567	
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 14:55	WG1211567	
Dibromomethane	U		0.117	0.500	1	12/16/2018 14:55	WG1211567	
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 14:55	WG1211567	
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 14:55	WG1211567	
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 14:55	WG1211567	
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 14:55	WG1211567	
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 14:55	WG1211567	JC 1/20/19
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 14:55	WG1211567	
1,1-Dichloroethene	0.450	J	0.188	0.500	1	12/16/2018 14:55	WG1211567	
cis-1,2-Dichloroethene	39.8		0.466	2.50	5	12/18/2018 03:50	WG1212222	
trans-1,2-Dichloroethene	0.497	J	0.152	0.500	1	12/16/2018 14:55	WG1211567	
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 14:55	WG1211567	
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 14:55	WG1211567	
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 14:55	WG1211567	
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 14:55	WG1211567	
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 14:55	WG1211567	
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 14:55	WG1211567	
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 14:55	WG1211567	
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 14:55	WG1211567	
Ethylbenzene	U		0.158	0.500	1	12/16/2018 14:55	WG1211567	
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 14:55	WG1211567	
2-Hexanone	U		0.757	5.00	1	12/16/2018 14:55	WG1211567	
n-Hexane	U		0.305	5.00	1	12/16/2018 14:55	WG1211567	
Iodomethane	U		0.377	10.0	1	12/16/2018 14:55	WG1211567	
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 14:55	WG1211567	
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 14:55	WG1211567	
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 14:55	WG1211567	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 14:55	WG1211567	
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 14:55	WG1211567	
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 14:55	WG1211567	
Naphthalene	U		0.174	2.50	1	12/16/2018 14:55	WG1211567	
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 14:55	WG1211567	
Styrene	U		0.117	0.500	1	12/16/2018 14:55	WG1211567	
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 14:55	WG1211567	
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 14:55	WG1211567	
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 14:55	WG1211567	
Tetrachloroethene	U		0.995	2.50	5	12/18/2018 03:50	WG1212222	
Toluene	U		0.412	0.500	1	12/16/2018 14:55	WG1211567	
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 14:55	WG1211567	
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 14:55	WG1211567	
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 14:55	WG1211567	
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 14:55	WG1211567	
Trichloroethene	U		0.765	2.50	5	12/18/2018 03:50	WG1212222	
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 14:55	WG1211567	
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 14:55	WG1211567	
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 14:55	WG1211567	
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 14:55	WG1211567	
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 14:55	WG1211567	

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Vinyl acetate	U		0.645	5.00	1	12/16/2018 14:55	WG1211567
Vinyl chloride	199		0.590	2.50	5	12/18/2018 03:50	WG1212222
Xylenes, Total	U		0.316	1.50	1	12/16/2018 14:55	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/16/2018 14:55*	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/18/2018 03:50*	WG1212222
(S) Dibromofluoromethane	*109*			*75.0-120*		*12/16/2018 14:55*	WG1211567
(S) Dibromofluoromethane	*89.7*			*75.0-120*		*12/18/2018 03:50*	WG1212222
(S) 4-Bromofluorobenzene	*92.0*			*77.0-126*		*12/16/2018 14:55*	WG1211567
(S) 4-Bromofluorobenzene	*95.7*			*77.0-126*		*12/18/2018 03:50*	WG1212222

Sample Narrative:

L1053029-08 WG1212222, WG1211567: Cannot be reanalyzed at a lower dilution due to high levels of target analytes.

L1053029-08 WG1212222, WG1211567: Not all compounds reportable at lower dilution.

JC 1/20/19

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 31, 2018

PES Environmental, Inc.- WA

Sample Delivery Group:	L1053029
Samples Received:	12/14/2018
Project Number:	1413.001.05.601
Description:	American Linen
Report To:	Brian O'Neal/Bill Haldeman
	1215 Fourth Ave., Suite 1350
	Seattle, WA 98161

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

MW-150-121218 L1053029-01 GW

Collected by: BH/AW | Collected date/time: 12/12/18 10:45 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211718	5	12/17/18 08:20	12/17/18 08:20	ACG
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 12:43	12/16/18 12:43	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	250	12/18/18 03:11	12/18/18 03:11	ACG

MW-139-121218 L1053029-02 GW

Collected by: BH/AW | Collected date/time: 12/12/18 11:40 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 17:26	12/15/18 17:26	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 13:02	12/16/18 13:02	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/17/18 22:22	12/17/18 22:22	ACG

EQ-121218 L1053029-03 GW

Collected by: BH/AW | Collected date/time: 12/12/18 15:30 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 17:47	12/15/18 17:47	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 13:21	12/16/18 13:21	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/17/18 22:42	12/17/18 22:42	ACG

MW-136-121318 L1053029-04 GW

Collected by: BH/AW | Collected date/time: 12/13/18 09:20 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 18:09	12/15/18 18:09	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 13:40	12/16/18 13:40	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/17/18 23:01	12/17/18 23:01	ACG

W-MW-01-121318 L1053029-05 GW

Collected by: BH/AW | Collected date/time: 12/13/18 11:00 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 18:30	12/15/18 18:30	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 13:59	12/16/18 13:59	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/17/18 23:21	12/17/18 23:21	ACG

MW-104-121318 L1053029-06 GW

Collected by: BH/AW | Collected date/time: 12/13/18 13:00 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 18:51	12/15/18 18:51	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 14:18	12/16/18 14:18	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/17/18 23:40	12/17/18 23:40	ACG

MW-149-121318 L1053029-07 GW

Collected by: BH/AW | Collected date/time: 12/13/18 09:10 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1212038	1	12/18/18 23:18	12/18/18 23:18	GB
Wet Chemistry by Method 9056A	WG1210790	1	12/14/18 19:37	12/14/18 19:37	ELN
Wet Chemistry by Method 9056A	WG1211292	5	12/15/18 17:19	12/15/18 17:19	MAJ
Wet Chemistry by Method 9060A	WG1216768	1	12/28/18 20:11	12/28/18 20:11	SJM
Metals (ICPMS) by Method 6020B	WG1211321	1	12/15/18 09:56	12/15/18 15:42	WBD
Metals (ICPMS) by Method 6020B	WG1211321	5	12/15/18 09:56	12/16/18 18:56	LD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211718	5	12/17/18 08:41	12/17/18 08:41	ACG
Volatile Organic Compounds (GC) by Method RSK175	WG1212060	1	12/18/18 09:50	12/18/18 09:50	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 14:37	12/16/18 14:37	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	500	12/18/18 03:31	12/18/18 03:31	ACG

MW-132-121318 L1053029-08 GW

Collected by: BH/AW | Collected date/time: 12/13/18 11:45 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1212038	1	12/18/18 23:25	12/18/18 23:25	GB
Wet Chemistry by Method 9056A	WG1210790	1	12/14/18 19:53	12/14/18 19:53	ELN
Wet Chemistry by Method 9060A	WG1216768	1	12/28/18 21:30	12/28/18 21:30	SJM
Metals (ICPMS) by Method 6020B	WG1211333	1	12/18/18 07:41	12/18/18 11:14	JPD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 19:34	12/15/18 19:34	DWR
Volatile Organic Compounds (GC) by Method RSK175	WG1212060	1	12/18/18 09:41	12/18/18 09:41	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 14:55	12/16/18 14:55	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	5	12/18/18 03:50	12/18/18 03:50	ACG

MW-904-121318 L1053029-09 GW

Collected by: BH/AW | Collected date/time: 12/13/18 08:00 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1212038	1	12/18/18 23:44	12/18/18 23:44	GB
Wet Chemistry by Method 9056A	WG1210790	1	12/14/18 20:08	12/14/18 20:08	ELN
Wet Chemistry by Method 9056A	WG1211292	5	12/15/18 17:30	12/15/18 17:30	MAJ
Wet Chemistry by Method 9060A	WG1216768	1	12/28/18 22:00	12/28/18 22:00	SJM
Metals (ICPMS) by Method 6020B	WG1211321	1	12/15/18 09:56	12/15/18 15:46	WBD
Metals (ICPMS) by Method 6020B	WG1211321	5	12/15/18 09:56	12/16/18 19:01	LD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211718	5	12/17/18 09:02	12/17/18 09:02	ACG
Volatile Organic Compounds (GC) by Method RSK175	WG1212060	1	12/18/18 09:53	12/18/18 09:53	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 15:14	12/16/18 15:14	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	500	12/18/18 04:10	12/18/18 04:10	ACG

MW-135-121318 L1053029-10 GW

Collected by: BH/AW | Collected date/time: 12/13/18 13:50 | Received date/time: 12/14/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1212038	1	12/18/18 23:51	12/18/18 23:51	GB
Wet Chemistry by Method 9056A	WG1210790	1	12/14/18 20:54	12/14/18 20:54	ELN
Wet Chemistry by Method 9056A	WG1210790	5	12/14/18 21:10	12/14/18 21:10	ELN
Wet Chemistry by Method 9060A	WG1216768	1	12/28/18 22:29	12/28/18 22:29	SJM
Metals (ICPMS) by Method 6020B	WG1211321	1	12/15/18 09:56	12/15/18 14:40	WBD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	25	12/15/18 20:16	12/15/18 20:16	DWR
Volatile Organic Compounds (GC) by Method RSK175	WG1212060	1	12/18/18 09:56	12/18/18 09:56	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	50	12/16/18 15:33	12/16/18 15:33	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	2500	12/18/18 04:29	12/18/18 04:29	ACG

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.

Brian Ford
Project Manager

Sample Handling and Receiving

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

Lab Sample ID	Project Sample ID	Method
L1053029-08	MW-132-121318	9060A

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	17500		158	500	5	12/17/2018 08:20	WG1211718
(S) a,a,a-Trifluorotoluene(FID)	*108*			*78.0-120*		*12/17/2018 08:20*	WG1211718

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		262	6250	250	12/18/2018 03:11	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 12:43	WG1211567
Benzene	0.429	J	0.0896	0.500	1	12/16/2018 12:43	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 12:43	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 12:43	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 12:43	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 12:43	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 12:43	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 12:43	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 12:43	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 12:43	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 12:43	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 12:43	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 12:43	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 12:43	WG1211567
Chloroethane	3.42		0.141	2.50	1	12/16/2018 12:43	WG1211567
Chloroform	0.132	J	0.0860	0.500	1	12/16/2018 12:43	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 12:43	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 12:43	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 12:43	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 12:43	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 12:43	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 12:43	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 12:43	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 12:43	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 12:43	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 12:43	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 12:43	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 12:43	WG1211567
1,1-Dichloroethene	74.5		0.188	0.500	1	12/16/2018 12:43	WG1211567
cis-1,2-Dichloroethene	32800		23.3	125	250	12/18/2018 03:11	WG1212222
trans-1,2-Dichloroethene	242		38.0	125	250	12/18/2018 03:11	WG1212222
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 12:43	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 12:43	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 12:43	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 12:43	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 12:43	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 12:43	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 12:43	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 12:43	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 12:43	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 12:43	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 12:43	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 12:43	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 12:43	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 12:43	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 12:43	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 12:43	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	1.24	J	1.07	2.50	1	12/16/2018 12:43	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 12:43	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 12:43	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 12:43	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 12:43	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 12:43	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 12:43	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 12:43	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 12:43	WG1211567
Tetrachloroethene	75.6		0.199	0.500	1	12/16/2018 12:43	WG1211567
Toluene	1.04		0.412	0.500	1	12/16/2018 12:43	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 12:43	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 12:43	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 12:43	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 12:43	WG1211567
Trichloroethene	533		38.2	125	250	12/18/2018 03:11	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 12:43	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 12:43	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 12:43	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 12:43	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 12:43	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 12:43	WG1211567
Vinyl chloride	2040		29.5	125	250	12/18/2018 03:11	WG1212222
Xylenes, Total	U		0.316	1.50	1	12/16/2018 12:43	WG1211567
(S) Toluene-d8	*102*			*80.0-120*		*12/16/2018 12:43*	WG1211567
(S) Toluene-d8	*107*			*80.0-120*		*12/18/2018 03:11*	WG1212222
(S) Dibromofluoromethane	*103*			*75.0-120*		*12/16/2018 12:43*	WG1211567
(S) Dibromofluoromethane	*88.8*			*75.0-120*		*12/18/2018 03:11*	WG1212222
(S) 4-Bromofluorobenzene	*94.9*			*77.0-126*		*12/16/2018 12:43*	WG1211567
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*		*12/18/2018 03:11*	WG1212222

Sample Narrative:

L1053029-01 WG1212222, WG1211567: Cannot be reanalyzed at a lower dilution due to high levels of target analytes.

L1053029-01 WG1212222, WG1211567: Not all compounds reportable at lower dilution.

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 17:26	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*106*			*78.0-120*		*12/15/2018 17:26*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	1.89	J	1.05	25.0	1	12/17/2018 22:22	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 13:02	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 13:02	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 13:02	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 13:02	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 13:02	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 13:02	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 13:02	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 13:02	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 13:02	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 13:02	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 13:02	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 13:02	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 13:02	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 13:02	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 13:02	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 13:02	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 13:02	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 13:02	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 13:02	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 13:02	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 13:02	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 13:02	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 13:02	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 13:02	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 13:02	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 13:02	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 13:02	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 13:02	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 13:02	WG1211567
cis-1,2-Dichloroethene	0.216	J	0.0933	0.500	1	12/17/2018 22:22	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/17/2018 22:22	WG1212222
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 13:02	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 13:02	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 13:02	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 13:02	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 13:02	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 13:02	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 13:02	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 13:02	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 13:02	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 13:02	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 13:02	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 13:02	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 13:02	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 13:02	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 13:02	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 13:02	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 13:02	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 13:02	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 13:02	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 13:02	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 13:02	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 13:02	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 13:02	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 13:02	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 13:02	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/16/2018 13:02	WG1211567
Toluene	U		0.412	0.500	1	12/16/2018 13:02	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 13:02	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 13:02	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 13:02	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 13:02	WG1211567
Trichloroethene	U		0.153	0.500	1	12/17/2018 22:22	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 13:02	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 13:02	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 13:02	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 13:02	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 13:02	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 13:02	WG1211567
Vinyl chloride	U		0.118	0.500	1	12/17/2018 22:22	WG1212222
Xylenes, Total	U		0.316	1.50	1	12/16/2018 13:02	WG1211567
(S) Toluene-d8	*105*			*80.0-120*		*12/16/2018 13:02*	WG1211567
(S) Toluene-d8	*107*			*80.0-120*		*12/17/2018 22:22*	WG1212222
(S) Dibromofluoromethane	*102*			*75.0-120*		*12/16/2018 13:02*	WG1211567
(S) Dibromofluoromethane	*87.0*			*75.0-120*		*12/17/2018 22:22*	WG1212222
(S) 4-Bromofluorobenzene	*95.9*			*77.0-126*		*12/16/2018 13:02*	WG1211567
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*		*12/17/2018 22:22*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 17:47	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*102*			*78.0-120*		*12/15/2018 17:47*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	2.01	J	1.05	25.0	1	12/17/2018 22:42	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 13:21	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 13:21	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 13:21	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 13:21	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 13:21	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 13:21	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 13:21	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 13:21	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 13:21	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 13:21	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 13:21	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 13:21	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 13:21	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 13:21	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 13:21	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 13:21	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 13:21	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 13:21	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 13:21	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 13:21	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 13:21	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 13:21	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 13:21	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 13:21	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 13:21	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 13:21	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 13:21	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 13:21	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 13:21	WG1211567
cis-1,2-Dichloroethene	U		0.0933	0.500	1	12/17/2018 22:42	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 13:21	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 13:21	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 13:21	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 13:21	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 13:21	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 13:21	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 13:21	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 13:21	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 13:21	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 13:21	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 13:21	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 13:21	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 13:21	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 13:21	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 13:21	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 13:21	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 13:21	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 13:21	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 13:21	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 13:21	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 13:21	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 13:21	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 13:21	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 13:21	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 13:21	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 13:21	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/16/2018 13:21	WG1211567
Toluene	U		0.412	0.500	1	12/16/2018 13:21	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 13:21	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 13:21	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 13:21	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 13:21	WG1211567
Trichloroethene	U		0.153	0.500	1	12/16/2018 13:21	WG1211567
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 13:21	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 13:21	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 13:21	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 13:21	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 13:21	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 13:21	WG1211567
Vinyl chloride	U		0.118	0.500	1	12/17/2018 22:42	WG1212222
Xylenes, Total	U		0.316	1.50	1	12/16/2018 13:21	WG1211567
(S) Toluene-d8	*100*			*80.0-120*		*12/16/2018 13:21*	WG1211567
(S) Toluene-d8	*108*			*80.0-120*		*12/17/2018 22:42*	WG1212222
(S) Dibromofluoromethane	*108*			*75.0-120*		*12/16/2018 13:21*	WG1211567
(S) Dibromofluoromethane	*87.1*			*75.0-120*		*12/17/2018 22:42*	WG1212222
(S) 4-Bromofluorobenzene	*93.6*			*77.0-126*		*12/16/2018 13:21*	WG1211567
(S) 4-Bromofluorobenzene	*97.5*			*77.0-126*		*12/17/2018 22:42*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U	J3	31.6	100	1	12/15/2018 18:09	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*102*			*78.0-120*		*12/15/2018 18:09*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		1.05	25.0	1	12/17/2018 23:01	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 13:40	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 13:40	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 13:40	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 13:40	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 13:40	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 13:40	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 13:40	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 13:40	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 13:40	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 13:40	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 13:40	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 13:40	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 13:40	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 13:40	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 13:40	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 13:40	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 13:40	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 13:40	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 13:40	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 13:40	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 13:40	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 13:40	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 13:40	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 13:40	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 13:40	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 13:40	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 13:40	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 13:40	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 13:40	WG1211567
cis-1,2-Dichloroethene	0.962		0.0933	0.500	1	12/17/2018 23:01	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 13:40	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 13:40	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 13:40	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 13:40	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 13:40	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 13:40	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 13:40	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 13:40	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 13:40	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 13:40	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 13:40	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 13:40	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 13:40	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 13:40	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 13:40	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 13:40	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 13:40	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 13:40	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 13:40	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 13:40	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 13:40	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 13:40	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 13:40	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 13:40	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 13:40	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 13:40	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/16/2018 13:40	WG1211567
Toluene	U		0.412	0.500	1	12/16/2018 13:40	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 13:40	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 13:40	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 13:40	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 13:40	WG1211567
Trichloroethene	0.237	J	0.153	0.500	1	12/16/2018 13:40	WG1211567
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 13:40	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 13:40	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 13:40	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 13:40	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 13:40	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 13:40	WG1211567
Vinyl chloride	U		0.118	0.500	1	12/17/2018 23:01	WG1212222
Xylenes, Total	U		0.316	1.50	1	12/16/2018 13:40	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/16/2018 13:40*	WG1211567
(S) Toluene-d8	*110*			*80.0-120*		*12/17/2018 23:01*	WG1212222
(S) Dibromofluoromethane	*102*			*75.0-120*		*12/16/2018 13:40*	WG1211567
(S) Dibromofluoromethane	*87.6*			*75.0-120*		*12/17/2018 23:01*	WG1212222
(S) 4-Bromofluorobenzene	*94.4*			*77.0-126*		*12/16/2018 13:40*	WG1211567
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*		*12/17/2018 23:01*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 18:30	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*		*12/15/2018 18:30*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		1.05	25.0	1	12/17/2018 23:21	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 13:59	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 13:59	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 13:59	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 13:59	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 13:59	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 13:59	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 13:59	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 13:59	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 13:59	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 13:59	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 13:59	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 13:59	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 13:59	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 13:59	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 13:59	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 13:59	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 13:59	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 13:59	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 13:59	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 13:59	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 13:59	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 13:59	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 13:59	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 13:59	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 13:59	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 13:59	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 13:59	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 13:59	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 13:59	WG1211567
cis-1,2-Dichloroethene	0.538		0.0933	0.500	1	12/17/2018 23:21	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 13:59	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 13:59	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 13:59	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 13:59	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 13:59	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 13:59	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 13:59	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 13:59	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 13:59	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 13:59	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 13:59	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 13:59	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 13:59	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 13:59	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 13:59	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 13:59	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 13:59	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 13:59	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 13:59	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 13:59	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 13:59	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 13:59	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 13:59	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 13:59	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 13:59	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 13:59	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/16/2018 13:59	WG1211567
Toluene	U		0.412	0.500	1	12/16/2018 13:59	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 13:59	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 13:59	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 13:59	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 13:59	WG1211567
Trichloroethene	1.77		0.153	0.500	1	12/16/2018 13:59	WG1211567
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 13:59	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 13:59	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 13:59	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 13:59	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 13:59	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 13:59	WG1211567
Vinyl chloride	3.86		0.118	0.500	1	12/16/2018 13:59	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 13:59	WG1211567
(S) Toluene-d8	*93.8*			*80.0-120*		*12/16/2018 13:59*	WG1211567
(S) Toluene-d8	*107*			*80.0-120*		*12/17/2018 23:21*	WG1212222
(S) Dibromofluoromethane	*107*			*75.0-120*		*12/16/2018 13:59*	WG1211567
(S) Dibromofluoromethane	*88.2*			*75.0-120*		*12/17/2018 23:21*	WG1212222
(S) 4-Bromofluorobenzene	*91.7*			*77.0-126*		*12/16/2018 13:59*	WG1211567
(S) 4-Bromofluorobenzene	*96.6*			*77.0-126*		*12/17/2018 23:21*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	54.0	J	31.6	100	1	12/15/2018 18:51	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*		*12/15/2018 18:51*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	2.23	J	1.05	25.0	1	12/17/2018 23:40	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 14:18	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 14:18	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 14:18	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 14:18	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 14:18	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 14:18	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 14:18	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 14:18	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 14:18	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 14:18	WG1211567
Carbon disulfide	0.243	J	0.101	0.500	1	12/16/2018 14:18	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 14:18	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 14:18	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 14:18	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 14:18	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 14:18	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 14:18	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 14:18	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 14:18	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 14:18	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 14:18	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 14:18	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 14:18	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 14:18	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 14:18	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 14:18	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 14:18	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 14:18	WG1211567
1,1-Dichloroethene	1.16		0.188	0.500	1	12/16/2018 14:18	WG1211567
cis-1,2-Dichloroethene	48.3		0.0933	0.500	1	12/16/2018 14:18	WG1211567
trans-1,2-Dichloroethene	0.559		0.152	0.500	1	12/16/2018 14:18	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 14:18	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 14:18	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 14:18	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 14:18	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 14:18	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 14:18	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 14:18	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 14:18	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 14:18	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 14:18	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 14:18	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 14:18	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 14:18	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 14:18	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 14:18	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 14:18	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 14:18	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 14:18	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 14:18	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 14:18	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 14:18	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 14:18	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 14:18	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 14:18	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 14:18	WG1211567
Tetrachloroethene	0.381	J	0.199	0.500	1	12/16/2018 14:18	WG1211567
Toluene	U		0.412	0.500	1	12/16/2018 14:18	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 14:18	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 14:18	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 14:18	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 14:18	WG1211567
Trichloroethene	2.36		0.153	0.500	1	12/16/2018 14:18	WG1211567
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 14:18	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 14:18	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 14:18	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 14:18	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 14:18	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 14:18	WG1211567
Vinyl chloride	43.8		0.118	0.500	1	12/16/2018 14:18	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 14:18	WG1211567
(S) Toluene-d8	*102*			*80.0-120*		*12/16/2018 14:18*	WG1211567
(S) Toluene-d8	*106*			*80.0-120*		*12/17/2018 23:40*	WG1212222
(S) Dibromofluoromethane	*106*			*75.0-120*		*12/16/2018 14:18*	WG1211567
(S) Dibromofluoromethane	*89.3*			*75.0-120*		*12/17/2018 23:40*	WG1212222
(S) 4-Bromofluorobenzene	*91.7*			*77.0-126*		*12/16/2018 14:18*	WG1211567
(S) 4-Bromofluorobenzene	*94.4*			*77.0-126*		*12/17/2018 23:40*	WG1212222

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	407000		2710	20000	1	12/18/2018 23:18	WG1212038

Sample Narrative:

L1053029-07 WG1212038: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	7710		260	5000	5	12/15/2018 17:19	WG1211292
Nitrate	U		22.7	100	1	12/14/2018 19:37	WG1210790
Sulfate	225000		387	25000	5	12/15/2018 17:19	WG1211292

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	75100		102	1000	1	12/28/2018 20:11	WG1216768

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	26100		15.0	100	1	12/15/2018 15:42	WG1211321
Manganese	12800		1.25	25.0	5	12/16/2018 18:56	WG1211321

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	11400		158	500	5	12/17/2018 08:41	WG1211718
(S) a,a,a-Trifluorotoluene(FID)	*111*			*78.0-120*		*12/17/2018 08:41*	WG1211718

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	2430		0.287	0.678	1	12/18/2018 09:50	WG1212060
Ethane	35.9		0.296	1.29	1	12/18/2018 09:50	WG1212060
Ethene	22.5		0.422	1.27	1	12/18/2018 09:50	WG1212060

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		525	12500	500	12/18/2018 03:31	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 14:37	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 14:37	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 14:37	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 14:37	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 14:37	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 14:37	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 14:37	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 14:37	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 14:37	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 14:37	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 14:37	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 14:37	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chlorobenzene	U		0.140	0.500	1	12/16/2018 14:37	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 14:37	WG1211567
Chloroethane	10.3		0.141	2.50	1	12/16/2018 14:37	WG1211567
Chloroform	0.776		0.0860	0.500	1	12/16/2018 14:37	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 14:37	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 14:37	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 14:37	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 14:37	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 14:37	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 14:37	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 14:37	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 14:37	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 14:37	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 14:37	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 14:37	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 14:37	WG1211567
1,1-Dichloroethene	30.4		0.188	0.500	1	12/16/2018 14:37	WG1211567
cis-1,2-Dichloroethene	5150		46.6	250	500	12/18/2018 03:31	WG1212222
trans-1,2-Dichloroethene	18.2		0.152	0.500	1	12/16/2018 14:37	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 14:37	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 14:37	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 14:37	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 14:37	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 14:37	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 14:37	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 14:37	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 14:37	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 14:37	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 14:37	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 14:37	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 14:37	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 14:37	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 14:37	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 14:37	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 14:37	WG1211567
Methylene Chloride	U		1.07	2.50	1	12/16/2018 14:37	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 14:37	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 14:37	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 14:37	WG1211567
n-Propylbenzene	0.164	J	0.162	0.500	1	12/16/2018 14:37	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 14:37	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 14:37	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 14:37	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 14:37	WG1211567
Tetrachloroethene	23300		99.5	250	500	12/18/2018 03:31	WG1212222
Toluene	0.717		0.412	0.500	1	12/16/2018 14:37	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 14:37	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 14:37	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 14:37	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 14:37	WG1211567
Trichloroethene	5470		76.5	250	500	12/18/2018 03:31	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 14:37	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 14:37	WG1211567
1,2,4-Trimethylbenzene	0.451	J	0.123	0.500	1	12/16/2018 14:37	WG1211567
1,2,3-Trimethylbenzene	0.178	J	0.0739	0.500	1	12/16/2018 14:37	WG1211567
1,3,5-Trimethylbenzene	0.144	J	0.124	0.500	1	12/16/2018 14:37	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Vinyl acetate	U		0.645	5.00	1	12/16/2018 14:37	WG1211567
Vinyl chloride	253		59.0	250	500	12/18/2018 03:31	WG1212222
Xylenes, Total	0.414	J	0.316	1.50	1	12/16/2018 14:37	WG1211567
(S) Toluene-d8	*99.2*			*80.0-120*		*12/16/2018 14:37*	WG1211567
(S) Toluene-d8	*109*			*80.0-120*		*12/18/2018 03:31*	WG1212222
(S) Dibromofluoromethane	*105*			*75.0-120*		*12/16/2018 14:37*	WG1211567
(S) Dibromofluoromethane	*89.0*			*75.0-120*		*12/18/2018 03:31*	WG1212222
(S) 4-Bromofluorobenzene	*92.4*			*77.0-126*		*12/16/2018 14:37*	WG1211567
(S) 4-Bromofluorobenzene	*96.2*			*77.0-126*		*12/18/2018 03:31*	WG1212222

Sample Narrative:

L1053029-07 WG1212222, WG1211567: Cannot be reanalyzed at a lower dilution due to high levels of target analytes.

L1053029-07 WG1212222, WG1211567: Not all compounds reportable at lower dilution.

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	260000		2710	20000	1	12/18/2018 23:25	WG1212038

Sample Narrative:

L1053029-08 WG1212038: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	40400		51.9	1000	1	12/14/2018 19:53	WG1210790
Nitrate	U		22.7	100	1	12/14/2018 19:53	WG1210790
Sulfate	7210		77.4	5000	1	12/14/2018 19:53	WG1210790

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	3440		102	1000	1	12/28/2018 21:30	WG1216768

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	544	B	15.0	100	1	12/18/2018 11:14	WG1211333
Manganese	278		0.250	5.00	1	12/18/2018 11:14	WG1211333

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 19:34	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*12/15/2018 19:34*	WG1211498

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	89.7		0.287	0.678	1	12/18/2018 09:41	WG1212060
Ethane	0.925	J	0.296	1.29	1	12/18/2018 09:41	WG1212060
Ethene	41.0		0.422	1.27	1	12/18/2018 09:41	WG1212060

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		5.25	125	5	12/18/2018 03:50	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 14:55	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 14:55	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 14:55	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 14:55	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 14:55	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 14:55	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 14:55	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 14:55	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 14:55	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 14:55	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 14:55	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 14:55	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chlorobenzene	U		0.140	0.500	1	12/16/2018 14:55	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 14:55	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 14:55	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 14:55	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 14:55	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 14:55	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 14:55	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 14:55	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 14:55	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 14:55	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 14:55	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 14:55	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 14:55	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 14:55	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 14:55	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 14:55	WG1211567
1,1-Dichloroethene	0.450	J	0.188	0.500	1	12/16/2018 14:55	WG1211567
cis-1,2-Dichloroethene	39.8		0.466	2.50	5	12/18/2018 03:50	WG1212222
trans-1,2-Dichloroethene	0.497	J	0.152	0.500	1	12/16/2018 14:55	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 14:55	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 14:55	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 14:55	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 14:55	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 14:55	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 14:55	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 14:55	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 14:55	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 14:55	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 14:55	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 14:55	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 14:55	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 14:55	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 14:55	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 14:55	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 14:55	WG1211567
Methylene Chloride	U		1.07	2.50	1	12/16/2018 14:55	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 14:55	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 14:55	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 14:55	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 14:55	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 14:55	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 14:55	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 14:55	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 14:55	WG1211567
Tetrachloroethene	U		0.995	2.50	5	12/18/2018 03:50	WG1212222
Toluene	U		0.412	0.500	1	12/16/2018 14:55	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 14:55	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 14:55	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 14:55	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 14:55	WG1211567
Trichloroethene	U		0.765	2.50	5	12/18/2018 03:50	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 14:55	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 14:55	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 14:55	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 14:55	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 14:55	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Vinyl acetate	U		0.645	5.00	1	12/16/2018 14:55	WG1211567
Vinyl chloride	199		0.590	2.50	5	12/18/2018 03:50	WG1212222
Xylenes, Total	U		0.316	1.50	1	12/16/2018 14:55	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/16/2018 14:55*	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/18/2018 03:50*	WG1212222
(S) Dibromofluoromethane	*109*			*75.0-120*		*12/16/2018 14:55*	WG1211567
(S) Dibromofluoromethane	*89.7*			*75.0-120*		*12/18/2018 03:50*	WG1212222
(S) 4-Bromofluorobenzene	*92.0*			*77.0-126*		*12/16/2018 14:55*	WG1211567
(S) 4-Bromofluorobenzene	*95.7*			*77.0-126*		*12/18/2018 03:50*	WG1212222

Sample Narrative:

L1053029-08 WG1212222, WG1211567: Cannot be reanalyzed at a lower dilution due to high levels of target analytes.

L1053029-08 WG1212222, WG1211567: Not all compounds reportable at lower dilution.

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	404000		2710	20000	1	12/18/2018 23:44	WG1212038

Sample Narrative:

L1053029-09 WG1212038: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	8030		260	5000	5	12/15/2018 17:30	WG1211292
Nitrate	U		22.7	100	1	12/14/2018 20:08	WG1210790
Sulfate	239000		387	25000	5	12/15/2018 17:30	WG1211292

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	74500		102	1000	1	12/28/2018 22:00	WG1216768

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	26300		15.0	100	1	12/15/2018 15:46	WG1211321
Manganese	12800		1.25	25.0	5	12/16/2018 19:01	WG1211321

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	11400		158	500	5	12/17/2018 09:02	WG1211718
(S) a,a,a-Trifluorotoluene(FID)	*110*			*78.0-120*		*12/17/2018 09:02*	WG1211718

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	2720		0.287	0.678	1	12/18/2018 09:53	WG1212060
Ethane	39.7		0.296	1.29	1	12/18/2018 09:53	WG1212060
Ethene	22.6		0.422	1.27	1	12/18/2018 09:53	WG1212060

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		525	12500	500	12/18/2018 04:10	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 15:14	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 15:14	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 15:14	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 15:14	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 15:14	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 15:14	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 15:14	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 15:14	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 15:14	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 15:14	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 15:14	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 15:14	WG1211567

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chlorobenzene	U		0.140	0.500	1	12/16/2018 15:14	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 15:14	WG1211567
Chloroethane	10.6		0.141	2.50	1	12/16/2018 15:14	WG1211567
Chloroform	0.747		0.0860	0.500	1	12/16/2018 15:14	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 15:14	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 15:14	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 15:14	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 15:14	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 15:14	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 15:14	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 15:14	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 15:14	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 15:14	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 15:14	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 15:14	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 15:14	WG1211567
1,1-Dichloroethene	31.1		0.188	0.500	1	12/16/2018 15:14	WG1211567
cis-1,2-Dichloroethene	5210		46.6	250	500	12/18/2018 04:10	WG1212222
trans-1,2-Dichloroethene	18.2		0.152	0.500	1	12/16/2018 15:14	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 15:14	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 15:14	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 15:14	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 15:14	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 15:14	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 15:14	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 15:14	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 15:14	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 15:14	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 15:14	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 15:14	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 15:14	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 15:14	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 15:14	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 15:14	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 15:14	WG1211567
Methylene Chloride	U		1.07	2.50	1	12/16/2018 15:14	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 15:14	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 15:14	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 15:14	WG1211567
n-Propylbenzene	0.164	J	0.162	0.500	1	12/16/2018 15:14	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 15:14	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 15:14	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 15:14	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 15:14	WG1211567
Tetrachloroethene	24500		99.5	250	500	12/18/2018 04:10	WG1212222
Toluene	0.717		0.412	0.500	1	12/16/2018 15:14	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 15:14	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 15:14	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 15:14	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 15:14	WG1211567
Trichloroethene	5780		76.5	250	500	12/18/2018 04:10	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 15:14	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 15:14	WG1211567
1,2,4-Trimethylbenzene	0.476	J	0.123	0.500	1	12/16/2018 15:14	WG1211567
1,2,3-Trimethylbenzene	0.182	J	0.0739	0.500	1	12/16/2018 15:14	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 15:14	WG1211567

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

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Vinyl acetate	U		0.645	5.00	1	12/16/2018 15:14	WG1211567
Vinyl chloride	243	J	59.0	250	500	12/18/2018 04:10	WG1212222
Xylenes, Total	0.392	J	0.316	1.50	1	12/16/2018 15:14	WG1211567
(S) Toluene-d8	*99.7*			*80.0-120*		*12/16/2018 15:14*	WG1211567
(S) Toluene-d8	*106*			*80.0-120*		*12/18/2018 04:10*	WG1212222
(S) Dibromofluoromethane	*104*			*75.0-120*		*12/16/2018 15:14*	WG1211567
(S) Dibromofluoromethane	*88.1*			*75.0-120*		*12/18/2018 04:10*	WG1212222
(S) 4-Bromofluorobenzene	*94.4*			*77.0-126*		*12/16/2018 15:14*	WG1211567
(S) 4-Bromofluorobenzene	*97.8*			*77.0-126*		*12/18/2018 04:10*	WG1212222

Sample Narrative:

L1053029-09 WG1212222, WG1211567: Cannot be reanalyzed at a lower dilution due to high levels of target analytes.

L1053029-09 WG1212222, WG1211567: Not all compounds reportable at lower dilution.

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity	379000		2710	20000	1	12/18/2018 23:51	WG1212038

Sample Narrative:

L1053029-10 WG1212038: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	128000		260	5000	5	12/14/2018 21:10	WG1210790
Nitrate	U		22.7	100	1	12/14/2018 20:54	WG1210790
Sulfate	61800		77.4	5000	1	12/14/2018 20:54	WG1210790

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	18100		102	1000	1	12/28/2018 22:29	WG1216768

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Iron	4950		15.0	100	1	12/15/2018 14:40	WG1211321
Manganese	1450	V	0.250	5.00	1	12/15/2018 14:40	WG1211321

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	80000		790	2500	25	12/15/2018 20:16	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*110*			*78.0-120*		*12/15/2018 20:16*	WG1211498

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	2060		0.287	0.678	1	12/18/2018 09:56	WG1212060
Ethane	56.1		0.296	1.29	1	12/18/2018 09:56	WG1212060
Ethene	327		0.422	1.27	1	12/18/2018 09:56	WG1212060

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		2620	62500	2500	12/18/2018 04:29	WG1212222
Acrylonitrile	U		43.6	250	50	12/16/2018 15:33	WG1211567
Benzene	U		4.48	25.0	50	12/16/2018 15:33	WG1211567
Bromobenzene	U		6.65	25.0	50	12/16/2018 15:33	WG1211567
Bromodichloromethane	U		4.00	25.0	50	12/16/2018 15:33	WG1211567
Bromochloromethane	U		7.25	25.0	50	12/16/2018 15:33	WG1211567
Bromoform	U		9.30	25.0	50	12/16/2018 15:33	WG1211567
Bromomethane	U		7.85	125	50	12/16/2018 15:33	WG1211567
n-Butylbenzene	U		7.15	25.0	50	12/16/2018 15:33	WG1211567
sec-Butylbenzene	U		6.70	25.0	50	12/16/2018 15:33	WG1211567
tert-Butylbenzene	U		9.15	25.0	50	12/16/2018 15:33	WG1211567
Carbon disulfide	U		5.05	25.0	50	12/16/2018 15:33	WG1211567
Carbon tetrachloride	U		7.95	25.0	50	12/16/2018 15:33	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chlorobenzene	U		7.00	25.0	50	12/16/2018 15:33	WG1211567
Chlorodibromomethane	U		6.40	25.0	50	12/16/2018 15:33	WG1211567
Chloroethane	U		7.05	125	50	12/16/2018 15:33	WG1211567
Chloroform	U		4.30	25.0	50	12/16/2018 15:33	WG1211567
Chloromethane	U		7.65	62.5	50	12/16/2018 15:33	WG1211567
2-Chlorotoluene	U		5.55	25.0	50	12/16/2018 15:33	WG1211567
4-Chlorotoluene	U		4.86	25.0	50	12/16/2018 15:33	WG1211567
1,2-Dibromo-3-Chloropropane	U		16.2	125	50	12/16/2018 15:33	WG1211567
1,2-Dibromoethane	U		9.65	25.0	50	12/16/2018 15:33	WG1211567
Dibromomethane	U		5.85	25.0	50	12/16/2018 15:33	WG1211567
1,2-Dichlorobenzene	U		5.05	25.0	50	12/16/2018 15:33	WG1211567
1,3-Dichlorobenzene	U		6.50	25.0	50	12/16/2018 15:33	WG1211567
1,4-Dichlorobenzene	U		6.05	25.0	50	12/16/2018 15:33	WG1211567
Dichlorodifluoromethane	U		6.35	125	50	12/16/2018 15:33	WG1211567
1,1-Dichloroethane	U		5.70	25.0	50	12/16/2018 15:33	WG1211567
1,2-Dichloroethane	U		5.40	25.0	50	12/16/2018 15:33	WG1211567
1,1-Dichloroethene	240		9.40	25.0	50	12/16/2018 15:33	WG1211567
cis-1,2-Dichloroethene	42100		233	1250	2500	12/18/2018 04:29	WG1212222
trans-1,2-Dichloroethene	66.6		7.60	25.0	50	12/16/2018 15:33	WG1211567
1,2-Dichloropropane	U		9.50	25.0	50	12/16/2018 15:33	WG1211567
1,1-Dichloropropene	U		6.40	25.0	50	12/16/2018 15:33	WG1211567
1,3-Dichloropropane	U		7.35	50.0	50	12/16/2018 15:33	WG1211567
cis-1,3-Dichloropropene	U		4.88	25.0	50	12/16/2018 15:33	WG1211567
trans-1,3-Dichloropropene	U		11.1	25.0	50	12/16/2018 15:33	WG1211567
trans-1,4-Dichloro-2-butene	U		12.8	250	50	12/16/2018 15:33	WG1211567
2,2-Dichloropropane	U		4.64	25.0	50	12/16/2018 15:33	WG1211567
Di-isopropyl ether	U		4.62	25.0	50	12/16/2018 15:33	WG1211567
Ethylbenzene	U		7.90	25.0	50	12/16/2018 15:33	WG1211567
Hexachloro-1,3-butadiene	U		7.85	50.0	50	12/16/2018 15:33	WG1211567
2-Hexanone	U		37.8	250	50	12/16/2018 15:33	WG1211567
n-Hexane	U		15.2	250	50	12/16/2018 15:33	WG1211567
Iodomethane	U		18.8	500	50	12/16/2018 15:33	WG1211567
Isopropylbenzene	U		6.30	25.0	50	12/16/2018 15:33	WG1211567
p-Isopropyltoluene	U		6.90	25.0	50	12/16/2018 15:33	WG1211567
2-Butanone (MEK)	U		64.0	250	50	12/16/2018 15:33	WG1211567
Methylene Chloride	U		53.5	125	50	12/16/2018 15:33	WG1211567
4-Methyl-2-pentanone (MIBK)	U		41.2	250	50	12/16/2018 15:33	WG1211567
Methyl tert-butyl ether	U		5.10	25.0	50	12/16/2018 15:33	WG1211567
Naphthalene	U		8.70	125	50	12/16/2018 15:33	WG1211567
n-Propylbenzene	U		8.10	25.0	50	12/16/2018 15:33	WG1211567
Styrene	U		5.85	25.0	50	12/16/2018 15:33	WG1211567
1,1,1,2-Tetrachloroethane	U		6.00	25.0	50	12/16/2018 15:33	WG1211567
1,1,2,2-Tetrachloroethane	U		6.50	25.0	50	12/16/2018 15:33	WG1211567
1,1,2-Trichlorotrifluoroethane	U		8.20	25.0	50	12/16/2018 15:33	WG1211567
Tetrachloroethene	97200		498	1250	2500	12/18/2018 04:29	WG1212222
Toluene	U		20.6	25.0	50	12/16/2018 15:33	WG1211567
1,2,3-Trichlorobenzene	U		8.20	25.0	50	12/16/2018 15:33	WG1211567
1,2,4-Trichlorobenzene	U		17.8	25.0	50	12/16/2018 15:33	WG1211567
1,1,1-Trichloroethane	U		4.70	25.0	50	12/16/2018 15:33	WG1211567
1,1,2-Trichloroethane	U		9.30	25.0	50	12/16/2018 15:33	WG1211567
Trichloroethene	11000		382	1250	2500	12/18/2018 04:29	WG1212222
Trichlorofluoromethane	U		6.50	125	50	12/16/2018 15:33	WG1211567
1,2,3-Trichloropropane	U		12.4	125	50	12/16/2018 15:33	WG1211567
1,2,4-Trimethylbenzene	U		6.15	25.0	50	12/16/2018 15:33	WG1211567
1,2,3-Trimethylbenzene	U		3.70	25.0	50	12/16/2018 15:33	WG1211567
1,3,5-Trimethylbenzene	U		6.20	25.0	50	12/16/2018 15:33	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Vinyl acetate	U		32.2	250	50	12/16/2018 15:33	WG1211567
Vinyl chloride	1380		5.90	25.0	50	12/16/2018 15:33	WG1211567
Xylenes, Total	U		15.8	75.0	50	12/16/2018 15:33	WG1211567
(S) Toluene-d8	*105*			*80.0-120*		*12/16/2018 15:33*	WG1211567
(S) Toluene-d8	*106*			*80.0-120*		*12/18/2018 04:29*	WG1212222
(S) Dibromofluoromethane	*109*			*75.0-120*		*12/16/2018 15:33*	WG1211567
(S) Dibromofluoromethane	*89.4*			*75.0-120*		*12/18/2018 04:29*	WG1212222
(S) 4-Bromofluorobenzene	*91.8*			*77.0-126*		*12/16/2018 15:33*	WG1211567
(S) 4-Bromofluorobenzene	*95.8*			*77.0-126*		*12/18/2018 04:29*	WG1212222

Sample Narrative:

L1053029-10 WG1212222, WG1211567: Cannot be reanalyzed at a lower dilution due to high levels of target analytes.

L1053029-10 WG1212222, WG1211567: Not all compounds reportable at lower dilution.

Method Blank (MB)

(MB) R3369501-1 12/18/18 20:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	3050	J	2710	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1051765-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1051765-01 12/18/18 21:17 • (DUP) R3369501-2 12/18/18 21:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	295000	295000	1	0.179		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1053029-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1053029-10 12/18/18 23:51 • (DUP) R3369501-4 12/18/18 23:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	379000	379000	1	0.0530		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3369501-3 12/18/18 22:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100000	97900	97.9	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3368521-1 12/14/18 10:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Sulfate	U		77.4	5000

L1052855-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1052855-01 12/14/18 14:45 • (DUP) R3368521-3 12/14/18 15:00

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	80500	80700	1	0.239		15
Nitrate	ND	0.000	1	0.000		15
Sulfate	44600	44700	1	0.261		15

L1053041-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053041-02 12/14/18 21:40 • (DUP) R3368521-6 12/14/18 21:56

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8090	8120	1	0.360		15
Nitrate	1120	1140	1	1.50		15
Sulfate	352	347	1	1.35	J	15

Laboratory Control Sample (LCS)

(LCS) R3368521-2 12/14/18 11:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	38600	96.6	80.0-120	
Nitrate	8000	7890	98.6	80.0-120	
Sulfate	40000	39200	98.0	80.0-120	

L1052855-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1052855-01 12/14/18 14:45 • (MS) R3368521-4 12/14/18 15:15 • (MSD) R3368521-5 12/14/18 15:31

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 %
Chloride	50000	80500	126000	127000	92.0	92.9	1	80.0-120	E	E	0.355	15
Nitrate	5000	ND	4650	4670	93.0	93.4	1	80.0-120			0.373	15
Sulfate	50000	44600	92300	92700	95.4	96.3	1	80.0-120			0.478	15

L1053041-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1053041-02 12/14/18 21:40 • (MS) R3368521-7 12/14/18 22:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	8090	56400	96.7	1	80.0-120	
Nitrate	5000	1120	5830	94.1	1	80.0-120	
Sulfate	50000	352	47400	94.1	1	80.0-120	

Method Blank (MB)

(MB) R3368945-1 12/15/18 08:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	136	J	51.9	1000
Sulfate	U		77.4	5000

L1053354-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053354-02 12/15/18 10:57 • (DUP) R3368945-3 12/15/18 11:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35500	35700	1	0.539		15

L1053526-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053526-02 12/15/18 20:03 • (DUP) R3368945-6 12/15/18 20:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3440	3490	1	1.18		15

Laboratory Control Sample (LCS)

(LCS) R3368945-2 12/15/18 08:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39700	99.2	80.0-120	
Sulfate	40000	40300	101	80.0-120	

L1053354-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053354-02 12/15/18 10:57 • (MS) R3368945-4 12/15/18 11:19 • (MSD) R3368945-5 12/15/18 11:52

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 %
Chloride	50000	35500	85800	84900	100	98.7	1	80.0-120			1.05	15

L1053526-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1053526-02 12/15/18 20:03 • (MS) R3368945-7 12/15/18 20:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	3440	53400	99.8	1	80.0-120	

Method Blank (MB)

(MB) R3372254-1 12/28/18 08:34

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

L1052793-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1052793-01 12/28/18 11:54 • (DUP) R3372254-3 12/28/18 12:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	1760	1790	1	1.69		20

L1053005-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1053005-08 12/28/18 17:28 • (DUP) R3372254-6 12/28/18 17:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	1880	1990	1	5.65		20

Laboratory Control Sample (LCS)

(LCS) R3372254-2 12/28/18 09:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
TOC (Total Organic Carbon)	75000	74900	99.9	85.0-115	

L1053005-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053005-05 12/28/18 15:27 • (MS) R3372254-4 12/28/18 15:52 • (MSD) R3372254-5 12/28/18 16:16

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	%	%		%			%	%
TOC (Total Organic Carbon)	50000	1820	51300	50300	99.0	96.9	1	80.0-120			2.11	20

L1053029-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053029-07 12/28/18 20:11 • (MS) R3372254-7 12/28/18 20:38 • (MSD) R3372254-8 12/28/18 21:05

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	%	%		%			%	%
TOC (Total Organic Carbon)	50000	75100	129000	129000	108	107	1	80.0-120	E	E	0.465	20

Method Blank (MB)

(MB) R3368573-1 12/15/18 14:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	U		15.0	100
Manganese	U		0.250	5.00

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

(LCS) R3368573-2 12/15/18 14:31 • (LCSD) R3368573-3 12/15/18 14:35

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	%	%	%			%	%
Iron	5000	5200	5270	104	105	80.0-120			1.40	20
Manganese	50.0	50.5	51.1	101	102	80.0-120			1.15	20

L1053029-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053029-10 12/15/18 14:40 • (MS) R3368573-5 12/15/18 14:48 • (MSD) R3368573-6 12/15/18 14:53

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	%	%		%			%	%
Iron	5000	4950	9880	9810	98.6	97.2	1	75.0-125			0.721	20
Manganese	50.0	1450	1480	1470	60.6	49.7	1	75.0-125	V	V	0.367	20

Method Blank (MB)

(MB) R3369131-1 12/18/18 11:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	67.3	J	15.0	100
Manganese	U		0.250	5.00

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

(LCS) R3369131-2 12/18/18 11:05 • (LCSD) R3369131-3 12/18/18 11:09

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	%	%	%			%	%
Iron	5000	5110	4900	102	98.0	80.0-120			4.21	20
Manganese	50.0	50.3	49.9	101	99.8	80.0-120			0.709	20

L1053029-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053029-08 12/18/18 11:14 • (MS) R3369131-5 12/18/18 11:23 • (MSD) R3369131-6 12/18/18 11:28

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	%	%		%			%	%
Iron	5000	544	5500	5450	99.1	98.2	1	75.0-125			0.810	20
Manganese	50.0	278	333	335	109	113	1	75.0-125			0.547	20

Method Blank (MB)

(MB) R3368595-3 12/15/18 14:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*

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

(LCS) R3368595-1 12/15/18 13:48 • (LCSD) R3368595-2 12/15/18 14:09

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 %
Gasoline Range Organics-NWTPH	5500	5920	5860	108	107	70.0-124			0.937	20
(S) a,a,a-Trifluorotoluene(FID)				*99.9*	*97.9*	*78.0-120*				

L1053029-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053029-04 12/15/18 18:09 • (MS) R3368595-4 12/15/18 22:46 • (MSD) R3368595-5 12/15/18 23:08

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 %
Gasoline Range Organics-NWTPH	5500	U	7330	5710	133	104	1	10.0-155		J3	24.9	21
(S) a,a,a-Trifluorotoluene(FID)					*97.4*	*99.8*		*78.0-120*				

Method Blank (MB)

(MB) R3368736-3 12/17/18 00:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*

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

(LCS) R3368736-1 12/16/18 23:04 • (LCSD) R3368736-2 12/16/18 23:25

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 %
Gasoline Range Organics-NWTPH	5500	5600	5560	102	101	70.0-124			0.660	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*99.1*	*78.0-120*				

Method Blank (MB)

(MB) R3369101-1 12/18/18 09:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		0.287	0.678
Ethane	U		0.296	1.29
Ethene	U		0.422	1.27

L1051929-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1051929-05 12/18/18 10:15 • (DUP) R3369101-2 12/18/18 10:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	2980	2950	1	0.972		20
Ethane	U	0.000	1	0.000		20
Ethene	U	0.000	1	0.000		20

L1052013-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1052013-01 12/18/18 10:36 • (DUP) R3369101-3 12/18/18 10:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

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

(LCS) R3369101-4 12/18/18 10:54 • (LCSD) R3369101-5 12/18/18 10:58

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	%	%	%			%	%
Methane	67.8	76.7	74.9	113	110	85.0-115			2.39	20
Ethane	129	122	121	94.3	93.7	85.0-115			0.610	20
Ethene	127	121	120	95.3	94.7	85.0-115			0.660	20

Method Blank (MB)

(MB) R3368961-3 12/16/18 11:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500

Method Blank (MB)

(MB) R3368961-3 12/16/18 11:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*105*			*80.0-120*
(S) Dibromofluoromethane	*98.0*			*75.0-120*
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*

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

(LCS) R3368961-1 12/16/18 10:50 • (LCSD) R3368961-2 12/16/18 11:09

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 %
Acrylonitrile	125	101	109	80.6	87.1	55.0-149			7.79	20
Benzene	25.0	23.6	23.5	94.4	94.2	70.0-123			0.298	20
Bromobenzene	25.0	22.9	22.8	91.5	91.1	73.0-121			0.383	20
Bromodichloromethane	25.0	23.7	23.6	94.7	94.6	75.0-120			0.0741	20
Bromochloromethane	25.0	25.4	25.3	102	101	76.0-122			0.355	20
Bromoform	25.0	24.9	24.9	99.6	99.5	68.0-132			0.0793	20
Bromomethane	25.0	25.9	26.2	103	105	10.0-160			1.34	25
n-Butylbenzene	25.0	24.2	24.0	96.6	96.1	73.0-125			0.545	20
sec-Butylbenzene	25.0	23.8	23.5	95.4	94.2	75.0-125			1.28	20
tert-Butylbenzene	25.0	23.8	23.6	95.1	94.2	76.0-124			0.955	20
Carbon disulfide	25.0	24.9	25.4	99.7	101	61.0-128			1.69	20
Carbon tetrachloride	25.0	24.3	23.9	97.3	95.7	68.0-126			1.71	20
Chlorobenzene	25.0	25.5	25.3	102	101	80.0-121			0.906	20
Chlorodibromomethane	25.0	25.3	25.3	101	101	77.0-125			0.149	20
Chloroethane	25.0	25.3	23.7	101	94.8	47.0-150			6.38	20
Chloroform	25.0	23.6	23.6	94.3	94.2	73.0-120			0.0644	20
Chloromethane	25.0	25.0	24.1	99.8	96.5	41.0-142			3.37	20
2-Chlorotoluene	25.0	23.2	23.2	92.9	92.9	76.0-123			0.00176	20
4-Chlorotoluene	25.0	23.2	22.8	92.8	91.2	75.0-122			1.66	20
1,2-Dibromo-3-Chloropropane	25.0	22.8	24.1	91.1	96.6	58.0-134			5.90	20
1,2-Dibromoethane	25.0	25.0	24.9	100	99.6	80.0-122			0.550	20
Dibromomethane	25.0	24.4	24.4	97.6	97.6	80.0-120			0.0523	20
1,2-Dichlorobenzene	25.0	23.9	24.3	95.6	97.3	79.0-121			1.69	20
1,3-Dichlorobenzene	25.0	23.8	23.7	95.2	94.8	79.0-120			0.380	20
1,4-Dichlorobenzene	25.0	24.3	24.3	97.3	97.0	79.0-120			0.252	20
Dichlorodifluoromethane	25.0	28.9	28.9	116	116	51.0-149			0.0230	20
1,1-Dichloroethane	25.0	24.8	24.3	99.1	97.3	70.0-126			1.89	20
1,2-Dichloroethane	25.0	24.0	24.3	96.2	97.4	70.0-128			1.25	20
1,1-Dichloroethene	25.0	26.0	26.4	104	106	71.0-124			1.50	20
cis-1,2-Dichloroethene	25.0	24.4	24.4	97.6	97.7	73.0-120			0.0769	20
trans-1,2-Dichloroethene	25.0	24.3	24.3	97.2	97.4	73.0-120			0.198	20
1,2-Dichloropropane	25.0	24.8	24.3	99.1	97.1	77.0-125			1.97	20
1,1-Dichloropropene	25.0	25.1	25.0	100	99.8	74.0-126			0.438	20
1,3-Dichloropropane	25.0	25.3	25.1	101	100	80.0-120			0.785	20
cis-1,3-Dichloropropene	25.0	25.9	25.6	104	102	80.0-123			1.35	20
trans-1,3-Dichloropropene	25.0	25.6	25.1	102	100	78.0-124			2.07	20
trans-1,4-Dichloro-2-butene	25.0	22.8	22.3	91.1	89.1	33.0-144			2.22	20
2,2-Dichloropropane	25.0	23.5	22.8	94.1	91.3	58.0-130			3.04	20
Di-isopropyl ether	25.0	24.1	23.5	96.4	93.8	58.0-138			2.65	20
Ethylbenzene	25.0	25.3	24.6	101	98.5	79.0-123			2.84	20

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

(LCS) R3368961-1 12/16/18 10:50 • (LCSD) R3368961-2 12/16/18 11:09

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 %
Hexachloro-1,3-butadiene	25.0	24.3	23.9	97.1	95.8	54.0-138			1.42	20
2-Hexanone	125	119	115	95.3	91.8	67.0-149			3.78	20
n-Hexane	25.0	25.8	26.3	103	105	57.0-133			2.19	20
Iodomethane	125	127	126	102	101	33.0-147			0.981	26
Isopropylbenzene	25.0	23.1	23.0	92.5	92.1	76.0-127			0.379	20
p-Isopropyltoluene	25.0	24.4	24.3	97.7	97.0	76.0-125			0.648	20
2-Butanone (MEK)	125	123	114	98.7	91.5	44.0-160			7.56	20
Methylene Chloride	25.0	23.8	23.6	95.3	94.6	67.0-120			0.735	20
4-Methyl-2-pentanone (MIBK)	125	117	115	93.8	92.2	68.0-142			1.76	20
Methyl tert-butyl ether	25.0	25.0	23.8	100	95.2	68.0-125			4.98	20
Naphthalene	25.0	21.9	23.3	87.5	93.3	54.0-135			6.41	20
n-Propylbenzene	25.0	23.4	23.1	93.6	92.2	77.0-124			1.49	20
Styrene	25.0	23.9	23.5	95.6	94.0	73.0-130			1.68	20
1,1,1,2-Tetrachloroethane	25.0	25.4	24.9	102	99.5	75.0-125			2.17	20
1,1,2,2-Tetrachloroethane	25.0	22.4	22.4	89.5	89.7	65.0-130			0.238	20
1,1,2-Trichlorotrifluoroethane	25.0	25.9	25.6	104	102	69.0-132			1.14	20
Tetrachloroethene	25.0	25.2	24.8	101	99.3	72.0-132			1.53	20
Toluene	25.0	23.6	23.5	94.5	93.9	79.0-120			0.549	20
1,2,3-Trichlorobenzene	25.0	22.4	23.5	89.5	94.1	50.0-138			4.99	20
1,2,4-Trichlorobenzene	25.0	22.6	23.9	90.5	95.5	57.0-137			5.47	20
1,1,1-Trichloroethane	25.0	23.8	23.5	95.4	93.8	73.0-124			1.66	20
1,1,2-Trichloroethane	25.0	23.6	23.7	94.5	94.8	80.0-120			0.371	20
Trichloroethene	25.0	25.2	25.0	101	100	78.0-124			0.805	20
Trichlorofluoromethane	25.0	26.8	26.1	107	104	59.0-147			2.68	20
1,2,3-Trichloropropane	25.0	21.6	22.2	86.5	88.8	73.0-130			2.63	20
1,2,4-Trimethylbenzene	25.0	23.2	22.9	92.7	91.5	76.0-121			1.41	20
1,2,3-Trimethylbenzene	25.0	23.7	23.8	94.6	95.4	77.0-120			0.824	20
1,3,5-Trimethylbenzene	25.0	23.1	23.2	92.4	92.7	76.0-122			0.275	20
Vinyl acetate	125	117	116	93.9	93.1	11.0-160			0.857	20
Vinyl chloride	25.0	26.2	25.4	105	102	67.0-131			2.81	20
Xylenes, Total	75.0	75.6	73.7	101	98.3	79.0-123			2.55	20
(S) Toluene-d8				*103*	*102*	*80.0-120*				
(S) Dibromofluoromethane				*101*	*101*	*75.0-120*				
(S) 4-Bromofluorobenzene				*96.5*	*95.5*	*77.0-126*				

Method Blank (MB)

(MB) R3369057-2 12/17/18 22:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
Tetrachloroethene	U		0.199	0.500
Trichloroethene	U		0.153	0.500
Vinyl chloride	U		0.118	0.500
(S) Toluene-d8	*110*			*80.0-120*
(S) Dibromofluoromethane	*87.0*			*75.0-120*
(S) 4-Bromofluorobenzene	*98.0*			*77.0-126*

Laboratory Control Sample (LCS)

(LCS) R3369057-1 12/17/18 21:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	125	113	90.7	19.0-160	
cis-1,2-Dichloroethene	25.0	22.2	88.8	73.0-120	
trans-1,2-Dichloroethene	25.0	21.7	86.9	73.0-120	
Tetrachloroethene	25.0	29.6	118	72.0-132	
Trichloroethene	25.0	25.0	99.8	78.0-124	
Vinyl chloride	25.0	25.3	101	67.0-131	
(S) Toluene-d8			*104*	*80.0-120*	
(S) Dibromofluoromethane			*84.1*	*75.0-120*	
(S) 4-Bromofluorobenzene			*96.7*	*77.0-126*	

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
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.
J3	The associated batch QC was outside the established quality control range for precision.
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	T 104704245-17-14
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

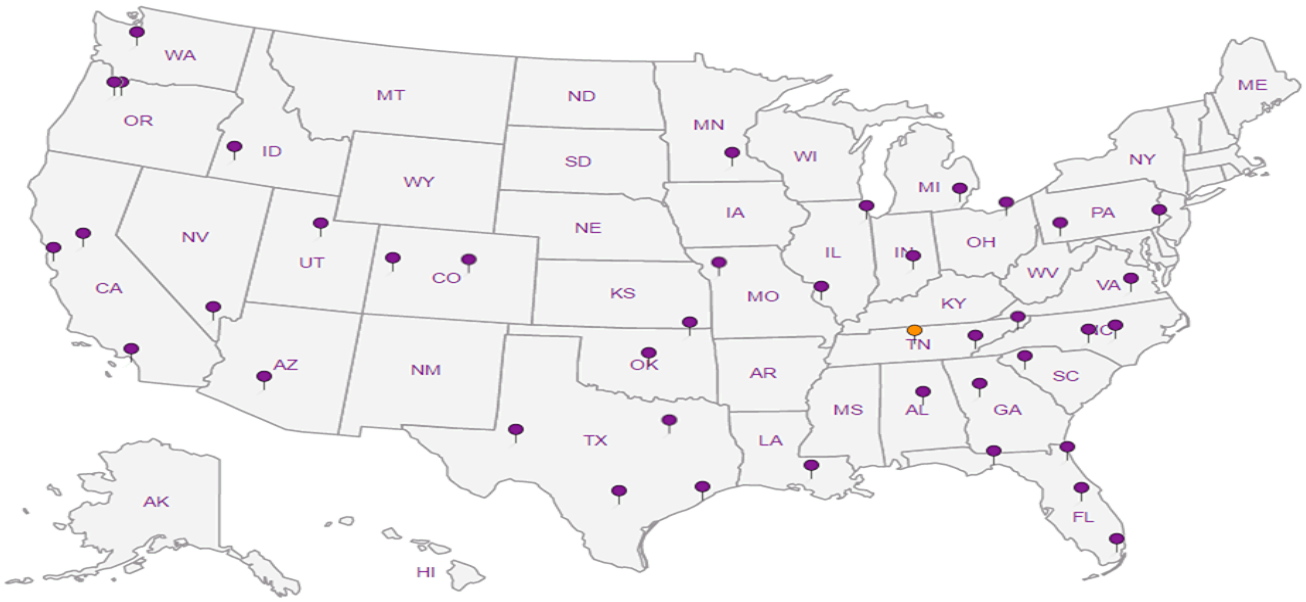
Third Party Federal Accreditations

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.



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: boneal@pesenv.com; bhaldeman@pesenv.com;

Project Description: American Linen

City/State Collected: Seattle WA

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1413.001.05.601

Lab Project # PESENVSWA-ALP

Collected by (print): B.Hecht / A. Wit

Site/Facility ID #

P.O. #

Collected by (signature): BH

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHGX 40mlAmb HCl	VOCs (V8260LLC) 40mlAmb-HCl	NO3, Cl, SO4	Alkalinity	TOC	Total Fe & Mn by 6020	low level RSK 175 - for Methane, Ethane, Ethene				Remarks	Sample # (lab only)
MW-150-121218	Grab	GW	55'	12/12/18	1045	6	X	X										-01
MW-139-121218		GW	75'		1140	6												02
EQ - 121218		GW	NA	X	1530	6												03
MW-136-121318			90'	12/13/18	0920	6												04
MW-MW-01-121318			75'		1100	6	X	X										05
MW-104-121318			124'		1300	6	X	X										06
MW-149-121318			40'		0910	11	X	X	X	X	X	X	X					07
MW-132-121318			75'		1145	11	X	X	X	X	X	X	X					08
MW-904-121318			60'		0800	11	X	X	X	X	X	X	X					09
MW-135-121318	X		85'	X	1350	11	X	X	X	X	X	X	X					10
						10												

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# 1053029

F095

Acctnum: PESENVSWA
Template: T143817
Prelogin: P685297
TSR: 110 - Brian Ford
PB:
Shipped Via:

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

Remarks:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4686 6469 8478

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/13/18	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR
2

Temp: 3.6-0.3=3.3°C Bottles Received: 8D

Date: 12/14/18 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 18, 2018

PES Environmental, Inc.- WA

Sample Delivery Group:	L1053394
Samples Received:	12/14/2018
Project Number:	1358.001.01.003
Description:	American Linen
Report To:	Brian O'Neal/Bill Haldeman
	1215 Fourth Ave., Suite 1350
	Seattle, WA 98161

Entire Report Reviewed By:

Brian Ford

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

MW-131-121218 L1053394-01 GW

Collected by: AW/BH/KZ | Collected date/time: 12/12/18 12:45 | Received date/time: 12/14/18 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 20:38	12/15/18 20:38	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 16:48	12/16/18 16:48	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/18/18 00:40	12/18/18 00:40	ACG

MW-137-121218 L1053394-02 GW

Collected by: AW/BH/KZ | Collected date/time: 12/12/18 14:45 | Received date/time: 12/14/18 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 20:59	12/15/18 20:59	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 17:07	12/16/18 17:07	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/18/18 01:35	12/18/18 01:35	ACG

W-MW-02-121218 L1053394-03 GW

Collected by: AW/BH/KZ | Collected date/time: 12/12/18 14:25 | Received date/time: 12/14/18 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211718	5	12/17/18 09:23	12/17/18 09:23	ACG
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 17:26	12/16/18 17:26	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/18/18 01:54	12/18/18 01:54	ACG

MW-134-121218 L1053394-04 GW

Collected by: AW/BH/KZ | Collected date/time: 12/12/18 12:50 | Received date/time: 12/14/18 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211718	1	12/17/18 09:44	12/17/18 09:44	ACG
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 17:44	12/16/18 17:44	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/18/18 02:13	12/18/18 02:13	ACG

MW-133-121218 L1053394-05 GW

Collected by: AW/BH/KZ | Collected date/time: 12/12/18 10:00 | Received date/time: 12/14/18 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 22:04	12/15/18 22:04	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 18:03	12/16/18 18:03	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/18/18 02:33	12/18/18 02:33	ACG

MW-141-121218 L1053394-06 GW

Collected by: AW/BH/KZ | Collected date/time: 12/12/18 11:20 | Received date/time: 12/14/18 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1211498	1	12/15/18 22:25	12/15/18 22:25	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211567	1	12/16/18 18:22	12/16/18 18:22	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212222	1	12/18/18 02:52	12/18/18 02:52	ACG

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.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 20:38	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*		*12/15/2018 20:38*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	8.19	J	1.05	25.0	1	12/18/2018 00:40	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 16:48	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 16:48	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 16:48	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 16:48	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 16:48	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 16:48	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 16:48	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 16:48	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 16:48	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 16:48	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 16:48	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 16:48	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 16:48	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 16:48	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 16:48	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 16:48	WG1211567
Chloromethane	6.51		0.153	1.25	1	12/16/2018 16:48	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 16:48	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 16:48	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 16:48	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 16:48	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 16:48	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 16:48	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 16:48	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 16:48	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 16:48	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 16:48	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 16:48	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 16:48	WG1211567
cis-1,2-Dichloroethene	1.20		0.0933	0.500	1	12/18/2018 00:40	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 16:48	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 16:48	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 16:48	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 16:48	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 16:48	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 16:48	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 16:48	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 16:48	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 16:48	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 16:48	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 16:48	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 16:48	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 16:48	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 16:48	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 16:48	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 16:48	WG1211567
2-Butanone (MEK)	3.89	J	1.28	5.00	1	12/16/2018 16:48	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 16:48	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 16:48	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 16:48	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 16:48	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 16:48	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 16:48	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 16:48	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 16:48	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 16:48	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/18/2018 00:40	WG1212222
Toluene	U		0.412	0.500	1	12/16/2018 16:48	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 16:48	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 16:48	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 16:48	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 16:48	WG1211567
Trichloroethene	0.172	J	0.153	0.500	1	12/18/2018 00:40	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 16:48	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 16:48	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 16:48	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 16:48	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 16:48	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 16:48	WG1211567
Vinyl chloride	1.39		0.118	0.500	1	12/16/2018 16:48	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 16:48	WG1211567
(S) Toluene-d8	*101*			*80.0-120*		*12/16/2018 16:48*	WG1211567
(S) Toluene-d8	*105*			*80.0-120*		*12/18/2018 00:40*	WG1212222
(S) Dibromofluoromethane	*111*			*75.0-120*		*12/16/2018 16:48*	WG1211567
(S) Dibromofluoromethane	*91.3*			*75.0-120*		*12/18/2018 00:40*	WG1212222
(S) 4-Bromofluorobenzene	*90.4*			*77.0-126*		*12/16/2018 16:48*	WG1211567
(S) 4-Bromofluorobenzene	*96.7*			*77.0-126*		*12/18/2018 00:40*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 20:59	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*		*12/15/2018 20:59*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	1.62	J	1.05	25.0	1	12/18/2018 01:35	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 17:07	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 17:07	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 17:07	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 17:07	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 17:07	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 17:07	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 17:07	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 17:07	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 17:07	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 17:07	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 17:07	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 17:07	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 17:07	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 17:07	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 17:07	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 17:07	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 17:07	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 17:07	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 17:07	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 17:07	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 17:07	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 17:07	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 17:07	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 17:07	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 17:07	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 17:07	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 17:07	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 17:07	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 17:07	WG1211567
cis-1,2-Dichloroethene	0.437	J	0.0933	0.500	1	12/18/2018 01:35	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 17:07	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 17:07	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 17:07	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 17:07	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 17:07	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 17:07	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 17:07	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 17:07	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 17:07	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 17:07	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 17:07	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 17:07	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 17:07	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 17:07	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 17:07	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 17:07	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 17:07	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 17:07	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 17:07	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 17:07	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 17:07	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 17:07	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 17:07	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 17:07	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 17:07	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 17:07	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/18/2018 01:35	WG1212222
Toluene	U		0.412	0.500	1	12/16/2018 17:07	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 17:07	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 17:07	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 17:07	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 17:07	WG1211567
Trichloroethene	U		0.153	0.500	1	12/18/2018 01:35	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 17:07	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 17:07	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 17:07	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 17:07	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 17:07	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 17:07	WG1211567
Vinyl chloride	0.357	J	0.118	0.500	1	12/16/2018 17:07	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 17:07	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/16/2018 17:07*	WG1211567
(S) Toluene-d8	*108*			*80.0-120*		*12/18/2018 01:35*	WG1212222
(S) Dibromofluoromethane	*109*			*75.0-120*		*12/16/2018 17:07*	WG1211567
(S) Dibromofluoromethane	*89.1*			*75.0-120*		*12/18/2018 01:35*	WG1212222
(S) 4-Bromofluorobenzene	*89.1*			*77.0-126*		*12/16/2018 17:07*	WG1211567
(S) 4-Bromofluorobenzene	*95.1*			*77.0-126*		*12/18/2018 01:35*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		158	500	5	12/17/2018 09:23	WG1211718
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*		*12/17/2018 09:23*	WG1211718

Sample Narrative:

L1053394-03 WG1211718: Lowest possible dilution doe to sample foaming.

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	2.12	J	1.05	25.0	1	12/18/2018 01:54	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 17:26	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 17:26	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 17:26	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 17:26	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 17:26	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 17:26	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 17:26	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 17:26	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 17:26	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 17:26	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 17:26	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 17:26	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 17:26	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 17:26	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 17:26	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 17:26	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 17:26	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 17:26	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 17:26	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 17:26	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 17:26	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 17:26	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 17:26	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 17:26	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 17:26	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 17:26	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 17:26	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 17:26	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 17:26	WG1211567
cis-1,2-Dichloroethene	1.80		0.0933	0.500	1	12/18/2018 01:54	WG1212222
trans-1,2-Dichloroethene	0.463	J	0.152	0.500	1	12/16/2018 17:26	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 17:26	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 17:26	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 17:26	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 17:26	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 17:26	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 17:26	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 17:26	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 17:26	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 17:26	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 17:26	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 17:26	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 17:26	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 17:26	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 17:26	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 17:26	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 17:26	WG1211567
Methylene Chloride	U		1.07	2.50	1	12/16/2018 17:26	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 17:26	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 17:26	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 17:26	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 17:26	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 17:26	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 17:26	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 17:26	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 17:26	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/18/2018 01:54	WG1212222
Toluene	1.05		0.412	0.500	1	12/16/2018 17:26	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 17:26	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 17:26	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 17:26	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 17:26	WG1211567
Trichloroethene	U		0.153	0.500	1	12/18/2018 01:54	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 17:26	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 17:26	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 17:26	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 17:26	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 17:26	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 17:26	WG1211567
Vinyl chloride	2.30		0.118	0.500	1	12/16/2018 17:26	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 17:26	WG1211567
(S) Toluene-d8	*106*			*80.0-120*		*12/16/2018 17:26*	WG1211567
(S) Toluene-d8	*107*			*80.0-120*		*12/18/2018 01:54*	WG1212222
(S) Dibromofluoromethane	*106*			*75.0-120*		*12/16/2018 17:26*	WG1211567
(S) Dibromofluoromethane	*89.4*			*75.0-120*		*12/18/2018 01:54*	WG1212222
(S) 4-Bromofluorobenzene	*88.5*			*77.0-126*		*12/16/2018 17:26*	WG1211567
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*		*12/18/2018 01:54*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/17/2018 09:44	WG1211718
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*12/17/2018 09:44*	WG1211718

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		1.05	25.0	1	12/18/2018 02:13	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 17:44	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 17:44	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 17:44	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 17:44	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 17:44	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 17:44	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 17:44	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 17:44	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 17:44	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 17:44	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 17:44	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 17:44	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 17:44	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 17:44	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 17:44	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 17:44	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 17:44	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 17:44	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 17:44	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 17:44	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 17:44	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 17:44	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 17:44	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 17:44	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 17:44	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 17:44	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 17:44	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 17:44	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 17:44	WG1211567
cis-1,2-Dichloroethene	0.259	J	0.0933	0.500	1	12/18/2018 02:13	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 17:44	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 17:44	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 17:44	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 17:44	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 17:44	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 17:44	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 17:44	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 17:44	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 17:44	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 17:44	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 17:44	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 17:44	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 17:44	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 17:44	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 17:44	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 17:44	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 17:44	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 17:44	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 17:44	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 17:44	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 17:44	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 17:44	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 17:44	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 17:44	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 17:44	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 17:44	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/18/2018 02:13	WG1212222
Toluene	U		0.412	0.500	1	12/16/2018 17:44	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 17:44	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 17:44	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 17:44	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 17:44	WG1211567
Trichloroethene	U		0.153	0.500	1	12/18/2018 02:13	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 17:44	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 17:44	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 17:44	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 17:44	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 17:44	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 17:44	WG1211567
Vinyl chloride	21.9		0.118	0.500	1	12/16/2018 17:44	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 17:44	WG1211567
(S) Toluene-d8	*106*			*80.0-120*		*12/16/2018 17:44*	WG1211567
(S) Toluene-d8	*107*			*80.0-120*		*12/18/2018 02:13*	WG1212222
(S) Dibromofluoromethane	*105*			*75.0-120*		*12/16/2018 17:44*	WG1211567
(S) Dibromofluoromethane	*88.2*			*75.0-120*		*12/18/2018 02:13*	WG1212222
(S) 4-Bromofluorobenzene	*88.9*			*77.0-126*		*12/16/2018 17:44*	WG1211567
(S) 4-Bromofluorobenzene	*95.6*			*77.0-126*		*12/18/2018 02:13*	WG1212222

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 22:04	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*		*12/15/2018 22:04*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	1.76	J	1.05	25.0	1	12/18/2018 02:33	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 18:03	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 18:03	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 18:03	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 18:03	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 18:03	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 18:03	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 18:03	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 18:03	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 18:03	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 18:03	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 18:03	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 18:03	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 18:03	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 18:03	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 18:03	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 18:03	WG1211567
Chloromethane	0.233	J	0.153	1.25	1	12/16/2018 18:03	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 18:03	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 18:03	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 18:03	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 18:03	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 18:03	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 18:03	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 18:03	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 18:03	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 18:03	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 18:03	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 18:03	WG1211567
1,1-Dichloroethene	1.67		0.188	0.500	1	12/16/2018 18:03	WG1211567
cis-1,2-Dichloroethene	7.88		0.0933	0.500	1	12/18/2018 02:33	WG1212222
trans-1,2-Dichloroethene	0.454	J	0.152	0.500	1	12/16/2018 18:03	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 18:03	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 18:03	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 18:03	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 18:03	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 18:03	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 18:03	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 18:03	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 18:03	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 18:03	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 18:03	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 18:03	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 18:03	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 18:03	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 18:03	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 18:03	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 18:03	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 18:03	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 18:03	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 18:03	WG1211567
Naphthalene	0.251	J	0.174	2.50	1	12/16/2018 18:03	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 18:03	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 18:03	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 18:03	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 18:03	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 18:03	WG1211567
Tetrachloroethene	1.71		0.199	0.500	1	12/18/2018 02:33	WG1212222
Toluene	U		0.412	0.500	1	12/16/2018 18:03	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 18:03	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 18:03	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 18:03	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 18:03	WG1211567
Trichloroethene	2.75		0.153	0.500	1	12/18/2018 02:33	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 18:03	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 18:03	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 18:03	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 18:03	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 18:03	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 18:03	WG1211567
Vinyl chloride	5.95		0.118	0.500	1	12/16/2018 18:03	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 18:03	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/16/2018 18:03*	WG1211567
(S) Toluene-d8	*106*			*80.0-120*		*12/18/2018 02:33*	WG1212222
(S) Dibromofluoromethane	*96.1*			*75.0-120*		*12/16/2018 18:03*	WG1211567
(S) Dibromofluoromethane	*87.9*			*75.0-120*		*12/18/2018 02:33*	WG1212222
(S) 4-Bromofluorobenzene	*88.5*			*77.0-126*		*12/16/2018 18:03*	WG1211567
(S) 4-Bromofluorobenzene	*96.7*			*77.0-126*		*12/18/2018 02:33*	WG1212222

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

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/15/2018 22:25	WG1211498
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*		*12/15/2018 22:25*	WG1211498

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	1.11	J	1.05	25.0	1	12/18/2018 02:52	WG1212222
Acrylonitrile	U		0.873	5.00	1	12/16/2018 18:22	WG1211567
Benzene	U		0.0896	0.500	1	12/16/2018 18:22	WG1211567
Bromobenzene	U		0.133	0.500	1	12/16/2018 18:22	WG1211567
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 18:22	WG1211567
Bromochloromethane	U		0.145	0.500	1	12/16/2018 18:22	WG1211567
Bromoform	U		0.186	0.500	1	12/16/2018 18:22	WG1211567
Bromomethane	U		0.157	2.50	1	12/16/2018 18:22	WG1211567
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 18:22	WG1211567
sec-Butylbenzene	U		0.134	0.500	1	12/16/2018 18:22	WG1211567
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 18:22	WG1211567
Carbon disulfide	U		0.101	0.500	1	12/16/2018 18:22	WG1211567
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 18:22	WG1211567
Chlorobenzene	U		0.140	0.500	1	12/16/2018 18:22	WG1211567
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 18:22	WG1211567
Chloroethane	U		0.141	2.50	1	12/16/2018 18:22	WG1211567
Chloroform	U		0.0860	0.500	1	12/16/2018 18:22	WG1211567
Chloromethane	U		0.153	1.25	1	12/16/2018 18:22	WG1211567
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 18:22	WG1211567
4-Chlorotoluene	U		0.0972	0.500	1	12/16/2018 18:22	WG1211567
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 18:22	WG1211567
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 18:22	WG1211567
Dibromomethane	U		0.117	0.500	1	12/16/2018 18:22	WG1211567
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 18:22	WG1211567
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 18:22	WG1211567
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 18:22	WG1211567
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 18:22	WG1211567
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 18:22	WG1211567
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 18:22	WG1211567
1,1-Dichloroethene	U		0.188	0.500	1	12/16/2018 18:22	WG1211567
cis-1,2-Dichloroethene	1.46		0.0933	0.500	1	12/18/2018 02:52	WG1212222
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/16/2018 18:22	WG1211567
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 18:22	WG1211567
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 18:22	WG1211567
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 18:22	WG1211567
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 18:22	WG1211567
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 18:22	WG1211567
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 18:22	WG1211567
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 18:22	WG1211567
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 18:22	WG1211567
Ethylbenzene	U		0.158	0.500	1	12/16/2018 18:22	WG1211567
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 18:22	WG1211567
2-Hexanone	U		0.757	5.00	1	12/16/2018 18:22	WG1211567
n-Hexane	U		0.305	5.00	1	12/16/2018 18:22	WG1211567
Iodomethane	U		0.377	10.0	1	12/16/2018 18:22	WG1211567
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 18:22	WG1211567
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 18:22	WG1211567
2-Butanone (MEK)	U		1.28	5.00	1	12/16/2018 18:22	WG1211567

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/16/2018 18:22	WG1211567
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 18:22	WG1211567
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 18:22	WG1211567
Naphthalene	U		0.174	2.50	1	12/16/2018 18:22	WG1211567
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 18:22	WG1211567
Styrene	U		0.117	0.500	1	12/16/2018 18:22	WG1211567
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 18:22	WG1211567
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 18:22	WG1211567
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 18:22	WG1211567
Tetrachloroethene	U		0.199	0.500	1	12/18/2018 02:52	WG1212222
Toluene	U		0.412	0.500	1	12/16/2018 18:22	WG1211567
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/16/2018 18:22	WG1211567
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 18:22	WG1211567
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 18:22	WG1211567
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 18:22	WG1211567
Trichloroethene	U		0.153	0.500	1	12/18/2018 02:52	WG1212222
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 18:22	WG1211567
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 18:22	WG1211567
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 18:22	WG1211567
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 18:22	WG1211567
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 18:22	WG1211567
Vinyl acetate	U		0.645	5.00	1	12/16/2018 18:22	WG1211567
Vinyl chloride	0.520		0.118	0.500	1	12/16/2018 18:22	WG1211567
Xylenes, Total	U		0.316	1.50	1	12/16/2018 18:22	WG1211567
(S) Toluene-d8	*104*			*80.0-120*		*12/16/2018 18:22*	WG1211567
(S) Toluene-d8	*108*			*80.0-120*		*12/18/2018 02:52*	WG1212222
(S) Dibromofluoromethane	*107*			*75.0-120*		*12/16/2018 18:22*	WG1211567
(S) Dibromofluoromethane	*91.6*			*75.0-120*		*12/18/2018 02:52*	WG1212222
(S) 4-Bromofluorobenzene	*87.8*			*77.0-126*		*12/16/2018 18:22*	WG1211567
(S) 4-Bromofluorobenzene	*96.1*			*77.0-126*		*12/18/2018 02:52*	WG1212222

Method Blank (MB)

(MB) R3368595-3 12/15/18 14:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*

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

(LCS) R3368595-1 12/15/18 13:48 • (LCSD) R3368595-2 12/15/18 14:09

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 %
Gasoline Range Organics-NWTPH	5500	5920	5860	108	107	70.0-124			0.937	20
(S) a,a,a-Trifluorotoluene(FID)				*99.9*	*97.9*	*78.0-120*				

L1053029-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053029-04 12/15/18 18:09 • (MS) R3368595-4 12/15/18 22:46 • (MSD) R3368595-5 12/15/18 23:08

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 %
Gasoline Range Organics-NWTPH	5500	U	7330	5710	133	104	1	10.0-155		J3	24.9	21
(S) a,a,a-Trifluorotoluene(FID)					*97.4*	*99.8*		*78.0-120*				

Method Blank (MB)

(MB) R3368736-3 12/17/18 00:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*

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

(LCS) R3368736-1 12/16/18 23:04 • (LCSD) R3368736-2 12/16/18 23:25

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 %
Gasoline Range Organics-NWTPH	5500	5600	5560	102	101	70.0-124			0.660	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*99.1*	*78.0-120*				

Method Blank (MB)

(MB) R3368961-3 12/16/18 11:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00

Method Blank (MB)

(MB) R3368961-3 12/16/18 11:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*105*			*80.0-120*
(S) Dibromofluoromethane	*98.0*			*75.0-120*
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*

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

(LCS) R3368961-1 12/16/18 10:50 • (LCSD) R3368961-2 12/16/18 11:09

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 %
Acrylonitrile	125	101	109	80.6	87.1	55.0-149			7.79	20
Benzene	25.0	23.6	23.5	94.4	94.2	70.0-123			0.298	20

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

(LCS) R3368961-1 12/16/18 10:50 • (LCSD) R3368961-2 12/16/18 11:09

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 %
Bromobenzene	25.0	22.9	22.8	91.5	91.1	73.0-121			0.383	20
Bromodichloromethane	25.0	23.7	23.6	94.7	94.6	75.0-120			0.0741	20
Bromochloromethane	25.0	25.4	25.3	102	101	76.0-122			0.355	20
Bromoform	25.0	24.9	24.9	99.6	99.5	68.0-132			0.0793	20
Bromomethane	25.0	25.9	26.2	103	105	10.0-160			1.34	25
n-Butylbenzene	25.0	24.2	24.0	96.6	96.1	73.0-125			0.545	20
sec-Butylbenzene	25.0	23.8	23.5	95.4	94.2	75.0-125			1.28	20
tert-Butylbenzene	25.0	23.8	23.6	95.1	94.2	76.0-124			0.955	20
Carbon disulfide	25.0	24.9	25.4	99.7	101	61.0-128			1.69	20
Carbon tetrachloride	25.0	24.3	23.9	97.3	95.7	68.0-126			1.71	20
Chlorobenzene	25.0	25.5	25.3	102	101	80.0-121			0.906	20
Chlorodibromomethane	25.0	25.3	25.3	101	101	77.0-125			0.149	20
Chloroethane	25.0	25.3	23.7	101	94.8	47.0-150			6.38	20
Chloroform	25.0	23.6	23.6	94.3	94.2	73.0-120			0.0644	20
Chloromethane	25.0	25.0	24.1	99.8	96.5	41.0-142			3.37	20
2-Chlorotoluene	25.0	23.2	23.2	92.9	92.9	76.0-123			0.00176	20
4-Chlorotoluene	25.0	23.2	22.8	92.8	91.2	75.0-122			1.66	20
1,2-Dibromo-3-Chloropropane	25.0	22.8	24.1	91.1	96.6	58.0-134			5.90	20
1,2-Dibromoethane	25.0	25.0	24.9	100	99.6	80.0-122			0.550	20
Dibromomethane	25.0	24.4	24.4	97.6	97.6	80.0-120			0.0523	20
1,2-Dichlorobenzene	25.0	23.9	24.3	95.6	97.3	79.0-121			1.69	20
1,3-Dichlorobenzene	25.0	23.8	23.7	95.2	94.8	79.0-120			0.380	20
1,4-Dichlorobenzene	25.0	24.3	24.3	97.3	97.0	79.0-120			0.252	20
Dichlorodifluoromethane	25.0	28.9	28.9	116	116	51.0-149			0.0230	20
1,1-Dichloroethane	25.0	24.8	24.3	99.1	97.3	70.0-126			1.89	20
1,2-Dichloroethane	25.0	24.0	24.3	96.2	97.4	70.0-128			1.25	20
1,1-Dichloroethene	25.0	26.0	26.4	104	106	71.0-124			1.50	20
trans-1,2-Dichloroethene	25.0	24.3	24.3	97.2	97.4	73.0-120			0.198	20
1,2-Dichloropropane	25.0	24.8	24.3	99.1	97.1	77.0-125			1.97	20
1,1-Dichloropropene	25.0	25.1	25.0	100	99.8	74.0-126			0.438	20
1,3-Dichloropropane	25.0	25.3	25.1	101	100	80.0-120			0.785	20
cis-1,3-Dichloropropene	25.0	25.9	25.6	104	102	80.0-123			1.35	20
trans-1,3-Dichloropropene	25.0	25.6	25.1	102	100	78.0-124			2.07	20
trans-1,4-Dichloro-2-butene	25.0	22.8	22.3	91.1	89.1	33.0-144			2.22	20
2,2-Dichloropropane	25.0	23.5	22.8	94.1	91.3	58.0-130			3.04	20
Di-isopropyl ether	25.0	24.1	23.5	96.4	93.8	58.0-138			2.65	20
Ethylbenzene	25.0	25.3	24.6	101	98.5	79.0-123			2.84	20
Hexachloro-1,3-butadiene	25.0	24.3	23.9	97.1	95.8	54.0-138			1.42	20
2-Hexanone	125	119	115	95.3	91.8	67.0-149			3.78	20
n-Hexane	25.0	25.8	26.3	103	105	57.0-133			2.19	20

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

(LCS) R3368961-1 12/16/18 10:50 • (LCSD) R3368961-2 12/16/18 11:09

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 %
Iodomethane	125	127	126	102	101	33.0-147			0.981	26
Isopropylbenzene	25.0	23.1	23.0	92.5	92.1	76.0-127			0.379	20
p-Isopropyltoluene	25.0	24.4	24.3	97.7	97.0	76.0-125			0.648	20
2-Butanone (MEK)	125	123	114	98.7	91.5	44.0-160			7.56	20
Methylene Chloride	25.0	23.8	23.6	95.3	94.6	67.0-120			0.735	20
4-Methyl-2-pentanone (MIBK)	125	117	115	93.8	92.2	68.0-142			1.76	20
Methyl tert-butyl ether	25.0	25.0	23.8	100	95.2	68.0-125			4.98	20
Naphthalene	25.0	21.9	23.3	87.5	93.3	54.0-135			6.41	20
n-Propylbenzene	25.0	23.4	23.1	93.6	92.2	77.0-124			1.49	20
Styrene	25.0	23.9	23.5	95.6	94.0	73.0-130			1.68	20
1,1,1,2-Tetrachloroethane	25.0	25.4	24.9	102	99.5	75.0-125			2.17	20
1,1,2,2-Tetrachloroethane	25.0	22.4	22.4	89.5	89.7	65.0-130			0.238	20
1,1,2-Trichlorotrifluoroethane	25.0	25.9	25.6	104	102	69.0-132			1.14	20
Toluene	25.0	23.6	23.5	94.5	93.9	79.0-120			0.549	20
1,2,3-Trichlorobenzene	25.0	22.4	23.5	89.5	94.1	50.0-138			4.99	20
1,2,4-Trichlorobenzene	25.0	22.6	23.9	90.5	95.5	57.0-137			5.47	20
1,1,1-Trichloroethane	25.0	23.8	23.5	95.4	93.8	73.0-124			1.66	20
1,1,2-Trichloroethane	25.0	23.6	23.7	94.5	94.8	80.0-120			0.371	20
Trichlorofluoromethane	25.0	26.8	26.1	107	104	59.0-147			2.68	20
1,2,3-Trichloropropane	25.0	21.6	22.2	86.5	88.8	73.0-130			2.63	20
1,2,4-Trimethylbenzene	25.0	23.2	22.9	92.7	91.5	76.0-121			1.41	20
1,2,3-Trimethylbenzene	25.0	23.7	23.8	94.6	95.4	77.0-120			0.824	20
1,3,5-Trimethylbenzene	25.0	23.1	23.2	92.4	92.7	76.0-122			0.275	20
Vinyl acetate	125	117	116	93.9	93.1	11.0-160			0.857	20
Vinyl chloride	25.0	26.2	25.4	105	102	67.0-131			2.81	20
Xylenes, Total	75.0	75.6	73.7	101	98.3	79.0-123			2.55	20
(S) Toluene-d8				*103*	*102*	*80.0-120*				
(S) Dibromofluoromethane				*101*	*101*	*75.0-120*				
(S) 4-Bromofluorobenzene				*96.5*	*95.5*	*77.0-126*				

Method Blank (MB)

(MB) R3369057-2 12/17/18 22:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
cis-1,2-Dichloroethene	U		0.0933	0.500
Tetrachloroethene	U		0.199	0.500
Trichloroethene	U		0.153	0.500
(S) Toluene-d8	*110*			*80.0-120*
(S) Dibromofluoromethane	*87.0*			*75.0-120*
(S) 4-Bromofluorobenzene	*98.0*			*77.0-126*

Laboratory Control Sample (LCS)

(LCS) R3369057-1 12/17/18 21:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	125	113	90.7	19.0-160	
cis-1,2-Dichloroethene	25.0	22.2	88.8	73.0-120	
Tetrachloroethene	25.0	29.6	118	72.0-132	
Trichloroethene	25.0	25.0	99.8	78.0-124	
(S) Toluene-d8			*104*	*80.0-120*	
(S) Dibromofluoromethane			*84.1*	*75.0-120*	
(S) 4-Bromofluorobenzene			*96.7*	*77.0-126*	

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

MDL	Method Detection Limit.
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
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

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	T 104704245-17-14
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

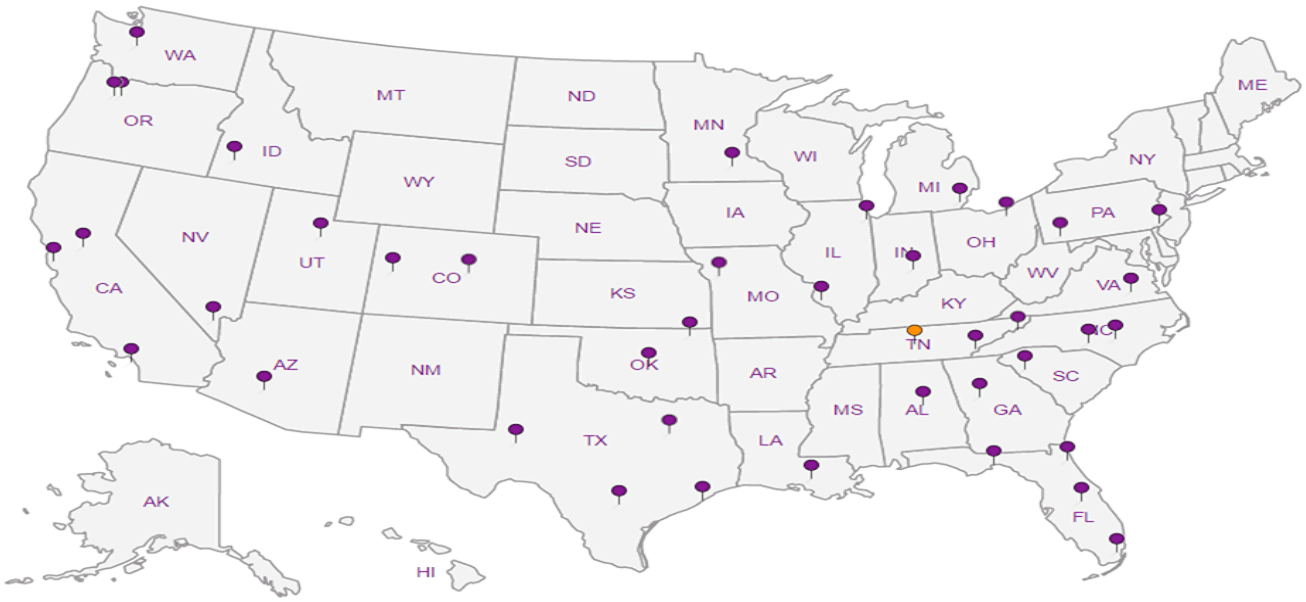
Third Party Federal Accreditations

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.



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Report to: ~~Karsten Springstead~~ Brian ONeal

Email To: ~~kspringstead@pesenv.com, mdahl@pesenv.com~~ BONEAL@PESENV.COM

Project Description: ~~MVSC~~ American Linen

City/State Collected: Seattle WA

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1358.001.01.003

Lab Project # PESENVSWA-MVSC

Collected by (print): A. Wit / B. Heckt / K. Zygas

Collected by (signature):

Site/Facility ID #

P.O. #

Quote #

Immediately Packed on Ice N ___ Y X

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

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	V8260LLC VOCs 40mlAmb-HCl	WWTPH - GX	Remarks	Sample # (lab only)
MW-131-121218	Grab	GW	49'	12-12-18	1245	6					-01
MW-137-121218		GW	110'		1445	6					-02
IW-MW-02-121218		GW	75'		1425	6					-03
MW-134-121218		GW	85'		1250	6					-04
MW-133-121218		GW	134'		1000	4					-05
MW-141-121218		GW	100'	X	1120	6					-06
		GW									
		GW									
		GW									
	X	GW									

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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

L# L1053394

D086

Acctnum: PESENVSWA
Template: T131700
Prelogin: P662457
TSR: 110 - Brian Ford
PB:

Shipped Via:

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 4686 6469 8467

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	12/13/18	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.3 °C 1.5 1.8 #2 Bottles Received: 34	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/14/18 Time: 0830	Hold: Condition: NCF / OK

Katie Ingram

Pace Analytical®
National Center for Testing & Innovation

Login #: L053394	Client:PESENVSWA	Date:12/14/18	Evaluated by:Myra "Katie" Ingram

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		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
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	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	X	Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments:

We received all 40mlAmb-HCL containers.

Does client want these vials placed on hold or them analyzed.

Client informed by:		Call		Email X		Voice Mail		Date:12/14/18	Time:2030
TSR Initials:bjf	Client Contact: Brian O'Neal								

Login Instructions:

Analyze all samples for NWTPHGX and V8260LLC as R3 due 12/18.

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 02, 2019

PES Environmental, Inc.- WA

Sample Delivery Group:	L1053462
Samples Received:	12/15/2018
Project Number:	1413.001.05.601
Description:	American Linen
Site:	AMERICAN LINEN
Report To:	Brian O'Neal/Bill Haldeman 1215 Fourth Ave., Suite 1350 Seattle, WA 98161

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

MW-151-121418 L1053462-01 GW

Collected by: BH / AW | Collected date/time: 12/14/18 08:20 | Received date/time: 12/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1213167	1	12/21/18 12:16	12/21/18 12:16	GB
Wet Chemistry by Method 9056A	WG1211292	1	12/15/18 15:09	12/15/18 15:09	MAJ
Wet Chemistry by Method 9056A	WG1211292	10	12/15/18 15:19	12/15/18 15:19	MAJ
Wet Chemistry by Method 9060A	WG1217442	10	12/31/18 16:36	12/31/18 16:36	SJM
Metals (ICPMS) by Method 6020B	WG1212648	5	12/19/18 08:48	12/19/18 15:53	JPD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1212191	1	12/18/18 23:24	12/18/18 23:24	BMB
Volatile Organic Compounds (GC) by Method RSK175	WG1212739	1	12/19/18 14:54	12/19/18 14:54	MEL
Volatile Organic Compounds (GC) by Method RSK175	WG1212739	10	12/19/18 15:04	12/19/18 15:04	MEL

MW-152-121418 L1053462-02 GW

Collected by: BH / AW | Collected date/time: 12/14/18 08:30 | Received date/time: 12/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1213167	1	12/21/18 12:25	12/21/18 12:25	GB
Wet Chemistry by Method 9056A	WG1211292	1	12/15/18 15:30	12/15/18 15:30	MAJ
Wet Chemistry by Method 9056A	WG1211292	5	12/15/18 15:41	12/15/18 15:41	MAJ
Wet Chemistry by Method 9060A	WG1216816	1	12/29/18 07:36	12/29/18 07:36	SJM
Metals (ICPMS) by Method 6020B	WG1212648	1	12/19/18 08:48	12/19/18 15:02	JPD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1212191	10	12/18/18 23:45	12/18/18 23:45	BMB
Volatile Organic Compounds (GC) by Method RSK175	WG1212739	1	12/19/18 14:56	12/19/18 14:56	MEL

MW-151-121418 L1053462-03 GW

Collected by: BH / AW | Collected date/time: 12/14/18 08:20 | Received date/time: 12/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211777	1	12/16/18 17:52	12/16/18 17:52	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212243	50	12/17/18 23:32	12/17/18 23:32	ACG

MW-152-121418 L1053462-04 GW

Collected by: BH / AW | Collected date/time: 12/14/18 08:30 | Received date/time: 12/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1211777	25	12/16/18 18:11	12/16/18 18:11	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212243	2000	12/17/18 23:53	12/17/18 23:53	ACG

TRIP BLANK L1053462-05 GW

Collected by: BH / AW | Collected date/time: 12/14/18 00:00 | Received date/time: 12/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1212450	1	12/18/18 15:16	12/18/18 15:16	BMB

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.

Brian Ford
Project Manager

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	618000		2710	20000	1	12/21/2018 12:16	WG1213167

Sample Narrative:

L1053462-01 WG1213167: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	32200		51.9	1000	1	12/15/2018 15:09	WG1211292
Nitrate	U		22.7	100	1	12/15/2018 15:09	WG1211292
Sulfate	702000		774	50000	10	12/15/2018 15:19	WG1211292

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	335000		1020	10000	10	12/31/2018 16:36	WG1217442

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	138000		75.0	500	5	12/19/2018 15:53	WG1212648
Manganese	11800		1.25	25.0	5	12/19/2018 15:53	WG1212648

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	1040		31.6	100	1	12/18/2018 23:24	WG1212191
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*12/18/2018 23:24*	WG1212191

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	18900		2.87	6.78	10	12/19/2018 15:04	WG1212739
Ethane	68.4		0.296	1.29	1	12/19/2018 14:54	WG1212739
Ethene	101		0.422	1.27	1	12/19/2018 14:54	WG1212739

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	299000		2710	20000	1	12/21/2018 12:25	WG1213167

Sample Narrative:

L1053462-02 WG1213167: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	181000		260	5000	5	12/15/2018 15:41	WG1211292
Nitrate	U		22.7	100	1	12/15/2018 15:30	WG1211292
Sulfate	31600		77.4	5000	1	12/15/2018 15:30	WG1211292

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	16900		102	1000	1	12/29/2018 07:36	WG1216816

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	3820		15.0	100	1	12/19/2018 15:02	WG1212648
Manganese	1460	V	0.250	5.00	1	12/19/2018 15:02	WG1212648

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	47300		316	1000	10	12/18/2018 23:45	WG1212191
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*		*12/18/2018 23:45*	WG1212191

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	3710		0.287	0.678	1	12/19/2018 14:56	WG1212739
Ethane	32.2		0.296	1.29	1	12/19/2018 14:56	WG1212739
Ethene	2050		0.422	1.27	1	12/19/2018 14:56	WG1212739

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	16.6	J	1.05	25.0	1	12/16/2018 17:52	WG1211777
Acrylonitrile	U		0.873	5.00	1	12/16/2018 17:52	WG1211777
Benzene	0.342	J	0.0896	0.500	1	12/16/2018 17:52	WG1211777
Bromobenzene	U	J4	0.133	0.500	1	12/16/2018 17:52	WG1211777
Bromodichloromethane	U		0.0800	0.500	1	12/16/2018 17:52	WG1211777
Bromochloromethane	U		0.145	0.500	1	12/16/2018 17:52	WG1211777
Bromoform	U		0.186	0.500	1	12/16/2018 17:52	WG1211777
Bromomethane	U		0.157	2.50	1	12/16/2018 17:52	WG1211777
n-Butylbenzene	U		0.143	0.500	1	12/16/2018 17:52	WG1211777
sec-Butylbenzene	U	J3	0.134	0.500	1	12/16/2018 17:52	WG1211777
tert-Butylbenzene	U		0.183	0.500	1	12/16/2018 17:52	WG1211777
Carbon disulfide	4.43		0.101	0.500	1	12/16/2018 17:52	WG1211777
Carbon tetrachloride	U		0.159	0.500	1	12/16/2018 17:52	WG1211777
Chlorobenzene	U		0.140	0.500	1	12/16/2018 17:52	WG1211777
Chlorodibromomethane	U		0.128	0.500	1	12/16/2018 17:52	WG1211777
Chloroethane	2.63		0.141	2.50	1	12/16/2018 17:52	WG1211777
Chloroform	0.285	J	0.0860	0.500	1	12/16/2018 17:52	WG1211777
Chloromethane	U		0.153	1.25	1	12/16/2018 17:52	WG1211777
2-Chlorotoluene	U		0.111	0.500	1	12/16/2018 17:52	WG1211777
4-Chlorotoluene	U	J4	0.0972	0.500	1	12/16/2018 17:52	WG1211777
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/16/2018 17:52	WG1211777
1,2-Dibromoethane	U		0.193	0.500	1	12/16/2018 17:52	WG1211777
Dibromomethane	U		0.117	0.500	1	12/16/2018 17:52	WG1211777
1,2-Dichlorobenzene	U		0.101	0.500	1	12/16/2018 17:52	WG1211777
1,3-Dichlorobenzene	U		0.130	0.500	1	12/16/2018 17:52	WG1211777
1,4-Dichlorobenzene	U		0.121	0.500	1	12/16/2018 17:52	WG1211777
Dichlorodifluoromethane	U		0.127	2.50	1	12/16/2018 17:52	WG1211777
1,1-Dichloroethane	U		0.114	0.500	1	12/16/2018 17:52	WG1211777
1,2-Dichloroethane	U		0.108	0.500	1	12/16/2018 17:52	WG1211777
1,1-Dichloroethene	7.05		0.188	0.500	1	12/16/2018 17:52	WG1211777
cis-1,2-Dichloroethene	1690		4.66	25.0	50	12/17/2018 23:32	WG1212243
trans-1,2-Dichloroethene	4.56		0.152	0.500	1	12/16/2018 17:52	WG1211777
1,2-Dichloropropane	U		0.190	0.500	1	12/16/2018 17:52	WG1211777
1,1-Dichloropropene	U		0.128	0.500	1	12/16/2018 17:52	WG1211777
1,3-Dichloropropane	U		0.147	1.00	1	12/16/2018 17:52	WG1211777
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/16/2018 17:52	WG1211777
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/16/2018 17:52	WG1211777
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/16/2018 17:52	WG1211777
2,2-Dichloropropane	U		0.0929	0.500	1	12/16/2018 17:52	WG1211777
Di-isopropyl ether	U		0.0924	0.500	1	12/16/2018 17:52	WG1211777
Ethylbenzene	U		0.158	0.500	1	12/16/2018 17:52	WG1211777
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/16/2018 17:52	WG1211777
2-Hexanone	U		0.757	5.00	1	12/16/2018 17:52	WG1211777
n-Hexane	U		0.305	5.00	1	12/16/2018 17:52	WG1211777
Iodomethane	U		0.377	10.0	1	12/16/2018 17:52	WG1211777
Isopropylbenzene	U		0.126	0.500	1	12/16/2018 17:52	WG1211777
p-Isopropyltoluene	U		0.138	0.500	1	12/16/2018 17:52	WG1211777
2-Butanone (MEK)	4.26	J	1.28	5.00	1	12/16/2018 17:52	WG1211777
Methylene Chloride	U		1.07	2.50	1	12/16/2018 17:52	WG1211777
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/16/2018 17:52	WG1211777
Methyl tert-butyl ether	U		0.102	0.500	1	12/16/2018 17:52	WG1211777
Naphthalene	U		0.174	2.50	1	12/16/2018 17:52	WG1211777
n-Propylbenzene	U		0.162	0.500	1	12/16/2018 17:52	WG1211777
Styrene	U		0.117	0.500	1	12/16/2018 17:52	WG1211777
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/16/2018 17:52	WG1211777
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/16/2018 17:52	WG1211777

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/16/2018 17:52	WG1211777
Tetrachloroethene	1460		9.95	25.0	50	12/17/2018 23:32	WG1212243
Toluene	0.440	J	0.412	0.500	1	12/16/2018 17:52	WG1211777
1,2,3-Trichlorobenzene	U	J0	0.164	0.500	1	12/16/2018 17:52	WG1211777
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/16/2018 17:52	WG1211777
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/16/2018 17:52	WG1211777
1,1,2-Trichloroethane	U		0.186	0.500	1	12/16/2018 17:52	WG1211777
Trichloroethene	155		0.153	0.500	1	12/16/2018 17:52	WG1211777
Trichlorofluoromethane	U		0.130	2.50	1	12/16/2018 17:52	WG1211777
1,2,3-Trichloropropane	U		0.247	2.50	1	12/16/2018 17:52	WG1211777
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/16/2018 17:52	WG1211777
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/16/2018 17:52	WG1211777
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/16/2018 17:52	WG1211777
Vinyl acetate	U		0.645	5.00	1	12/16/2018 17:52	WG1211777
Vinyl chloride	530		5.90	25.0	50	12/17/2018 23:32	WG1212243
Xylenes, Total	U		0.316	1.50	1	12/16/2018 17:52	WG1211777
(S) Toluene-d8	*92.1*			*80.0-120*		*12/16/2018 17:52*	WG1211777
(S) Toluene-d8	*108*			*80.0-120*		*12/17/2018 23:32*	WG1212243
(S) Dibromofluoromethane	*97.2*			*75.0-120*		*12/16/2018 17:52*	WG1211777
(S) Dibromofluoromethane	*107*			*75.0-120*		*12/17/2018 23:32*	WG1212243
(S) 4-Bromofluorobenzene	*125*			*77.0-126*		*12/16/2018 17:52*	WG1211777
(S) 4-Bromofluorobenzene	*94.2*			*77.0-126*		*12/17/2018 23:32*	WG1212243

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		26.2	625	25	12/16/2018 18:11	WG1211777
Acrylonitrile	U		21.8	125	25	12/16/2018 18:11	WG1211777
Benzene	U		2.24	12.5	25	12/16/2018 18:11	WG1211777
Bromobenzene	U	J4	3.32	12.5	25	12/16/2018 18:11	WG1211777
Bromodichloromethane	U		2.00	12.5	25	12/16/2018 18:11	WG1211777
Bromochloromethane	U		3.62	12.5	25	12/16/2018 18:11	WG1211777
Bromoform	U		4.65	12.5	25	12/16/2018 18:11	WG1211777
Bromomethane	U		3.92	62.5	25	12/16/2018 18:11	WG1211777
n-Butylbenzene	U		3.58	12.5	25	12/16/2018 18:11	WG1211777
sec-Butylbenzene	U	J3	3.35	12.5	25	12/16/2018 18:11	WG1211777
tert-Butylbenzene	U		4.58	12.5	25	12/16/2018 18:11	WG1211777
Carbon disulfide	13.7		2.52	12.5	25	12/16/2018 18:11	WG1211777
Carbon tetrachloride	U		3.98	12.5	25	12/16/2018 18:11	WG1211777
Chlorobenzene	U		3.50	12.5	25	12/16/2018 18:11	WG1211777
Chlorodibromomethane	U		3.20	12.5	25	12/16/2018 18:11	WG1211777
Chloroethane	U		3.52	62.5	25	12/16/2018 18:11	WG1211777
Chloroform	U		2.15	12.5	25	12/16/2018 18:11	WG1211777
Chloromethane	U		3.82	31.3	25	12/16/2018 18:11	WG1211777
2-Chlorotoluene	U		2.78	12.5	25	12/16/2018 18:11	WG1211777
4-Chlorotoluene	U	J4	2.43	12.5	25	12/16/2018 18:11	WG1211777
1,2-Dibromo-3-Chloropropane	U		8.12	62.5	25	12/16/2018 18:11	WG1211777
1,2-Dibromoethane	U		4.82	12.5	25	12/16/2018 18:11	WG1211777
Dibromomethane	U		2.92	12.5	25	12/16/2018 18:11	WG1211777
1,2-Dichlorobenzene	U		2.52	12.5	25	12/16/2018 18:11	WG1211777
1,3-Dichlorobenzene	U		3.25	12.5	25	12/16/2018 18:11	WG1211777
1,4-Dichlorobenzene	U		3.02	12.5	25	12/16/2018 18:11	WG1211777
Dichlorodifluoromethane	U		3.18	62.5	25	12/16/2018 18:11	WG1211777
1,1-Dichloroethane	U		2.85	12.5	25	12/16/2018 18:11	WG1211777
1,2-Dichloroethane	U		2.70	12.5	25	12/16/2018 18:11	WG1211777
1,1-Dichloroethene	108		4.70	12.5	25	12/16/2018 18:11	WG1211777
cis-1,2-Dichloroethene	77100		187	1000	2000	12/17/2018 23:53	WG1212243
trans-1,2-Dichloroethene	134		3.80	12.5	25	12/16/2018 18:11	WG1211777
1,2-Dichloropropane	U		4.75	12.5	25	12/16/2018 18:11	WG1211777
1,1-Dichloropropene	U		3.20	12.5	25	12/16/2018 18:11	WG1211777
1,3-Dichloropropane	U		3.68	25.0	25	12/16/2018 18:11	WG1211777
cis-1,3-Dichloropropene	U		2.44	12.5	25	12/16/2018 18:11	WG1211777
trans-1,3-Dichloropropene	U		5.55	12.5	25	12/16/2018 18:11	WG1211777
trans-1,4-Dichloro-2-butene	U		6.42	125	25	12/16/2018 18:11	WG1211777
2,2-Dichloropropane	U		2.32	12.5	25	12/16/2018 18:11	WG1211777
Di-isopropyl ether	U		2.31	12.5	25	12/16/2018 18:11	WG1211777
Ethylbenzene	U		3.95	12.5	25	12/16/2018 18:11	WG1211777
Hexachloro-1,3-butadiene	U		3.92	25.0	25	12/16/2018 18:11	WG1211777
2-Hexanone	U		18.9	125	25	12/16/2018 18:11	WG1211777
n-Hexane	U		7.62	125	25	12/16/2018 18:11	WG1211777
Iodomethane	U		9.42	250	25	12/16/2018 18:11	WG1211777
Isopropylbenzene	U		3.15	12.5	25	12/16/2018 18:11	WG1211777
p-Isopropyltoluene	U		3.45	12.5	25	12/16/2018 18:11	WG1211777
2-Butanone (MEK)	U		32.0	125	25	12/16/2018 18:11	WG1211777
Methylene Chloride	U		26.8	62.5	25	12/16/2018 18:11	WG1211777
4-Methyl-2-pentanone (MIBK)	U		20.6	125	25	12/16/2018 18:11	WG1211777
Methyl tert-butyl ether	U		2.55	12.5	25	12/16/2018 18:11	WG1211777
Naphthalene	U		4.35	62.5	25	12/16/2018 18:11	WG1211777
n-Propylbenzene	U		4.05	12.5	25	12/16/2018 18:11	WG1211777
Styrene	U		2.92	12.5	25	12/16/2018 18:11	WG1211777
1,1,1,2-Tetrachloroethane	U		3.00	12.5	25	12/16/2018 18:11	WG1211777
1,1,2,2-Tetrachloroethane	U		3.25	12.5	25	12/16/2018 18:11	WG1211777

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,1,2-Trichlorotrifluoroethane	U		4.10	12.5	25	12/16/2018 18:11	WG1211777
Tetrachloroethene	23600		398	1000	2000	12/17/2018 23:53	WG1212243
Toluene	U		10.3	12.5	25	12/16/2018 18:11	WG1211777
1,2,3-Trichlorobenzene	U	J0	4.10	12.5	25	12/16/2018 18:11	WG1211777
1,2,4-Trichlorobenzene	U		8.88	12.5	25	12/16/2018 18:11	WG1211777
1,1,1-Trichloroethane	U		2.35	12.5	25	12/16/2018 18:11	WG1211777
1,1,2-Trichloroethane	U		4.65	12.5	25	12/16/2018 18:11	WG1211777
Trichloroethene	6870		306	1000	2000	12/17/2018 23:53	WG1212243
Trichlorofluoromethane	U		3.25	62.5	25	12/16/2018 18:11	WG1211777
1,2,3-Trichloropropane	U		6.18	62.5	25	12/16/2018 18:11	WG1211777
1,2,4-Trimethylbenzene	3.49	B J	3.08	12.5	25	12/16/2018 18:11	WG1211777
1,2,3-Trimethylbenzene	U		1.85	12.5	25	12/16/2018 18:11	WG1211777
1,3,5-Trimethylbenzene	U		3.10	12.5	25	12/16/2018 18:11	WG1211777
Vinyl acetate	U		16.1	125	25	12/16/2018 18:11	WG1211777
Vinyl chloride	7830		236	1000	2000	12/17/2018 23:53	WG1212243
Xylenes, Total	U		7.90	37.5	25	12/16/2018 18:11	WG1211777
(S) Toluene-d8	*97.7*			*80.0-120*		*12/16/2018 18:11*	WG1211777
(S) Toluene-d8	*107*			*80.0-120*		*12/17/2018 23:53*	WG1212243
(S) Dibromofluoromethane	*103*			*75.0-120*		*12/16/2018 18:11*	WG1211777
(S) Dibromofluoromethane	*106*			*75.0-120*		*12/17/2018 23:53*	WG1212243
(S) 4-Bromofluorobenzene	*137*	J1		*77.0-126*		*12/16/2018 18:11*	WG1211777
(S) 4-Bromofluorobenzene	*93.1*			*77.0-126*		*12/17/2018 23:53*	WG1212243

Sample Narrative:

L1053462-04 WG1211777: Diluted due to high levels of target analytes.

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		1.05	25.0	1	12/18/2018 15:16	WG1212450
Acrylonitrile	U		0.873	5.00	1	12/18/2018 15:16	WG1212450
Benzene	U		0.0896	0.500	1	12/18/2018 15:16	WG1212450
Bromobenzene	U		0.133	0.500	1	12/18/2018 15:16	WG1212450
Bromodichloromethane	U		0.0800	0.500	1	12/18/2018 15:16	WG1212450
Bromochloromethane	U		0.145	0.500	1	12/18/2018 15:16	WG1212450
Bromoform	U		0.186	0.500	1	12/18/2018 15:16	WG1212450
Bromomethane	U		0.157	2.50	1	12/18/2018 15:16	WG1212450
n-Butylbenzene	U		0.143	0.500	1	12/18/2018 15:16	WG1212450
sec-Butylbenzene	U		0.134	0.500	1	12/18/2018 15:16	WG1212450
tert-Butylbenzene	U		0.183	0.500	1	12/18/2018 15:16	WG1212450
Carbon disulfide	U		0.101	0.500	1	12/18/2018 15:16	WG1212450
Carbon tetrachloride	U		0.159	0.500	1	12/18/2018 15:16	WG1212450
Chlorobenzene	U		0.140	0.500	1	12/18/2018 15:16	WG1212450
Chlorodibromomethane	U		0.128	0.500	1	12/18/2018 15:16	WG1212450
Chloroethane	U		0.141	2.50	1	12/18/2018 15:16	WG1212450
Chloroform	U		0.0860	0.500	1	12/18/2018 15:16	WG1212450
Chloromethane	U		0.153	1.25	1	12/18/2018 15:16	WG1212450
2-Chlorotoluene	U		0.111	0.500	1	12/18/2018 15:16	WG1212450
4-Chlorotoluene	U		0.0972	0.500	1	12/18/2018 15:16	WG1212450
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/18/2018 15:16	WG1212450
1,2-Dibromoethane	U		0.193	0.500	1	12/18/2018 15:16	WG1212450
Dibromomethane	U		0.117	0.500	1	12/18/2018 15:16	WG1212450
1,2-Dichlorobenzene	U		0.101	0.500	1	12/18/2018 15:16	WG1212450
1,3-Dichlorobenzene	U		0.130	0.500	1	12/18/2018 15:16	WG1212450
1,4-Dichlorobenzene	U		0.121	0.500	1	12/18/2018 15:16	WG1212450
Dichlorodifluoromethane	U	J0	0.127	2.50	1	12/18/2018 15:16	WG1212450
1,1-Dichloroethane	U		0.114	0.500	1	12/18/2018 15:16	WG1212450
1,2-Dichloroethane	U		0.108	0.500	1	12/18/2018 15:16	WG1212450
1,1-Dichloroethene	U		0.188	0.500	1	12/18/2018 15:16	WG1212450
cis-1,2-Dichloroethene	U		0.0933	0.500	1	12/18/2018 15:16	WG1212450
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/18/2018 15:16	WG1212450
1,2-Dichloropropane	U		0.190	0.500	1	12/18/2018 15:16	WG1212450
1,1-Dichloropropene	U		0.128	0.500	1	12/18/2018 15:16	WG1212450
1,3-Dichloropropane	U		0.147	1.00	1	12/18/2018 15:16	WG1212450
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/18/2018 15:16	WG1212450
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/18/2018 15:16	WG1212450
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/18/2018 15:16	WG1212450
2,2-Dichloropropane	U	J0	0.0929	0.500	1	12/18/2018 15:16	WG1212450
Di-isopropyl ether	U		0.0924	0.500	1	12/18/2018 15:16	WG1212450
Ethylbenzene	U		0.158	0.500	1	12/18/2018 15:16	WG1212450
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/18/2018 15:16	WG1212450
2-Hexanone	U		0.757	5.00	1	12/18/2018 15:16	WG1212450
n-Hexane	U		0.305	5.00	1	12/18/2018 15:16	WG1212450
Iodomethane	U		0.377	10.0	1	12/18/2018 15:16	WG1212450
Isopropylbenzene	U		0.126	0.500	1	12/18/2018 15:16	WG1212450
p-Isopropyltoluene	U		0.138	0.500	1	12/18/2018 15:16	WG1212450
2-Butanone (MEK)	U		1.28	5.00	1	12/18/2018 15:16	WG1212450
Methylene Chloride	U		1.07	2.50	1	12/18/2018 15:16	WG1212450
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/18/2018 15:16	WG1212450
Methyl tert-butyl ether	U		0.102	0.500	1	12/18/2018 15:16	WG1212450
Naphthalene	U		0.174	2.50	1	12/18/2018 15:16	WG1212450
n-Propylbenzene	U		0.162	0.500	1	12/18/2018 15:16	WG1212450
Styrene	U		0.117	0.500	1	12/18/2018 15:16	WG1212450
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/18/2018 15:16	WG1212450
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/18/2018 15:16	WG1212450

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/18/2018 15:16	WG1212450
Tetrachloroethene	U		0.199	0.500	1	12/18/2018 15:16	WG1212450
Toluene	U		0.412	0.500	1	12/18/2018 15:16	WG1212450
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/18/2018 15:16	WG1212450
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/18/2018 15:16	WG1212450
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/18/2018 15:16	WG1212450
1,1,2-Trichloroethane	U		0.186	0.500	1	12/18/2018 15:16	WG1212450
Trichloroethene	U		0.153	0.500	1	12/18/2018 15:16	WG1212450
Trichlorofluoromethane	U	J0	0.130	2.50	1	12/18/2018 15:16	WG1212450
1,2,3-Trichloropropane	U		0.247	2.50	1	12/18/2018 15:16	WG1212450
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/18/2018 15:16	WG1212450
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/18/2018 15:16	WG1212450
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/18/2018 15:16	WG1212450
Vinyl acetate	U		0.645	5.00	1	12/18/2018 15:16	WG1212450
Vinyl chloride	U		0.118	0.500	1	12/18/2018 15:16	WG1212450
Xylenes, Total	U		0.316	1.50	1	12/18/2018 15:16	WG1212450
(S) Toluene-d8	*107*			*80.0-120*		*12/18/2018 15:16*	WG1212450
(S) Dibromofluoromethane	*88.5*			*75.0-120*		*12/18/2018 15:16*	WG1212450
(S) 4-Bromofluorobenzene	*96.7*			*77.0-126*		*12/18/2018 15:16*	WG1212450

Method Blank (MB)

(MB) R3370909-1 12/21/18 12:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	2870	J	2710	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1053462-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053462-02 12/21/18 12:25 • (DUP) R3370909-3 12/21/18 12:35

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	299000	297000	1	0.833		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1052876-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1052876-01 12/21/18 15:46 • (DUP) R3370909-5 12/21/18 15:53

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	114000	113000	1	0.550		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3370909-4 12/21/18 13:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100000	99200	99.2	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3368945-1 12/15/18 08:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	136	J	51.9	1000
Nitrate	U		22.7	100
Sulfate	U		77.4	5000

L1053354-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053354-02 12/15/18 10:57 • (DUP) R3368945-3 12/15/18 11:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35500	35700	1	0.539		15
Nitrate	ND	0.000	1	0.000		15

L1053526-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053526-02 12/15/18 20:03 • (DUP) R3368945-6 12/15/18 20:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	3440	3490	1	1.18		15
Nitrate	ND	0.000	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3368945-2 12/15/18 08:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39700	99.2	80.0-120	
Nitrate	8000	8120	102	80.0-120	
Sulfate	40000	40300	101	80.0-120	

L1053354-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053354-02 12/15/18 10:57 • (MS) R3368945-4 12/15/18 11:19 • (MSD) R3368945-5 12/15/18 11:52

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 %
Chloride	50000	35500	85800	84900	100	98.7	1	80.0-120			1.05	15
Nitrate	5000	ND	5760	5740	115	115	1	80.0-120			0.468	15

L1053526-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1053526-02 12/15/18 20:03 • (MS) R3368945-7 12/15/18 20:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	3440	53400	99.8	1	80.0-120	
Nitrate	5000	ND	6620	132	1	80.0-120	J5

Method Blank (MB)

(MB) R3372247-1 12/28/18 22:22

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

L1053205-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1053205-14 12/28/18 23:17 • (DUP) R3372247-3 12/28/18 23:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	549	571	1	3.89	J	20

L1053379-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1053379-10 12/29/18 05:48 • (DUP) R3372247-6 12/29/18 06:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	1290	1310	1	1.08		20

Laboratory Control Sample (LCS)

(LCS) R3372247-2 12/28/18 22:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
TOC (Total Organic Carbon)	75000	73800	98.3	85.0-115	

L1053259-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053259-02 12/29/18 01:37 • (MS) R3372247-4 12/29/18 01:55 • (MSD) R3372247-5 12/29/18 02:12

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	%	%		%			%	%
TOC (Total Organic Carbon)	50000	795	53000	53300	104	105	1	80.0-120			0.527	20

L1053462-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053462-02 12/29/18 07:36 • (MS) R3372247-7 12/29/18 07:52 • (MSD) R3372247-8 12/29/18 08:14

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	%	%		%			%	%
TOC (Total Organic Carbon)	50000	16900	69200	69500	105	105	1	80.0-120			0.418	20

Method Blank (MB)

(MB) R3372508-1 12/31/18 09:21

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

L1054422-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1054422-01 12/31/18 10:14 • (DUP) R3372508-3 12/31/18 10:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	6440	6470	1	0.480		20

L1053057-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053057-02 12/31/18 12:51 • (DUP) R3372508-4 12/31/18 13:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	2690	2660	1	1.08		20

Laboratory Control Sample (LCS)

(LCS) R3372508-2 12/31/18 09:52

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
TOC (Total Organic Carbon)	75000	73700	98.3	85.0-115	

L1053057-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053057-11 12/31/18 14:17 • (MS) R3372508-5 12/31/18 15:32 • (MSD) R3372508-6 12/31/18 15:50

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	%	%		%			%	%
TOC (Total Organic Carbon)	50000	1730	54900	54800	106	106	1	80.0-120			0.0729	20

L1053488-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053488-01 12/31/18 16:49 • (MS) R3372508-7 12/31/18 17:07 • (MSD) R3372508-8 12/31/18 17:24

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	%	%		%			%	%
TOC (Total Organic Carbon)	50000	1250	46400	46600	90.2	90.6	1	80.0-120			0.409	20

Method Blank (MB)

(MB) R3369708-1 12/19/18 14:48

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	U		15.0	100
Manganese	U		0.250	5.00

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

(LCS) R3369708-2 12/19/18 14:53 • (LCSD) R3369708-3 12/19/18 14:57

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	%	%	%			%	%
Iron	5000	4710	4700	94.1	94.0	80.0-120			0.124	20
Manganese	50.0	45.2	46.5	90.4	92.9	80.0-120			2.72	20

L1053462-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053462-02 12/19/18 15:02 • (MS) R3369708-5 12/19/18 15:11 • (MSD) R3369708-6 12/19/18 15:16

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	%	%		%			%	%
Iron	5000	3820	8430	8430	92.2	92.1	1	75.0-125			0.0832	20
Manganese	50.0	1460	1470	1490	12.4	61.7	1	75.0-125	V	V	1.67	20

Method Blank (MB)

(MB) R3369754-5 12/18/18 11:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*

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

(LCS) R3369754-3 12/18/18 10:33 • (LCSD) R3369754-4 12/18/18 10:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	5170	5140	94.0	93.4	70.0-124			0.698	20
(S) a,a,a-Trifluorotoluene(FID)				*97.8*	*97.8*	*78.0-120*				

L1053062-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053062-01 12/18/18 15:02 • (MS) R3369754-6 12/19/18 00:07 • (MSD) R3369754-7 12/19/18 00:29

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 %
Gasoline Range Organics-NWTPH	5500	ND	4410	4610	80.2	83.8	1	10.0-155			4.41	21
(S) a,a,a-Trifluorotoluene(FID)					*98.6*	*98.4*		*78.0-120*				

Method Blank (MB)

(MB) R3369653-1 12/19/18 13:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Methane	U		0.287	0.678
Ethane	U		0.296	1.29
Ethene	U		0.422	1.27

L1053410-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1053410-10 12/19/18 14:23 • (DUP) R3369653-2 12/19/18 14:38

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L1053410-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1053410-11 12/19/18 14:41 • (DUP) R3369653-3 12/19/18 15:12

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

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

(LCS) R3369653-4 12/19/18 15:14 • (LCSD) R3369653-5 12/19/18 15:18

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 %
Methane	67.8	70.6	75.4	104	111	85.0-115			6.47	20
Ethane	129	115	117	89.5	90.7	85.0-115			1.34	20
Ethene	127	114	116	89.9	91.2	85.0-115			1.46	20

Method Blank (MB)

(MB) R3368969-4 12/16/18 16:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500

Method Blank (MB)

(MB) R3368969-4 12/16/18 16:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	0.232	J	0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	0.134	J	0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*96.7*			*80.0-120*
(S) Dibromofluoromethane	*97.8*			*75.0-120*
(S) 4-Bromofluorobenzene	*112*			*77.0-126*

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

(LCS) R3368969-1 12/16/18 15:34 • (LCSD) R3368969-3 12/16/18 16:14

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	125	121	125	96.5	99.6	19.0-160			3.23	27
Acrylonitrile	125	134	129	107	103	55.0-149			4.01	20
Benzene	25.0	26.4	27.0	106	108	70.0-123			2.25	20
Bromobenzene	25.0	28.1	31.2	113	125	73.0-121		J4	10.5	20
Bromodichloromethane	25.0	25.3	23.4	101	93.4	75.0-120			7.80	20
Bromochloromethane	25.0	24.4	23.2	97.6	92.7	76.0-122			5.10	20
Bromoform	25.0	24.1	27.5	96.3	110	68.0-132			13.2	20
Bromomethane	25.0	28.4	31.1	113	124	10.0-160			9.21	25
n-Butylbenzene	25.0	26.7	28.1	107	112	73.0-125			4.89	20
sec-Butylbenzene	25.0	24.1	29.9	96.2	120	75.0-125		J3	21.8	20
tert-Butylbenzene	25.0	24.9	28.9	99.4	116	76.0-124			15.0	20
Carbon disulfide	25.0	26.4	28.2	105	113	61.0-128			6.83	20
Carbon tetrachloride	25.0	22.7	22.2	90.7	88.7	68.0-126			2.28	20
Chlorobenzene	25.0	24.2	23.0	96.7	92.2	80.0-121			4.77	20
Chlorodibromomethane	25.0	22.8	19.8	91.4	79.1	77.0-125			14.4	20
Chloroethane	25.0	27.4	29.9	110	120	47.0-150			8.91	20
Chloroform	25.0	26.0	25.6	104	102	73.0-120			1.61	20
Chloromethane	25.0	24.0	25.5	96.1	102	41.0-142			5.80	20
2-Chlorotoluene	25.0	26.3	30.6	105	122	76.0-123			14.9	20
4-Chlorotoluene	25.0	26.0	31.2	104	125	75.0-122		J4	18.4	20
1,2-Dibromo-3-Chloropropane	25.0	24.1	23.1	96.5	92.6	58.0-134			4.13	20
1,2-Dibromoethane	25.0	23.8	21.8	95.4	87.0	80.0-122			9.14	20
Dibromomethane	25.0	26.5	24.1	106	96.6	80.0-120			9.42	20
1,2-Dichlorobenzene	25.0	24.6	26.9	98.3	108	79.0-121			9.20	20
1,3-Dichlorobenzene	25.0	24.2	24.6	96.8	98.4	79.0-120			1.67	20
1,4-Dichlorobenzene	25.0	24.0	24.2	96.2	96.8	79.0-120			0.694	20
Dichlorodifluoromethane	25.0	28.7	31.6	115	126	51.0-149			9.46	20
1,1-Dichloroethane	25.0	25.8	27.1	103	108	70.0-126			4.57	20
1,2-Dichloroethane	25.0	24.9	25.7	99.5	103	70.0-128			3.12	20
1,1-Dichloroethene	25.0	25.4	27.6	102	111	71.0-124			8.32	20
trans-1,2-Dichloroethene	25.0	26.3	28.1	105	112	73.0-120			6.59	20
1,2-Dichloropropane	25.0	27.2	25.1	109	100	77.0-125			8.13	20
1,1-Dichloropropene	25.0	27.4	27.5	109	110	74.0-126			0.528	20
1,3-Dichloropropane	25.0	25.7	24.3	103	97.3	80.0-120			5.41	20
cis-1,3-Dichloropropene	25.0	25.3	24.8	101	99.3	80.0-123			1.80	20
trans-1,3-Dichloropropene	25.0	24.7	24.7	98.9	98.7	78.0-124			0.217	20
trans-1,4-Dichloro-2-butene	25.0	24.5	26.8	98.0	107	33.0-144			8.82	20
2,2-Dichloropropane	25.0	27.9	29.0	112	116	58.0-130			3.78	20
Di-isopropyl ether	25.0	21.8	22.5	87.3	89.9	58.0-138			2.88	20
Ethylbenzene	25.0	25.0	23.8	99.9	95.2	79.0-123			4.84	20

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

(LCS) R3368969-1 12/16/18 15:34 • (LCSD) R3368969-3 12/16/18 16:14

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 %
Hexachloro-1,3-butadiene	25.0	21.3	21.3	85.1	85.2	54.0-138			0.0945	20
2-Hexanone	125	128	113	102	90.5	67.0-149			12.4	20
n-Hexane	25.0	24.2	25.4	96.9	102	57.0-133			4.65	20
Iodomethane	125	112	123	89.6	98.8	33.0-147			9.73	26
Isopropylbenzene	25.0	25.1	29.5	100	118	76.0-127			16.2	20
p-Isopropyltoluene	25.0	24.0	27.5	96.0	110	76.0-125			13.7	20
2-Butanone (MEK)	125	133	118	106	94.0	44.0-160			12.1	20
Methylene Chloride	25.0	24.9	27.0	99.5	108	67.0-120			8.17	20
4-Methyl-2-pentanone (MIBK)	125	107	106	85.2	85.0	68.0-142			0.315	20
Methyl tert-butyl ether	25.0	27.2	28.9	109	115	68.0-125			6.03	20
Naphthalene	25.0	21.7	23.6	87.0	94.5	54.0-135			8.30	20
n-Propylbenzene	25.0	27.1	30.6	109	122	77.0-124			11.8	20
Styrene	25.0	27.1	30.0	109	120	73.0-130			10.1	20
1,1,1,2-Tetrachloroethane	25.0	23.0	21.3	91.8	85.3	75.0-125			7.35	20
1,1,2,2-Tetrachloroethane	25.0	27.1	30.7	109	123	65.0-130			12.4	20
1,1,2-Trichlorotrifluoroethane	25.0	25.1	27.3	100	109	69.0-132			8.69	20
Toluene	25.0	24.0	24.5	96.1	98.0	79.0-120			2.04	20
1,2,3-Trichlorobenzene	25.0	19.6	18.8	78.3	75.2	50.0-138			4.10	20
1,2,4-Trichlorobenzene	25.0	20.9	21.0	83.7	83.9	57.0-137			0.128	20
1,1,1-Trichloroethane	25.0	25.2	24.8	101	99.1	73.0-124			1.64	20
1,1,2-Trichloroethane	25.0	24.2	22.6	96.8	90.4	80.0-120			6.87	20
Trichloroethene	25.0	24.1	24.2	96.2	96.7	78.0-124			0.424	20
Trichlorofluoromethane	25.0	25.4	27.2	102	109	59.0-147			6.60	20
1,2,3-Trichloropropane	25.0	24.3	27.5	97.2	110	73.0-130			12.2	20
1,2,4-Trimethylbenzene	25.0	24.4	29.2	97.6	117	76.0-121			17.7	20
1,2,3-Trimethylbenzene	25.0	25.2	25.9	101	104	77.0-120			2.94	20
1,3,5-Trimethylbenzene	25.0	26.8	29.5	107	118	76.0-122			9.88	20
Vinyl acetate	125	117	128	93.5	102	11.0-160			8.77	20
Xylenes, Total	75.0	65.1	62.0	86.8	82.7	79.0-123			4.88	20
(S) Toluene-d8				*98.0*	*99.5*	*80.0-120*				
(S) Dibromofluoromethane				*103*	*96.0*	*75.0-120*				
(S) 4-Bromofluorobenzene				*110*	*124*	*77.0-126*				

Method Blank (MB)

(MB) R3369098-3 12/17/18 22:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
cis-1,2-Dichloroethene	U		0.0933	0.500
Tetrachloroethene	U		0.199	0.500
Trichloroethene	U		0.153	0.500
Vinyl chloride	U		0.118	0.500
(S) Toluene-d8	*108*			*80.0-120*
(S) Dibromofluoromethane	*108*			*75.0-120*
(S) 4-Bromofluorobenzene	*94.5*			*77.0-126*

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

(LCS) R3369098-1 12/17/18 20:59 • (LCSD) R3369098-2 12/17/18 21:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
cis-1,2-Dichloroethene	25.0	25.2	25.3	101	101	73.0-120			0.483	20
Tetrachloroethene	25.0	27.6	26.5	110	106	72.0-132			3.98	20
Trichloroethene	25.0	26.2	26.0	105	104	78.0-124			0.580	20
Vinyl chloride	25.0	29.9	29.6	120	119	67.0-131			1.02	20
(S) Toluene-d8				*107*	*104*	*80.0-120*				
(S) Dibromofluoromethane				*105*	*107*	*75.0-120*				
(S) 4-Bromofluorobenzene				*94.9*	*97.0*	*77.0-126*				

Method Blank (MB)

(MB) R3369231-4 12/18/18 10:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

Method Blank (MB)

(MB) R3369231-4 12/18/18 10:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*106*			*80.0-120*
(S) Dibromofluoromethane	*89.4*			*75.0-120*
(S) 4-Bromofluorobenzene	*96.8*			*77.0-126*

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

(LCS) R3369231-1 12/18/18 09:05 • (LCSD) R3369231-2 12/18/18 09:24

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	125	120	116	95.6	92.8	19.0-160			2.97	27
Acrylonitrile	125	120	118	95.9	94.8	55.0-149			1.19	20
Benzene	25.0	21.6	21.3	86.6	85.2	70.0-123			1.65	20
Bromobenzene	25.0	23.5	24.0	93.9	96.0	73.0-121			2.18	20
Bromodichloromethane	25.0	23.2	23.8	92.8	95.0	75.0-120			2.39	20
Bromochloromethane	25.0	23.1	23.4	92.5	93.5	76.0-122			1.03	20
Bromoform	25.0	21.7	21.7	87.0	86.7	68.0-132			0.336	20
Bromomethane	25.0	24.7	24.1	99.0	96.5	10.0-160			2.53	25
n-Butylbenzene	25.0	27.0	27.1	108	108	73.0-125			0.426	20
sec-Butylbenzene	25.0	24.2	24.0	96.7	96.0	75.0-125			0.708	20
tert-Butylbenzene	25.0	24.8	25.0	99.2	100	76.0-124			1.02	20
Carbon disulfide	25.0	21.2	21.2	84.8	84.9	61.0-128			0.0674	20
Carbon tetrachloride	25.0	20.0	20.3	80.2	81.0	68.0-126			1.05	20
Chlorobenzene	25.0	27.3	27.9	109	112	80.0-121			2.34	20
Chlorodibromomethane	25.0	26.3	26.7	105	107	77.0-125			1.37	20
Chloroethane	25.0	22.7	23.8	90.8	95.3	47.0-150			4.91	20
Chloroform	25.0	21.6	21.3	86.3	85.4	73.0-120			1.11	20
Chloromethane	25.0	21.6	22.2	86.4	88.7	41.0-142			2.61	20
2-Chlorotoluene	25.0	24.4	24.5	97.8	98.0	76.0-123			0.204	20
4-Chlorotoluene	25.0	24.8	25.0	99.2	99.8	75.0-122			0.649	20
1,2-Dibromo-3-Chloropropane	25.0	24.8	24.9	99.0	99.5	58.0-134			0.486	20
1,2-Dibromoethane	25.0	26.9	27.5	108	110	80.0-122			2.10	20
Dibromomethane	25.0	24.6	24.7	98.4	98.7	80.0-120			0.302	20
1,2-Dichlorobenzene	25.0	26.5	27.0	106	108	79.0-121			1.89	20
1,3-Dichlorobenzene	25.0	25.2	25.4	101	102	79.0-120			0.832	20
1,4-Dichlorobenzene	25.0	25.8	25.9	103	104	79.0-120			0.265	20
Dichlorodifluoromethane	25.0	18.2	18.4	72.7	73.5	51.0-149			1.06	20
1,1-Dichloroethane	25.0	21.7	21.3	86.7	85.1	70.0-126			1.96	20
1,2-Dichloroethane	25.0	21.0	20.4	83.9	81.6	70.0-128			2.75	20
1,1-Dichloroethene	25.0	22.5	22.8	89.9	91.0	71.0-124			1.22	20
cis-1,2-Dichloroethene	25.0	21.9	22.0	87.4	88.1	73.0-120			0.710	20
trans-1,2-Dichloroethene	25.0	22.0	21.8	87.9	87.2	73.0-120			0.856	20
1,2-Dichloropropane	25.0	24.8	25.0	99.2	99.9	77.0-125			0.782	20
1,1-Dichloropropene	25.0	22.3	22.1	89.0	88.2	74.0-126			0.900	20
1,3-Dichloropropane	25.0	27.0	27.1	108	109	80.0-120			0.409	20
cis-1,3-Dichloropropene	25.0	26.0	26.4	104	106	80.0-123			1.82	20
trans-1,3-Dichloropropene	25.0	25.2	25.7	101	103	78.0-124			2.28	20
trans-1,4-Dichloro-2-butene	25.0	20.7	20.9	82.9	83.5	33.0-144			0.623	20
2,2-Dichloropropane	25.0	20.0	19.8	79.8	79.2	58.0-130			0.780	20
Di-isopropyl ether	25.0	22.0	21.3	87.9	85.3	58.0-138			2.94	20

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

(LCS) R3369231-1 12/18/18 09:05 • (LCSD) R3369231-2 12/18/18 09:24

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 %
Ethylbenzene	25.0	26.9	26.6	108	107	79.0-123			0.919	20
Hexachloro-1,3-butadiene	25.0	25.7	25.5	103	102	54.0-138			0.617	20
2-Hexanone	125	144	144	115	116	67.0-149			0.532	20
n-Hexane	25.0	25.7	25.0	103	100	57.0-133			2.59	20
Iodomethane	125	112	113	89.3	90.2	33.0-147			0.999	26
Isopropylbenzene	25.0	24.9	25.1	99.8	100	76.0-127			0.478	20
p-Isopropyltoluene	25.0	24.7	24.3	98.7	97.1	76.0-125			1.66	20
2-Butanone (MEK)	125	111	112	89.1	89.2	44.0-160			0.0845	20
Methylene Chloride	25.0	21.9	21.7	87.7	86.9	67.0-120			0.926	20
4-Methyl-2-pentanone (MIBK)	125	131	131	104	105	68.0-142			0.474	20
Methyl tert-butyl ether	25.0	20.1	20.0	80.5	79.9	68.0-125			0.719	20
Naphthalene	25.0	25.2	25.7	101	103	54.0-135			2.02	20
n-Propylbenzene	25.0	25.0	25.2	100	101	77.0-124			0.845	20
Styrene	25.0	25.5	25.9	102	104	73.0-130			1.86	20
1,1,1,2-Tetrachloroethane	25.0	26.3	26.6	105	107	75.0-125			1.15	20
1,1,2,2-Tetrachloroethane	25.0	26.2	26.2	105	105	65.0-130			0.0105	20
1,1,2-Trichlorotrifluoroethane	25.0	23.4	23.3	93.6	93.3	69.0-132			0.290	20
Tetrachloroethene	25.0	28.6	28.7	114	115	72.0-132			0.112	20
Toluene	25.0	25.0	25.4	99.9	102	79.0-120			1.78	20
1,2,3-Trichlorobenzene	25.0	23.3	25.3	93.3	101	50.0-138			7.97	20
1,2,4-Trichlorobenzene	25.0	24.7	25.3	98.9	101	57.0-137			2.44	20
1,1,1-Trichloroethane	25.0	21.3	21.2	85.4	84.8	73.0-124			0.649	20
1,1,2-Trichloroethane	25.0	27.4	27.4	110	110	80.0-120			0.0499	20
Trichloroethene	25.0	24.0	24.5	96.1	97.8	78.0-124			1.77	20
Trichlorofluoromethane	25.0	18.8	17.8	75.1	71.2	59.0-147			5.45	20
1,2,3-Trichloropropane	25.0	26.5	27.2	106	109	73.0-130			2.29	20
1,2,4-Trimethylbenzene	25.0	24.1	24.0	96.4	96.1	76.0-121			0.318	20
1,2,3-Trimethylbenzene	25.0	25.6	25.4	102	102	77.0-120			0.536	20
1,3,5-Trimethylbenzene	25.0	25.2	25.2	101	101	76.0-122			0.00893	20
Vinyl acetate	125	162	160	130	128	11.0-160			1.62	20
Vinyl chloride	25.0	24.9	24.5	99.4	97.9	67.0-131			1.51	20
Xylenes, Total	75.0	80.7	81.6	108	109	79.0-123			1.11	20
(S) Toluene-d8				*103*	*104*	*80.0-120*				
(S) Dibromofluoromethane				*86.0*	*85.0*	*75.0-120*				
(S) 4-Bromofluorobenzene				*94.6*	*94.7*	*77.0-126*				

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
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	T 104704245-17-14
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

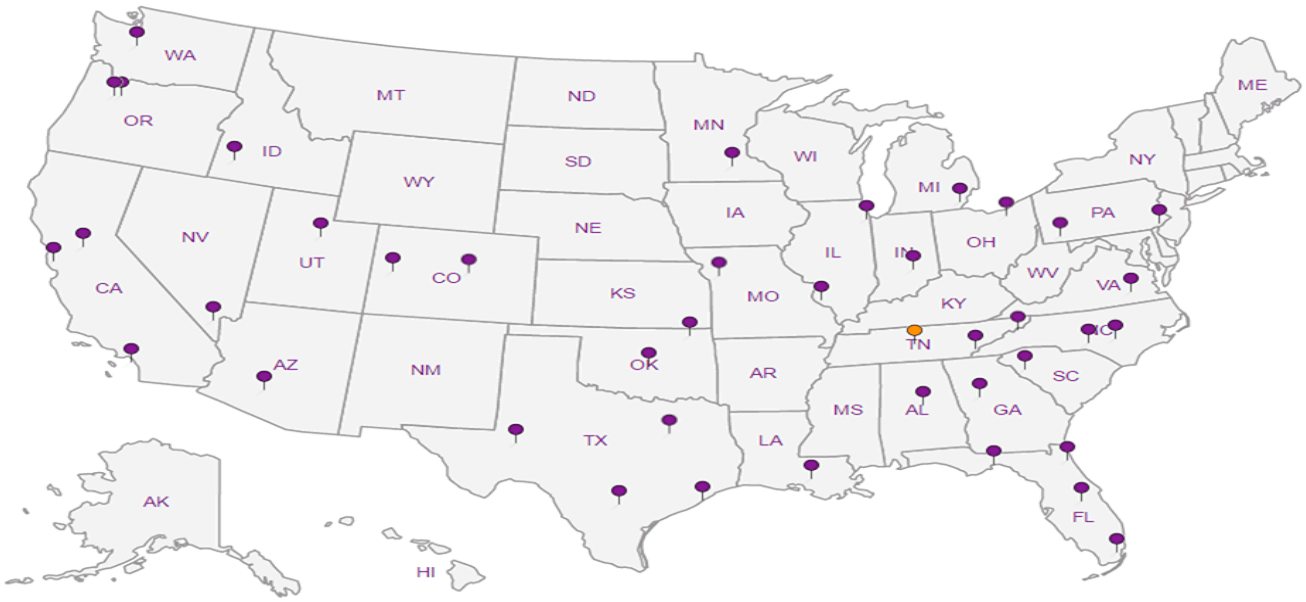
Third Party Federal Accreditations

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.



Chain of Custody Page ___ of ___

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

PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: boneal@pesenv.com; bhaldeman@pesenv.com;

Project Description: American Linen

City/State Collected:

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1413.001.05.601

Lab Project # PESENVSWA-ALP

Collected by (print): Ben Hecht/Alyssa Witt

Site/Facility ID # American Linen

P.O. #

Collected by (signature): [signature]

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

Quote #

Date Results Needed

L# L1653462

A106

Acctnum: PESENVSWA
Template: T143817
Prelogin: P685297
TSR: 110 - Brian Ford
PB:
Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHGX 40mlAmb HCl	VOCs (V8260LLC) 40mlAmb-HCl	NO3, Cl, SO4	Alkalinity	TOC	Total Fe and Mn by 6020	low level RSK-175 methane ethane ethene				Remarks	Sample # (lab only)
MW-151-121418	Grab	GW	~46	12-14-18	0820		X	X	X	X	X	X	X					-01
MW-152-121418	↓	GW	~55	↓	0830		X	X	X	X	X	X	X					02
Trip Blank	N/A	GW	N/A	↓	NA		X	X	X	X	X	X	X					
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																

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

Remarks:

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ______

Tracking # 4686 6470 3698

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:

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	12-14-18	15:30		Trip Blank Received: (Yes) / No; (HCL) / MeoH; TBR; 1
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C 5.4-0.3=5.1; Bottles Received: 22+1 TB
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 12/15/18 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Jeremy W. Watkins

Pace Analytical®
National Center for Testing & Innovation

Login #: L1053462	Client: PESENVSWA	Date: 12/15/18	Evaluated by: Jeremy

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		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
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	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	x	Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: All analysis marked for Trip Blank

Client informed by:		Call		Email X		Voice Mail		Date:12/17/18	Time:1015
TSR Initials:bjf	Client Contact: PMs								

Login Instructions:

Run trip blank for V8260LLC only. Standard TAT.

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 04, 2019

PES Environmental, Inc.- WA

Sample Delivery Group:	L1053929
Samples Received:	12/18/2018
Project Number:	1413.001.05.601
Description:	American Linen
Site:	AMERICAN LINEN
Report To:	Brian O'Neal/Bill Haldeman 1215 Fourth Ave., Suite 1350 Seattle, WA 98161

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

MW-138-121718 L1053929-01 GW

Collected by: Alyssa Witt
Collected date/time: 12/17/18 11:25
Received date/time: 12/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1213027	1	12/19/18 19:22	12/19/18 19:22	JHH
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1213125	1	12/19/18 20:42	12/19/18 20:42	PP

MW-130-121718 L1053929-02 GW

Collected by: Alyssa Witt
Collected date/time: 12/17/18 13:20
Received date/time: 12/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1213167	1	12/21/18 15:17	12/21/18 15:17	GB
Wet Chemistry by Method 9056A	WG1212377	1	12/18/18 18:48	12/18/18 18:48	ELN
Wet Chemistry by Method 9056A	WG1212377	5	12/18/18 19:36	12/18/18 19:36	ELN
Wet Chemistry by Method 9060A	WG1218013	1	01/02/19 19:31	01/02/19 19:31	EEM
Metals (ICPMS) by Method 6020B	WG1212854	1	12/19/18 10:18	12/20/18 15:18	JPD
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1213027	20	12/19/18 19:43	12/19/18 19:43	JHH
Volatile Organic Compounds (GC) by Method RSK175	WG1213275	1	12/21/18 13:35	12/21/18 13:35	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1213125	50	12/19/18 21:02	12/19/18 21:02	PP
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1214284	200	12/21/18 17:19	12/21/18 17:19	BMB

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.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	12/19/2018 19:22	WG1213027
(S) a,a,a-Trifluorotoluene(FID)	*92.8*			*78.0-120*		*12/19/2018 19:22*	WG1213027

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		1.05	25.0	1	12/19/2018 20:42	WG1213125
Acrylonitrile	U		0.873	5.00	1	12/19/2018 20:42	WG1213125
Benzene	U		0.0896	0.500	1	12/19/2018 20:42	WG1213125
Bromobenzene	U		0.133	0.500	1	12/19/2018 20:42	WG1213125
Bromodichloromethane	U		0.0800	0.500	1	12/19/2018 20:42	WG1213125
Bromochloromethane	U		0.145	0.500	1	12/19/2018 20:42	WG1213125
Bromoform	U		0.186	0.500	1	12/19/2018 20:42	WG1213125
Bromomethane	U		0.157	2.50	1	12/19/2018 20:42	WG1213125
n-Butylbenzene	U		0.143	0.500	1	12/19/2018 20:42	WG1213125
sec-Butylbenzene	U		0.134	0.500	1	12/19/2018 20:42	WG1213125
tert-Butylbenzene	U		0.183	0.500	1	12/19/2018 20:42	WG1213125
Carbon disulfide	0.382	J	0.101	0.500	1	12/19/2018 20:42	WG1213125
Carbon tetrachloride	U		0.159	0.500	1	12/19/2018 20:42	WG1213125
Chlorobenzene	U		0.140	0.500	1	12/19/2018 20:42	WG1213125
Chlorodibromomethane	U		0.128	0.500	1	12/19/2018 20:42	WG1213125
Chloroethane	U		0.141	2.50	1	12/19/2018 20:42	WG1213125
Chloroform	U		0.0860	0.500	1	12/19/2018 20:42	WG1213125
Chloromethane	U		0.153	1.25	1	12/19/2018 20:42	WG1213125
2-Chlorotoluene	U		0.111	0.500	1	12/19/2018 20:42	WG1213125
4-Chlorotoluene	U		0.0972	0.500	1	12/19/2018 20:42	WG1213125
1,2-Dibromo-3-Chloropropane	U		0.325	2.50	1	12/19/2018 20:42	WG1213125
1,2-Dibromoethane	U		0.193	0.500	1	12/19/2018 20:42	WG1213125
Dibromomethane	U		0.117	0.500	1	12/19/2018 20:42	WG1213125
1,2-Dichlorobenzene	U		0.101	0.500	1	12/19/2018 20:42	WG1213125
1,3-Dichlorobenzene	U		0.130	0.500	1	12/19/2018 20:42	WG1213125
1,4-Dichlorobenzene	U		0.121	0.500	1	12/19/2018 20:42	WG1213125
Dichlorodifluoromethane	U		0.127	2.50	1	12/19/2018 20:42	WG1213125
1,1-Dichloroethane	U		0.114	0.500	1	12/19/2018 20:42	WG1213125
1,2-Dichloroethane	U		0.108	0.500	1	12/19/2018 20:42	WG1213125
1,1-Dichloroethene	U		0.188	0.500	1	12/19/2018 20:42	WG1213125
cis-1,2-Dichloroethene	U		0.0933	0.500	1	12/19/2018 20:42	WG1213125
trans-1,2-Dichloroethene	U		0.152	0.500	1	12/19/2018 20:42	WG1213125
1,2-Dichloropropane	U		0.190	0.500	1	12/19/2018 20:42	WG1213125
1,1-Dichloropropene	U		0.128	0.500	1	12/19/2018 20:42	WG1213125
1,3-Dichloropropane	U		0.147	1.00	1	12/19/2018 20:42	WG1213125
cis-1,3-Dichloropropene	U		0.0976	0.500	1	12/19/2018 20:42	WG1213125
trans-1,3-Dichloropropene	U		0.222	0.500	1	12/19/2018 20:42	WG1213125
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	12/19/2018 20:42	WG1213125
2,2-Dichloropropane	U		0.0929	0.500	1	12/19/2018 20:42	WG1213125
Di-isopropyl ether	U		0.0924	0.500	1	12/19/2018 20:42	WG1213125
Ethylbenzene	U		0.158	0.500	1	12/19/2018 20:42	WG1213125
Hexachloro-1,3-butadiene	U		0.157	1.00	1	12/19/2018 20:42	WG1213125
2-Hexanone	U		0.757	5.00	1	12/19/2018 20:42	WG1213125
n-Hexane	U		0.305	5.00	1	12/19/2018 20:42	WG1213125
Iodomethane	U		0.377	10.0	1	12/19/2018 20:42	WG1213125
Isopropylbenzene	U		0.126	0.500	1	12/19/2018 20:42	WG1213125
p-Isopropyltoluene	U		0.138	0.500	1	12/19/2018 20:42	WG1213125
2-Butanone (MEK)	U		1.28	5.00	1	12/19/2018 20:42	WG1213125

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		1.07	2.50	1	12/19/2018 20:42	WG1213125
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00	1	12/19/2018 20:42	WG1213125
Methyl tert-butyl ether	U		0.102	0.500	1	12/19/2018 20:42	WG1213125
Naphthalene	U		0.174	2.50	1	12/19/2018 20:42	WG1213125
n-Propylbenzene	U		0.162	0.500	1	12/19/2018 20:42	WG1213125
Styrene	U		0.117	0.500	1	12/19/2018 20:42	WG1213125
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	12/19/2018 20:42	WG1213125
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	12/19/2018 20:42	WG1213125
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	12/19/2018 20:42	WG1213125
Tetrachloroethene	U		0.199	0.500	1	12/19/2018 20:42	WG1213125
Toluene	U		0.412	0.500	1	12/19/2018 20:42	WG1213125
1,2,3-Trichlorobenzene	U		0.164	0.500	1	12/19/2018 20:42	WG1213125
1,2,4-Trichlorobenzene	U		0.355	0.500	1	12/19/2018 20:42	WG1213125
1,1,1-Trichloroethane	U		0.0940	0.500	1	12/19/2018 20:42	WG1213125
1,1,2-Trichloroethane	U		0.186	0.500	1	12/19/2018 20:42	WG1213125
Trichloroethene	U		0.153	0.500	1	12/19/2018 20:42	WG1213125
Trichlorofluoromethane	U		0.130	2.50	1	12/19/2018 20:42	WG1213125
1,2,3-Trichloropropane	U		0.247	2.50	1	12/19/2018 20:42	WG1213125
1,2,4-Trimethylbenzene	U		0.123	0.500	1	12/19/2018 20:42	WG1213125
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	12/19/2018 20:42	WG1213125
1,3,5-Trimethylbenzene	U		0.124	0.500	1	12/19/2018 20:42	WG1213125
Vinyl acetate	U		0.645	5.00	1	12/19/2018 20:42	WG1213125
Vinyl chloride	U		0.118	0.500	1	12/19/2018 20:42	WG1213125
Xylenes, Total	U		0.316	1.50	1	12/19/2018 20:42	WG1213125
(S) Toluene-d8	*103*			*80.0-120*		*12/19/2018 20:42*	WG1213125
(S) Dibromofluoromethane	*98.1*			*75.0-120*		*12/19/2018 20:42*	WG1213125
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*12/19/2018 20:42*	WG1213125

Wet Chemistry by Method 2320 B-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Alkalinity	384000		2710	20000	1	12/21/2018 15:17	WG1213167

Sample Narrative:

L1053929-02 WG1213167: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	143000		260	5000	5	12/18/2018 19:36	WG1212377
Nitrate	U		22.7	100	1	12/18/2018 18:48	WG1212377
Sulfate	17300		77.4	5000	1	12/18/2018 18:48	WG1212377

Wet Chemistry by Method 9060A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	12600		102	1000	1	01/02/2019 19:31	WG1218013

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Iron	2260		15.0	100	1	12/20/2018 15:18	WG1212854
Manganese	490		0.250	5.00	1	12/20/2018 15:18	WG1212854

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	16400		632	2000	20	12/19/2018 19:43	WG1213027
(S) a,a,a-Trifluorotoluene(FID)	*93.1*			*78.0-120*		*12/19/2018 19:43*	WG1213027

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	324		0.287	0.678	1	12/21/2018 13:35	WG1213275
Ethane	8.36		0.296	1.29	1	12/21/2018 13:35	WG1213275
Ethene	166		0.422	1.27	1	12/21/2018 13:35	WG1213275

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	65.0	J	52.5	1250	50	12/19/2018 21:02	WG1213125
Acrylonitrile	U		43.6	250	50	12/19/2018 21:02	WG1213125
Benzene	U		4.48	25.0	50	12/19/2018 21:02	WG1213125
Bromobenzene	U		6.65	25.0	50	12/19/2018 21:02	WG1213125
Bromodichloromethane	U		4.00	25.0	50	12/19/2018 21:02	WG1213125
Bromochloromethane	U		7.25	25.0	50	12/19/2018 21:02	WG1213125
Bromoform	U		9.30	25.0	50	12/19/2018 21:02	WG1213125
Bromomethane	U		7.85	125	50	12/19/2018 21:02	WG1213125
n-Butylbenzene	U		7.15	25.0	50	12/19/2018 21:02	WG1213125
sec-Butylbenzene	U		6.70	25.0	50	12/19/2018 21:02	WG1213125
tert-Butylbenzene	U		9.15	25.0	50	12/19/2018 21:02	WG1213125
Carbon disulfide	5.74	J	5.05	25.0	50	12/19/2018 21:02	WG1213125
Carbon tetrachloride	U		7.95	25.0	50	12/19/2018 21:02	WG1213125

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chlorobenzene	U		7.00	25.0	50	12/19/2018 21:02	WG1213125
Chlorodibromomethane	U		6.40	25.0	50	12/19/2018 21:02	WG1213125
Chloroethane	U		7.05	125	50	12/19/2018 21:02	WG1213125
Chloroform	U		4.30	25.0	50	12/19/2018 21:02	WG1213125
Chloromethane	U		7.65	62.5	50	12/19/2018 21:02	WG1213125
2-Chlorotoluene	U		5.55	25.0	50	12/19/2018 21:02	WG1213125
4-Chlorotoluene	U		4.86	25.0	50	12/19/2018 21:02	WG1213125
1,2-Dibromo-3-Chloropropane	U		16.2	125	50	12/19/2018 21:02	WG1213125
1,2-Dibromoethane	U		9.65	25.0	50	12/19/2018 21:02	WG1213125
Dibromomethane	U		5.85	25.0	50	12/19/2018 21:02	WG1213125
1,2-Dichlorobenzene	U		5.05	25.0	50	12/19/2018 21:02	WG1213125
1,3-Dichlorobenzene	U		6.50	25.0	50	12/19/2018 21:02	WG1213125
1,4-Dichlorobenzene	U		6.05	25.0	50	12/19/2018 21:02	WG1213125
Dichlorodifluoromethane	U		6.35	125	50	12/19/2018 21:02	WG1213125
1,1-Dichloroethane	U		5.70	25.0	50	12/19/2018 21:02	WG1213125
1,2-Dichloroethane	U		5.40	25.0	50	12/19/2018 21:02	WG1213125
1,1-Dichloroethene	124		9.40	25.0	50	12/19/2018 21:02	WG1213125
cis-1,2-Dichloroethene	26400		18.7	100	200	12/21/2018 17:19	WG1214284
trans-1,2-Dichloroethene	83.5		7.60	25.0	50	12/19/2018 21:02	WG1213125
1,2-Dichloropropane	U		9.50	25.0	50	12/19/2018 21:02	WG1213125
1,1-Dichloropropene	U		6.40	25.0	50	12/19/2018 21:02	WG1213125
1,3-Dichloropropane	U		7.35	50.0	50	12/19/2018 21:02	WG1213125
cis-1,3-Dichloropropene	U		4.88	25.0	50	12/19/2018 21:02	WG1213125
trans-1,3-Dichloropropene	U		11.1	25.0	50	12/19/2018 21:02	WG1213125
trans-1,4-Dichloro-2-butene	U		12.8	250	50	12/19/2018 21:02	WG1213125
2,2-Dichloropropane	U		4.64	25.0	50	12/19/2018 21:02	WG1213125
Di-isopropyl ether	U		4.62	25.0	50	12/19/2018 21:02	WG1213125
Ethylbenzene	U		7.90	25.0	50	12/19/2018 21:02	WG1213125
Hexachloro-1,3-butadiene	U		7.85	50.0	50	12/19/2018 21:02	WG1213125
2-Hexanone	U		37.8	250	50	12/19/2018 21:02	WG1213125
n-Hexane	U		15.2	250	50	12/19/2018 21:02	WG1213125
Iodomethane	U		18.8	500	50	12/19/2018 21:02	WG1213125
Isopropylbenzene	U		6.30	25.0	50	12/19/2018 21:02	WG1213125
p-Isopropyltoluene	U		6.90	25.0	50	12/19/2018 21:02	WG1213125
2-Butanone (MEK)	U		64.0	250	50	12/19/2018 21:02	WG1213125
Methylene Chloride	U		53.5	125	50	12/19/2018 21:02	WG1213125
4-Methyl-2-pentanone (MIBK)	U		41.2	250	50	12/19/2018 21:02	WG1213125
Methyl tert-butyl ether	U		5.10	25.0	50	12/19/2018 21:02	WG1213125
Naphthalene	U		8.70	125	50	12/19/2018 21:02	WG1213125
n-Propylbenzene	U		8.10	25.0	50	12/19/2018 21:02	WG1213125
Styrene	U		5.85	25.0	50	12/19/2018 21:02	WG1213125
1,1,1,2-Tetrachloroethane	U		6.00	25.0	50	12/19/2018 21:02	WG1213125
1,1,2,2-Tetrachloroethane	U		6.50	25.0	50	12/19/2018 21:02	WG1213125
1,1,2-Trichlorotrifluoroethane	U		8.20	25.0	50	12/19/2018 21:02	WG1213125
Tetrachloroethene	9650		9.95	25.0	50	12/19/2018 21:02	WG1213125
Toluene	U		20.6	25.0	50	12/19/2018 21:02	WG1213125
1,2,3-Trichlorobenzene	U		8.20	25.0	50	12/19/2018 21:02	WG1213125
1,2,4-Trichlorobenzene	U		17.8	25.0	50	12/19/2018 21:02	WG1213125
1,1,1-Trichloroethane	U		4.70	25.0	50	12/19/2018 21:02	WG1213125
1,1,2-Trichloroethane	U		9.30	25.0	50	12/19/2018 21:02	WG1213125
Trichloroethene	3220		7.65	25.0	50	12/19/2018 21:02	WG1213125
Trichlorofluoromethane	U		6.50	125	50	12/19/2018 21:02	WG1213125
1,2,3-Trichloropropane	U		12.4	125	50	12/19/2018 21:02	WG1213125
1,2,4-Trimethylbenzene	U		6.15	25.0	50	12/19/2018 21:02	WG1213125
1,2,3-Trimethylbenzene	U		3.70	25.0	50	12/19/2018 21:02	WG1213125
1,3,5-Trimethylbenzene	U		6.20	25.0	50	12/19/2018 21:02	WG1213125

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Vinyl acetate	U		32.2	250	50	12/19/2018 21:02	WG1213125
Vinyl chloride	1420		5.90	25.0	50	12/19/2018 21:02	WG1213125
Xylenes, Total	U		15.8	75.0	50	12/19/2018 21:02	WG1213125
(S) Toluene-d8	*104*			*80.0-120*		*12/19/2018 21:02*	WG1213125
(S) Toluene-d8	*103*			*80.0-120*		*12/21/2018 17:19*	WG1214284
(S) Dibromofluoromethane	*98.3*			*75.0-120*		*12/19/2018 21:02*	WG1213125
(S) Dibromofluoromethane	*94.3*			*75.0-120*		*12/21/2018 17:19*	WG1214284
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*12/19/2018 21:02*	WG1213125
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*12/21/2018 17:19*	WG1214284

Sample Narrative:

L1053929-02 WG1213125: Diluted due to high levels of target analytes.

Method Blank (MB)

(MB) R3370909-1 12/21/18 12:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	2870	J	2710	20000

Sample Narrative:

BLANK: Endpoint pH 4.5

L1053462-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1053462-02 12/21/18 12:25 • (DUP) R3370909-3 12/21/18 12:35

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	299000	297000	1	0.833		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1052876-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1052876-01 12/21/18 15:46 • (DUP) R3370909-5 12/21/18 15:53

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	114000	113000	1	0.550		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3370909-4 12/21/18 13:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100000	99200	99.2	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3369443-1 12/18/18 10:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Sulfate	U		77.4	5000

L1053961-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1053961-01 12/18/18 14:02 • (DUP) R3369443-3 12/18/18 14:18

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8240	8710	1	5.56		15
Nitrate	467	501	1	6.90		15
Sulfate	67700	72000	1	6.23		15

L1053966-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1053966-04 12/18/18 21:28 • (DUP) R3369443-6 12/18/18 21:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5110	5300	1	3.79		15
Nitrate	657	673	1	2.44		15
Sulfate	47800	49700	1	3.87		15

Laboratory Control Sample (LCS)

(LCS) R3369443-2 12/18/18 11:07

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40000	39100	97.7	80.0-120	
Nitrate	8000	7990	99.9	80.0-120	
Sulfate	40000	39200	98.1	80.0-120	

L1053961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053961-01 12/18/18 14:02 • (MS) R3369443-4 12/18/18 14:34 • (MSD) R3369443-5 12/18/18 14:50

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 %
Chloride	50000	8240	55100	56300	93.8	96.1	1	80.0-120			2.04	15
Nitrate	5000	467	5080	5180	92.3	94.3	1	80.0-120			1.97	15
Sulfate	50000	67700	113000	115000	90.5	94.6	1	80.0-120	E	E	1.76	15

L1053966-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1053966-04 12/18/18 21:28 • (MS) R3369443-7 12/18/18 21:59

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	5110	53800	97.4	1	80.0-120	
Nitrate	5000	657	5480	96.4	1	80.0-120	
Sulfate	50000	47800	95200	94.8	1	80.0-120	

Method Blank (MB)

(MB) R3373226-1 01/02/19 09:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TOC (Total Organic Carbon)	158	J	102	1000

L1053679-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1053679-03 01/02/19 11:51 • (DUP) R3373226-3 01/02/19 12:10

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	1980	2030	1	2.24		20

L1053814-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1053814-01 01/02/19 17:37 • (DUP) R3373226-6 01/02/19 17:57

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	4690	4540	1	3.06		20

Laboratory Control Sample (LCS)

(LCS) R3373226-2 01/02/19 10:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	75000	76300	102	85.0-115	

L1053685-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053685-05 01/02/19 15:39 • (MS) R3373226-4 01/02/19 15:58 • (MSD) R3373226-5 01/02/19 16:18

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	2070	54100	53900	104	104	1	80.0-120			0.371	20

L1053973-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053973-01 01/02/19 19:51 • (MS) R3373226-7 01/02/19 20:12 • (MSD) R3373226-8 01/02/19 20:33

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	23700	74500	74500	102	102	1	80.0-120			0.000	20

Method Blank (MB)

(MB) R3370149-1 12/20/18 14:27

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	U		15.0	100
Manganese	U		0.250	5.00

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

(LCS) R3370149-2 12/20/18 14:31 • (LCSD) R3370149-3 12/20/18 14:35

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	%	%	%			%	%
Iron	5000	4960	5080	99.2	102	80.0-120			2.33	20
Manganese	50.0	48.3	50.2	96.7	100	80.0-120			3.83	20

L1053590-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1053590-11 12/20/18 14:38 • (MS) R3370149-5 12/20/18 14:46 • (MSD) R3370149-6 12/20/18 14:50

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	%	%		%			%	%
Iron	5000	U	4980	4920	99.6	98.5	1	75.0-125			1.14	20
Manganese	50.0	U	48.7	48.5	97.4	97.1	1	75.0-125			0.380	20

Method Blank (MB)

(MB) R3370072-5 12/19/18 11:57

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	34.0	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*88.3*			*78.0-120*

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

(LCS) R3370072-3 12/19/18 10:53 • (LCSD) R3370072-4 12/19/18 11:15

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 %
Gasoline Range Organics-NWTPH	5500	5410	5400	98.3	98.1	70.0-124			0.239	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*78.0-120*				

Method Blank (MB)

(MB) R3370532-1 12/21/18 13:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Methane	U		0.287	0.678
Ethane	U		0.296	1.29
Ethene	U		0.422	1.27

L1054041-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1054041-22 12/21/18 13:46 • (DUP) R3370532-2 12/21/18 13:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L1054041-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1054041-24 12/21/18 13:54 • (DUP) R3370532-3 12/21/18 16:05

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

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

(LCS) R3370532-4 12/21/18 16:09 • (LCSD) R3370532-5 12/21/18 16:11

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 %
Methane	67.8	69.7	70.9	103	105	85.0-115			1.71	20
Ethane	129	114	117	88.1	90.7	85.0-115			2.85	20
Ethene	127	112	116	88.4	91.2	85.0-115			3.19	20

Method Blank (MB)

(MB) R3370177-3 12/19/18 13:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

Method Blank (MB)

(MB) R3370177-3 12/19/18 13:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*105*			*80.0-120*
(S) Dibromofluoromethane	*102*			*75.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*

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

(LCS) R3370177-1 12/19/18 12:12 • (LCSD) R3370177-2 12/19/18 12:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	147	148	118	118	19.0-160			0.492	27
Acrylonitrile	125	134	139	107	111	55.0-149			3.63	20
Benzene	25.0	25.4	25.6	102	103	70.0-123			1.01	20
Bromobenzene	25.0	27.0	28.0	108	112	73.0-121			3.81	20
Bromodichloromethane	25.0	24.9	24.6	99.6	98.5	75.0-120			1.09	20
Bromochloromethane	25.0	24.8	24.8	99.1	99.1	76.0-122			0.0711	20
Bromoform	25.0	26.9	27.2	108	109	68.0-132			1.13	20
Bromomethane	25.0	28.5	30.2	114	121	10.0-160			5.85	25
n-Butylbenzene	25.0	25.1	25.7	101	103	73.0-125			2.19	20
sec-Butylbenzene	25.0	25.6	26.2	102	105	75.0-125			2.36	20
tert-Butylbenzene	25.0	24.6	25.6	98.4	103	76.0-124			4.13	20
Carbon disulfide	25.0	26.5	27.7	106	111	61.0-128			4.25	20
Carbon tetrachloride	25.0	22.8	23.7	91.3	95.0	68.0-126			3.91	20
Chlorobenzene	25.0	24.4	24.2	97.6	96.9	80.0-121			0.768	20
Chlorodibromomethane	25.0	24.5	22.7	97.9	91.0	77.0-125			7.34	20
Chloroethane	25.0	26.8	28.7	107	115	47.0-150			6.79	20
Chloroform	25.0	25.3	25.9	101	103	73.0-120			2.19	20
Chloromethane	25.0	25.7	27.4	103	110	41.0-142			6.29	20
2-Chlorotoluene	25.0	26.4	26.8	105	107	76.0-123			1.64	20
4-Chlorotoluene	25.0	27.2	27.3	109	109	75.0-122			0.464	20
1,2-Dibromo-3-Chloropropane	25.0	25.9	26.4	104	105	58.0-134			1.81	20
1,2-Dibromoethane	25.0	24.5	24.2	98.1	96.7	80.0-122			1.40	20
Dibromomethane	25.0	26.1	25.9	104	104	80.0-120			0.671	20
1,2-Dichlorobenzene	25.0	25.5	26.0	102	104	79.0-121			2.13	20
1,3-Dichlorobenzene	25.0	25.1	25.4	100	101	79.0-120			1.03	20
1,4-Dichlorobenzene	25.0	25.2	25.4	101	102	79.0-120			0.825	20
Dichlorodifluoromethane	25.0	33.1	34.5	132	138	51.0-149			4.35	20
1,1-Dichloroethane	25.0	25.3	26.5	101	106	70.0-126			4.63	20
1,2-Dichloroethane	25.0	26.4	26.1	106	104	70.0-128			1.41	20
1,1-Dichloroethene	25.0	25.1	26.9	101	108	71.0-124			6.87	20
cis-1,2-Dichloroethene	25.0	25.7	26.6	103	107	73.0-120			3.74	20
trans-1,2-Dichloroethene	25.0	25.1	26.2	100	105	73.0-120			4.45	20
1,2-Dichloropropane	25.0	27.9	26.4	112	106	77.0-125			5.59	20
1,1-Dichloropropene	25.0	26.6	27.3	107	109	74.0-126			2.48	20
1,3-Dichloropropane	25.0	25.7	25.0	103	100	80.0-120			2.77	20
cis-1,3-Dichloropropene	25.0	26.4	25.4	105	102	80.0-123			3.69	20
trans-1,3-Dichloropropene	25.0	25.8	25.2	103	101	78.0-124			2.38	20
trans-1,4-Dichloro-2-butene	25.0	24.8	25.9	99.1	104	33.0-144			4.35	20
2,2-Dichloropropane	25.0	26.8	27.1	107	108	58.0-130			0.976	20
Di-isopropyl ether	25.0	23.8	24.2	95.2	96.9	58.0-138			1.73	20

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

(LCS) R3370177-1 12/19/18 12:12 • (LCSD) R3370177-2 12/19/18 12:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	24.6	24.2	98.6	97.0	79.0-123			1.59	20
Hexachloro-1,3-butadiene	25.0	20.1	20.0	80.3	80.2	54.0-138			0.165	20
2-Hexanone	125	130	126	104	101	67.0-149			3.04	20
n-Hexane	25.0	26.9	27.6	108	110	57.0-133			2.65	20
Iodomethane	125	122	128	97.3	102	33.0-147			4.86	26
Isopropylbenzene	25.0	27.1	27.9	108	112	76.0-127			3.08	20
p-Isopropyltoluene	25.0	24.1	25.5	96.3	102	76.0-125			5.86	20
2-Butanone (MEK)	125	145	143	116	115	44.0-160			0.940	20
Methylene Chloride	25.0	24.7	25.8	98.8	103	67.0-120			4.13	20
4-Methyl-2-pentanone (MIBK)	125	125	115	99.8	92.4	68.0-142			7.72	20
Methyl tert-butyl ether	25.0	26.5	27.0	106	108	68.0-125			1.78	20
Naphthalene	25.0	22.7	23.1	91.0	92.3	54.0-135			1.46	20
n-Propylbenzene	25.0	26.5	27.5	106	110	77.0-124			3.84	20
Styrene	25.0	27.5	27.9	110	112	73.0-130			1.47	20
1,1,1,2-Tetrachloroethane	25.0	23.7	23.2	94.7	92.9	75.0-125			1.85	20
1,1,2,2-Tetrachloroethane	25.0	28.5	28.6	114	115	65.0-130			0.346	20
1,1,2-Trichlorotrifluoroethane	25.0	26.7	28.2	107	113	69.0-132			5.65	20
Tetrachloroethene	25.0	23.6	22.9	94.5	91.7	72.0-132			3.04	20
Toluene	25.0	24.8	24.3	99.2	97.0	79.0-120			2.22	20
1,2,3-Trichlorobenzene	25.0	19.1	19.4	76.3	77.7	50.0-138			1.89	20
1,2,4-Trichlorobenzene	25.0	20.9	21.5	83.8	86.2	57.0-137			2.80	20
1,1,1-Trichloroethane	25.0	25.4	25.4	101	102	73.0-124			0.266	20
1,1,2-Trichloroethane	25.0	25.4	24.4	101	97.8	80.0-120			3.71	20
Trichloroethene	25.0	25.3	24.3	101	97.2	78.0-124			3.81	20
Trichlorofluoromethane	25.0	26.7	28.2	107	113	59.0-147			5.40	20
1,2,3-Trichloropropane	25.0	26.0	25.7	104	103	73.0-130			1.28	20
1,2,4-Trimethylbenzene	25.0	24.9	26.7	99.7	107	76.0-121			6.89	20
1,2,3-Trimethylbenzene	25.0	24.5	25.5	98.0	102	77.0-120			4.03	20
1,3,5-Trimethylbenzene	25.0	25.9	26.6	104	106	76.0-122			2.39	20
Vinyl acetate	125	150	149	120	119	11.0-160			0.915	20
Vinyl chloride	25.0	28.1	30.3	112	121	67.0-131			7.61	20
Xylenes, Total	75.0	69.7	66.2	92.9	88.3	79.0-123			5.15	20
(S) Toluene-d8				*101*	*99.1*	*80.0-120*				
(S) Dibromofluoromethane				*99.4*	*102*	*75.0-120*				
(S) 4-Bromofluorobenzene				*107*	*111*	*77.0-126*				

Method Blank (MB)

(MB) R3370928-5 12/21/18 11:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
cis-1,2-Dichloroethene	U		0.0933	0.500
(S) Toluene-d8	*107*			*80.0-120*
(S) Dibromofluoromethane	*93.8*			*75.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*

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

(LCS) R3370928-1 12/21/18 09:47 • (LCSD) R3370928-2 12/21/18 10:07

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 %
cis-1,2-Dichloroethene	25.0	23.5	23.8	94.1	95.0	73.0-120			1.03	20
(S) Toluene-d8				*102*	*102*	*80.0-120*				
(S) Dibromofluoromethane				*94.6*	*94.8*	*75.0-120*				
(S) 4-Bromofluorobenzene				*102*	*102*	*77.0-126*				

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
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.

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	T 104704245-17-14
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

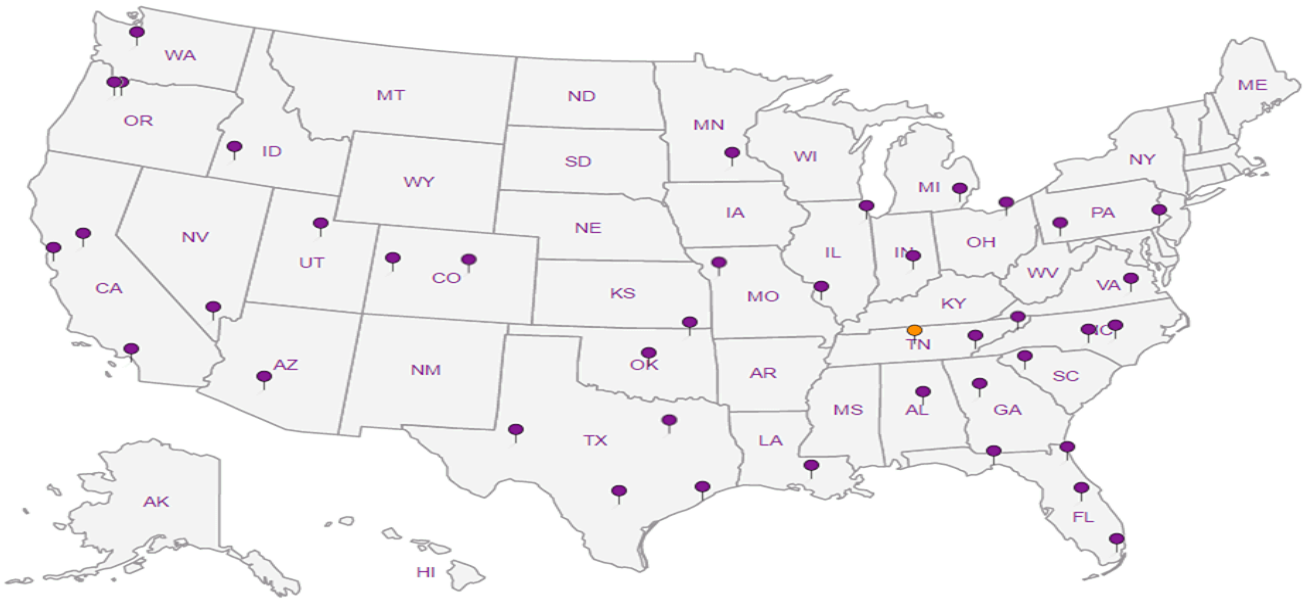
Third Party Federal Accreditations

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.



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: boneal@pesenv.com; bhaldeman@pesenv.com;

Project Description: American Linen

City/State Collected:

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1413.001.05.601

Lab Project # PESENVSWA-ALP

Collected by (print): Alyssa Witt

Site/Facility ID # American Linen

P.O. #

Collected by (signature): Alyssa Witt

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

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*NO3,SO4,Cl* 125mlHDPE-NoPres	Alkalinity 125mlHDPE-NoPres	EEM (RSK175LL) 40mlAmb-HCl	TOC 250mlAmb-HCl	Total Fe Min 6020 250mlHDPE-HNO3	NWTPHGX 40ml Amb HCl	VOCs (V8260 LL) 40ml Amb HCl					
										23	23							
MW-138-121718	Grab	GW	110	12/17/18	11:25	6						X	X				-01	
MW-130-121718	Grab	GW	75	12/17/18	1320	12	X	X	X	X	X	X	X				02	

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
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Fax: 615-758-5859

L# L1653929

F031

Acctnum: PESENVSWA
Template: T144057
Prelogin: P686015
TSR: 110 - Brian Ford
PB:

Shipped Via:

Remarks | Sample # (lab only)

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 2466 1466 2190

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Alyssa Witt	12/17/18	16:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.3 +0.1=0.4°C Bottles Received: 17

Date: 12/18/18 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK