



March 25, 2021

Ms. Teresa McDill  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
[Teresa.McDill@state.nm.us](mailto:Teresa.McDill@state.nm.us)

Review of July 2020 Secondary Reverse Osmosis (SRO) Release, Site Characterization, Assessment, and Closure Report: Content satisfactory

1. OCD approves request for site closure, release resolved

**RE: July 2020 Secondary Reverse Osmosis (SRO) Release, Site Characterization, Assessment, and Closure Report, HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico, GW-028**

HollyFrontier Navajo Refining LLC (HFNR) is submitting this letter to document site characterization and assessment results of the secondary release osmosis (SRO) feedwater release that occurred on July 5, 2020, at the Artesia Refinery (refinery) located in Artesia, New Mexico. This letter also serves as the closure report for this release. The initial C-141 Form for this release was submitted to the New Mexico Oil Conservation Division (OCD) on August 5, 2020. The final Form C-141 is provided as Attachment A.

The release occurred while the SRO unit was shut down and the SRO feedwater (primary reverse osmosis [RO] reject) was being diverted to the refinery process sewer. The diversion caused the sewer to back up and overflow at the location shown on Figures 1 and 2. Approximately 98 barrels of SRO feedwater and 2 barrels of oily residues were released to the ground surface and contained within a depression under an existing pipe rack to the north of the release location. As shown on Figure 1, the release occurred entirely within a Resource Conservation and Recovery Act (RCRA) permitted Solid Waste Management Unit (SWMU) 25 (expanded North Plant Process Area)<sup>1</sup>. The approximate extent of the release area is shown on Figures 1 and 2.

## INITIAL RELEASE RESPONSE ACTIVITIES

HFNR completed the following activities after discovery of the release:

- Ceased diversion of the SRO feedwater to the sewer.
- Recovered free liquids with a vacuum truck and placed them in the refinery process sewer. Approximately 98 barrels of SRO feedwater were recovered.
- Removed soil based on visual and olfactory indications of impacts (i.e., staining, odor, and moisture content) and placed it in covered roll-off boxes. Approximately 17 cubic yards of soil

<sup>1</sup> HFNR submitted a RCRA permit addendum to expand SWMU 25 to include the Selenium Reduction Technology Unit (SeRT) and the future Renewable Diesel Unit (RDU) process area.

HollyFrontier Navajo Refining LLC  
501 East Main • Artesia, NM 88210  
(575) 748-3311 • <http://www.hollyfrontier.com>

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was removed and transported to Gandy Marley, Inc. in Roswell, New Mexico for disposal. Soil waste disposal documentation is provided as Attachment B.

## **SITE CHARACTERIZATION**

The release occurred within an active operating refinery that is continuously secured to prevent access from unauthorized personnel and the general public. The release occurred within the North Plant Process Area which is listed as SWMU 25 in the refinery's Post-Closure Care Permit (PCC Permit) issued by the New Mexico Environment Department (NMED) in December 2010. SWMU 25 is subject to corrective action per the requirements of the refinery's PCC Permit and is also covered by the refinery's facility-wide groundwater monitoring and recovery system. The release area is entirely contained within the proposed expansion to SWMU 25. Site characterization information for the release is described below in accordance with the Site Assessment/Characterization Form C-141 provided in Attachment A.

- Depth to Groundwater: Monitoring well MW-101 is located approximately 190 feet to the southeast (down/cross-gradient) of the release area and is gauged and sampled on a semi-annual basis as part of the facility-wide groundwater monitoring program. The depth to groundwater measured at MW-64 in April 2019 and October 2019 was 12.89 feet below ground surface (bgs) and 12.51 feet bgs, respectively. Groundwater gauging records were provided to the OCD in the *2019 Groundwater Monitoring Report* on June 15, 2020.
- Distance to Nearest Watercourse: Eagle Draw is located approximately 1,550 feet (0.29 miles) to the northwest of the release area. Eagle Draw is an ephemeral watercourse that primarily flows only following rain events. The refinery maintains facility containment berms around storage tanks and along Eagle Draw which prevent releases from entering the watercourse. The release did not reach Eagle Draw.
- Distance to Nearest Down-gradient Fresh Water Well or Spring: The extent of the release area is at least 1,000 feet from the refinery property boundary in all directions. Based on refinery knowledge, the nearest fresh water supply well (RA-768) downgradient of the release location is located within the refinery property boundary, approximately 400 feet southeast of the release location. RA-768 is an industrial use well owned and operated by HFNR; it is screened within the deep Artesian aquifer with a total depth of 1,214 feet bgs. There are no known fresh water springs within 0.5-miles of the release location.

## **SOIL ASSESSMENT ACTIVITIES**

TRC Environmental Corporation (TRC) conducted soil assessment activities on behalf of HFNR on November 23, 2020. Soil assessment activities were conducted in accordance with the characterization plan that was submitted to the OCD in an email on November 13, 2020.

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Soil samples were collected from five discrete locations, designated as SB-01 through SB-05, at an approximate spacing of one per 400 square feet (ft<sup>2</sup>) over the approximate 2,000-ft<sup>2</sup> release area. Soil sample locations are shown on Figure 2. Discrete soil samples were collected using a decontaminated shovel. Samples were collected from 0 to 0.5 feet bgs at each soil sample location.

One field duplicate soil sample was also collected for data quality assurance/quality control (QA/QC) purposes. Each soil sample was submitted for the following laboratory analysis:

- Volatile organic compounds (VOCs) listed in 20.6.2.3103 NMAC, by Method 8260B;
- Semi-volatile organic compounds (SVOCs) listed in 20.6.2.3103 NMAC, by Method 8270C;
- Total petroleum hydrocarbons (TPH) gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO), by Method 8015M;
- Metals (RCRA 8), by Method 6010B or 7417A; and
- Anions (chloride, fluoride, sulfate, and nitrate/nitrite), by Method E300.

Soil samples were field screened for volatile compounds using a photoionization detector (PID). Field PID readings are provided as Attachment C.

## SOIL ASSESSMENT RESULTS

Soil analytical results are summarized and compared to the lowest applicable worker protection criteria in Table 1. The worker protection criteria are consistent with the lowest Industrial/Occupational Soil Screening Levels (SSLs) in Table A-1 of the February 2019 (Revision 2, June 2019) NMED *Risk Assessment Guidance for Site Investigations and Remediation, Volume I*. Laboratory analytical reports are provided as Attachment D. As shown on Table 1, analytical results indicate no constituents are present in soil at concentrations that exceed their respective worker protection criteria.

Analytical results were reviewed and validated to ensure the results are usable for the intended purpose. No data interpretation issues were identified.

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## CLOSING

A final Form C-141 (Site Assessment/Characterization and Closure) is included as Attachment A. Response action and assessment results will also be documented in the Annual Discharge Report submitted to OCD by June 15, 2021, in accordance with Section 2.E of GW-028. If you have any questions or comments regarding this request, please feel free to contact me at 575-746-5487 or Jason Leik at 214-871-3408.

Sincerely,



Kawika Tupou  
Environmental Manager  
HollyFrontier Navajo Refining LLC

### Attachments:

Figure 1 – Release Location Map

Figure 2 – Sample Location Map

Table 1 – Surface Soil Analytical Results Summary

Attachment A – Site Assessment/Characterization and Closure Form C-141

Attachment B – Soil Waste Disposal Documentation

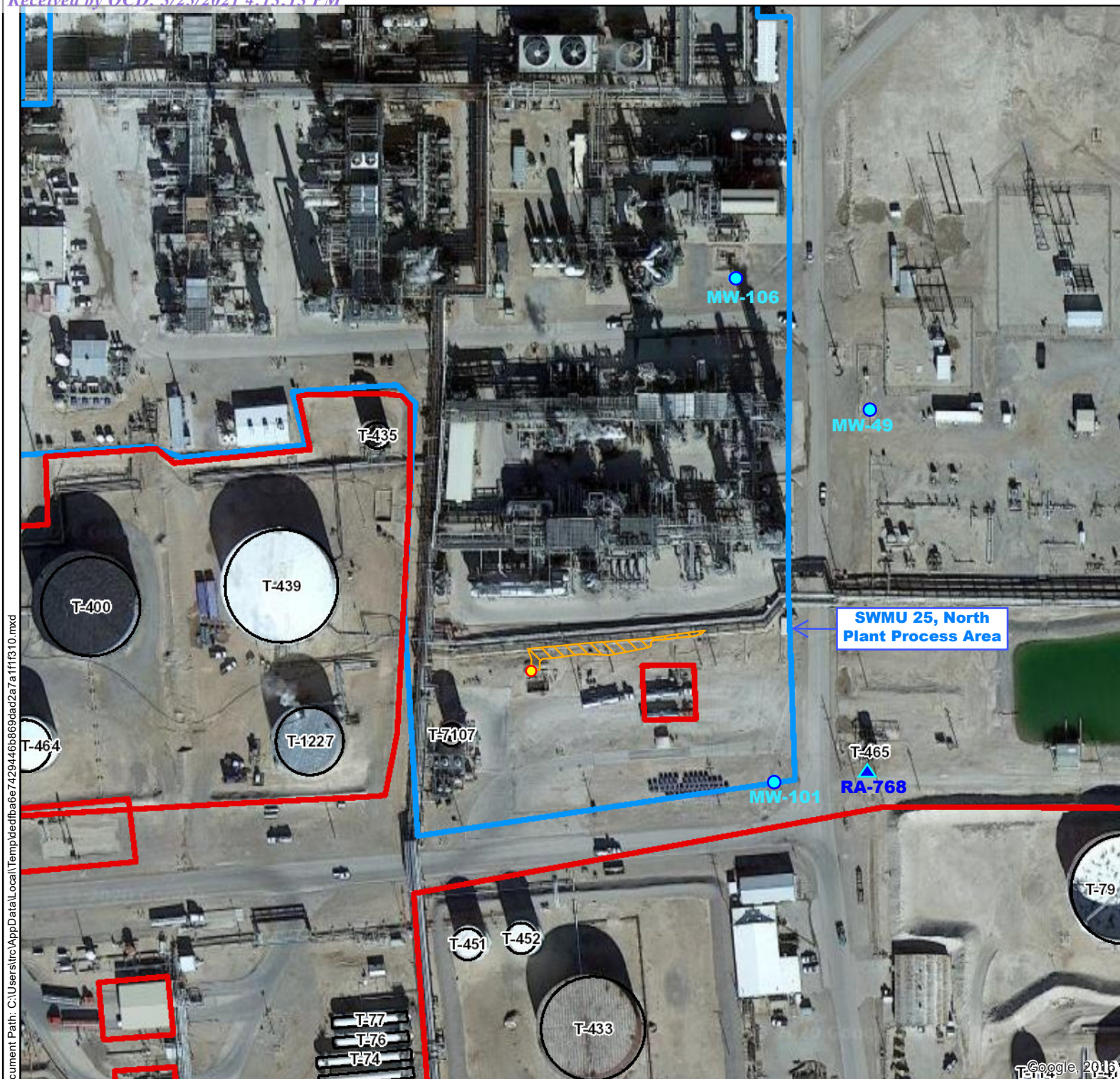
Attachment C – Field PID Readings

Attachment D – Laboratory Analytical Reports

cc: HollyFrontier: J. Leik, R. Dade  
TRC: J. Speer, C. Smith

HollyFrontier Navajo Refining LLC  
501 East Main • Artesia, NM 88210  
(575) 748-3311 • <http://www.hollyfrontier.com>

## **FIGURES**



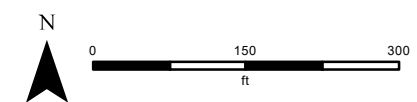
## LEGEND

- Approximate Release Extent
- Tanks
- Release Location
- AOC
- SWMU
- Monitoring Well
- Industrial Water Supply Well

**Figure 1**  
**Release Location Map**

July 5, 2020 Secondary Reverse Osmosis  
(SRO) Feedwater Release

HollyFrontier Navajo Refining LLC  
Artesia Refinery, GW-028



505 E. HUNTLAND DR.  
SUITE 250  
AUSTIN, TX 78752  
PH: 512-329-6080

Document Path: C:\Users\lrc\AppData\Local\Temp\7445b68927b0476b86a877fa50d107b0.mxd

**LEGEND**

Approximate Release Extent

Release Location

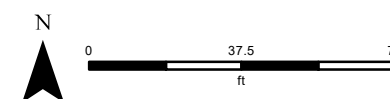
Sample Location

**SS-3** Sample ID

**Figure 2**  
**Sample Location Map**

July 5, 2020 Secondary Reverse Osmosis  
(SRO) Feedwater Release

HollyFrontier Navajo Refining LLC  
Artesia Refinery, GW-028



505 E. HUNTLAND DR.  
SUITE 250  
AUSTIN, TX 78752  
PH: 512-329-6080

Google, 2016

## **TABLES**

**Table 1. Surface Soil Analytical Results Summary**

July 5, 2020 Secondary Reverse Osmosis Feedwater Release Assessment

HollyFrontier Navajo Refining LLC, Artesia Refinery

Soil Sample ID:				SS-1	SS-2	SS-3	SS-3 (DUP-01)	SS-4	SS-5
Analyte	CAS	SSL	Units						
<b>Anions</b>									
Chloride	16887-00-6	5.84E+07	mg/kg	116	256	89.0	80.6	106	135
Fluoride	16984-48-8	7.78E+04	mg/kg	13.3	9.71	3.98	2.94	5.48	9.73
Nitrate	14797-55-8	2.08E+06	mg/kg	4.54 J	6.21 J	7.05 J	6.19 J	9.66 J	44.7
Nitrite	14797-65-0	1.30E+05	mg/kg	<0.580	<0.565	<0.531	<0.548	<0.532	<0.551
Sulfate	14808-79-8	--	mg/kg	2710	2180	592	399	775	3320
<b>Metals</b>									
Arsenic	7440-38-2	3.59E+01	mg/kg	2.71	1.15 J	<0.545	0.887 J	0.902 J	2.23
Barium	7440-39-3	2.55E+05	mg/kg	114	108	103	83.3	70.5	88.9
Cadmium	7440-43-9	1.11E+03	mg/kg	0.342 J	0.369 J	0.511 J	0.345 J	0.372 J	0.356 J
Chromium	7440-47-3	5.05E+02	mg/kg	7.76	8.85	6.70	5.81	9.84	14.6
Lead	7439-92-1	8.00E+02	mg/kg	17.7	11.5	2.60	3.17	5.49	14.2
Selenium	7782-49-2	6.49E+03	mg/kg	<0.878	<0.855	<0.803	<0.829	<0.805	0.929 J
Silver	7440-22-4	6.49E+03	mg/kg	<0.146	<0.142	<0.134	<0.138	<0.134	<0.139
Mercury	7439-97-6	1.12E+02	mg/kg	0.0241 J	<0.0201	<0.0189	<0.0195	<0.0190	<0.0197
<b>Total Petroleum Hydrocarbons</b>									
C10-C28 Diesel Range		3.80E+03	mg/kg	17.6	332	12.1	4.37	36.3	29.8
C28-C40 Oil Range		3.80E+03	mg/kg	10.9	216	10.8	3.08 J	36.8	42.3
Low Fraction Gasoline Range	8006-61-9	5.00E+02	mg/kg	2.75 J	2.00 J	1.69 J	0.933 J	1.05 J	1.05 J
<b>Volatile Organic Compounds</b>									
1,1,1-Trichloroethane	71-55-6	7.25E+04	mg/kg	<0.00129	<0.00122	<0.00105	<0.00113	<0.00105	<0.00114
1,1-Dichloroethane	75-34-3	3.83E+02	mg/kg	<0.000686	<0.000649	<0.000557	<0.000600	<0.000560	<0.000605
1,2-Dibromoethane	106-93-4	3.31E+00	mg/kg	<0.000905	<0.000857	<0.000735	<0.000792	<0.000739	<0.000798
1,2-Dichlorobenzene	95-50-1	1.30E+04	mg/kg	<0.000593	<0.000562	<0.000482	<0.000520	<0.000484	<0.000523
1,2-Dichloroethane	107-06-2	4.07E+01	mg/kg	<0.000906	<0.000858	<0.000736	<0.000794	<0.000740	<0.000799
1,4-Dichlorobenzene	106-46-7	6.73E+03	mg/kg	<0.000978	<0.000926	<0.000794	<0.000856	0.00101 J	<0.000862
Benzene	71-43-2	8.72E+01	mg/kg	0.00113 J	0.00188	0.000844 J	0.00158	0.00472	0.000975 J
Chloroform	67-66-3	2.87E+01	mg/kg	<0.00144	<0.00136	<0.00117	<0.00126	<0.00117	<0.00127
Ethylbenzene	100-41-4	3.68E+02	mg/kg	<0.00103	0.00144 J	<0.000836	0.00141 J	0.00835	0.00207 J
Methyl tert-butyl ether	1634-04-4	4.82E+03	mg/kg	<0.000489	<0.000463	<0.000397	<0.000428	<0.000399	<0.000431
Naphthalene	91-20-3	2.41E+02	mg/kg	0.0102 J	0.0171	<0.00553	<0.00597	0.0130 J	<0.00601
Styrene	100-42-5	5.13E+04	mg/kg	<0.000320	<0.000303	<0.000260	<0.000280	<0.000261	<0.000282
Tetrachloroethene	127-18-4	6.29E+02	mg/kg	0.0132	<0.00119	<0.00102	<0.00110	<0.00102	<0.00110
Toluene	108-88-3	6.13E+04	mg/kg	<0.00182	0.00173 J	<0.00147	0.00282 J	0.00270 J	0.00160 J
Trichloroethene	79-01-6	3.65E+01	mg/kg	<0.000816	<0.000772	<0.000662	<0.000714	<0.000666	<0.000719
Total Xylenes	1330-20-7	4.28E+03	mg/kg	0.00243 J	<0.00116	<0.000998	0.00448 J	0.00757	0.00404 J
<b>Semi-Volatile Organic Compounds</b>									
1-Methylnaphthalene	90-12-0	8.13E+02	mg/kg	0.0680	0.172	<0.00448	<0.00462	0.0206 J	<0.00465
2-Methylnaphthalene	91-57-6	3.37E+03	mg/kg	0.0253 J	0.0539	<0.00454	<0.00469	0.0160 J	<0.00472
Benzo(a)pyrene	50-32-8	2.36E+01	mg/kg	<0.00711	<0.00693	<0.00651	<0.00672	0.103	0.00930 J
Naphthalene	91-20-3	2.41E+02	mg/kg	<0.00960	0.0104 J	<0.00879	<0.00907	<0.00881	<0.00913
Phenol	108-95-2	2.75E+05	mg/kg	<0.0154	<0.0150	<0.0141	<0.0145	<0.0141	<0.0146

**Notes:**

All surface soil samples collected from 0 to 0.5 feet below ground surface.

-- = No SSL

&lt;0.580 = Analyte not detected above the sample detection limit (SDL).

DUP = duplicate sample

J = Analyte detected below method quantitation limit (MQL), estimated value.

mg/kg = milligrams per kilogram

NMED = New Mexico Environment Department

SSL = Soil Screening Level, NMED Risk Assessment Guidance for Site Investigations and Remediation, February 2019, Rev 2 (6/19/19) [2019 NMED Risk Assessment Guidance]

TPH SSLs: NMED 2019 Risk Assessment Guidance Table 6-2, Industrial Exposure, "unknown oil" for diesel range and oil range, "gasoline" for TPH low fraction

All other SSLs: NMED 2019 Risk Assessment Guidance Table A-1, lowest Industrial/Occupational SSL

**ATTACHMENT A**  
**SITE ASSESSMENT/CHARACTERIZATION AND CLOSURE FORM C-141**

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release? <b>Measured at nearby monitoring well MW-101 in October 2019</b>	<u>12.51</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? <b>Refinery Industrial Water Supply Well RA-768</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

### **Characterization Report Checklist:** *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs **Not Applicable**
- ☐ Photographs including date and GIS information **Not Available**
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141

State of New Mexico

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Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Lewis Dade Title: Environmental SpecialistSignature:  Date: 3/25/2021email: [Lewis.Dade@hollyfrontier.com](mailto:Lewis.Dade@hollyfrontier.com) Telephone: 575-746-5281**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

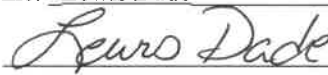
## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection) **Not Applicable – area not backfilled, only minor surface soil scraping**
- ☒ Laboratory analyses of final sampling (Note: appropriate OCD District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Lewis Dade Title: Environmental Specialist  
 Signature:  Date: 3/25/2021  
 email: Lewis.Dade@hollyfrontier.com Telephone: 575-746-5281

### OCD Only

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

**ATTACHMENT B**  
**SOIL WASTE DISPOSAL DOCUMENTATION**

**GMI** inc.

1952

Name \_\_\_\_\_

Phone No. \_\_\_\_\_

**GENERATOR**

Generator Name Holly Frontier Navajo LLC  
 Generator Contact Richard L. Oroasco  
 Address PO Box 159  
Artesia, New Mexico 88211-0159  
 Phone No. 575-748-3311

Location of Origin New Mexico  
 Lease/Well \_\_\_\_\_  
 Name & No. \_\_\_\_\_  
 County \_\_\_\_\_  
 API No. \_\_\_\_\_  
 Rig Name & No. \_\_\_\_\_  
 AFE/PO No. \_\_\_\_\_

**TRUCK TIME STAMP****DISPOSAL FACILITY****RECEIVING AREA**IN 10:00 AM OUT: \_\_\_\_\_Name/No. LANDFILL

Site Name / Permit No. Commercial Landfarm (NM-711-1-0020)  
 Address P.O. Box 1658 Roswell, NM 88202  
 NORM Readings Taken? (Circle One) YES NO  
 Pass the Paint Filter Test? (Circle One) YES NO

Phone No. 575-347-0434  
 If YES, was reading > 50 micro roentgens? (Circle One) YES NO

**TRANSPORTER**

Transporter's Name S Brothers Waste Services, Inc.  
 Address Artesia, New Mexico  
 Phone No. \_\_\_\_\_

Driver's Name out 71  
 Print Name \_\_\_\_\_  
 Phone No. \_\_\_\_\_  
 Truck No. \_\_\_\_\_

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE

DRIVER'S SIGNATURE

DELIVERY DATE

DRIVER'S SIGNATURE

**Exempt E&P Waste/Service Identification and Amount (Place volume next to waste type in barrels or cubic yards)**

Oil Based Muds	_____	<b>NON-INJECTABLE WATERS</b>	_____	<b>INJECTABLE WATERS</b>	_____
Oil Based Cuttings	_____	Washout Water (Non-Injectable)	_____	Washout Water (Injectable)	_____
Water Based Muds	_____	Completion Fluid/Flowback (Non-Injectable)	_____	Completion Fluid/Flowback (Injectable)	_____
Water Based Cuttings	_____	Produced Water (Non-Injectable)	_____	Produced Water (Injectable)	_____
Produced Formation Solids	_____	Gathering Line Water/Waste (Non-Injectable)	_____	Gathering Line Water/Waste (Injectable)	_____
Tank Bottoms	_____	<b>INTERNAL USE ONLY</b>	_____	<b>OTHER EXEMPT WASTES</b>	_____
E&P Contaminated Soil	_____	Truck Washout (Exempt Waste)	_____	(Types and generation process of the waste)	_____
Gas Plant Waste	_____				

WASTE GENERATION PROCESS: ☐ Drilling☐ Completion☐ Production☐ Gathering Lines**Non-Exempt E&P Waste/Service Identification and Amount**

(All non-exempt E&amp;P waste must be analyzed and be below the threshold limits for toxicity (TCLP), ignition, corrosiveness, and reactivity.)

Non-Exempt Other: 2000 lbs

\*Please select from Non-Exempt Waste List on back

QUANTITY: \_\_\_\_\_ B - Barrels \_\_\_\_\_ L - Liquid 17 Y - Yards \_\_\_\_\_ E - Each**C-138**

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☐ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. (Gandy Marley, Inc. accepts certifications on a per month only basis.)☒ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided.)☒ MSDS Information☒ RCRA Hazardous Waste Analysis☒ Other (Provide Description Below)☐ EMERGENCY NON-OILFIELD: Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety. (The order, documentation of non-hazardous waste determination and a description of the waste must accompany this form.)

(PRINT) AUTHORIZED AGENTS SIGNATURE

DATE

SIGNATURE

NAME (PRINT)

DATE

**GMI**

TITLE

SIGNATURE

SUPERIOR PRINTING SERVICE, INC.

**ATTACHMENT C**  
**FIELD PID READINGS**

## Attachment C. Field PID Readings

July 5, 2020 Secondary Reverse Osmosis Feedwater Release Assessment  
HollyFrontier Navajo Refining LLC, Artesia Refinery

11/23/20

Site: HFNR Artesia Refinery  
Client: HFNR  
Personnel: T. Babu  
Vehicle: TRC  
Weather: 50°F, cloudy, windy, fog

0540 load up truck, leave for site  
0845 arrive @ HF office, call Randy  
0915 Randy arrives & writes permit  
0945 Begin sampling after walking  
out site

Sample ID	Limit	Time
SS-1	29.0	1200
SS-2	19.4	1210
SS-3	98.6	1220
SS-4	6.1	1230
SS-5	4.7	1240

DUP-01 taken @ SS-3

**ATTACHMENT D**  
**LABORATORY ANALYTICAL REPORTS**



## ANALYTICAL REPORT

December 09, 2020

**TRC Solutions - Austin, TX**

Sample Delivery Group: L1290377  
Samples Received: 11/25/2020  
Project Number: 414065.0000.0000  
Description: July 2020 SRO Release Assessment  
Site: (NAVAJO - ARTESIA)  
Report To: Julie Speer  
505 E. Huntland Dr, Ste 250  
Austin, TX 78752

Entire Report Reviewed By:

Chris McCord  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



<b>Cp: Cover Page</b>	<b>1</b>	<sup>1</sup> Cp
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<sup>2</sup> Tc
<b>Cn: Case Narrative</b>	<b>5</b>	
<b>Tr: TRRP Summary</b>	<b>6</b>	<sup>3</sup> Ss
TRRP form R	<b>7</b>	
TRRP form S	<b>8</b>	<sup>4</sup> Cn
TRRP Exception Reports	<b>9</b>	<sup>5</sup> Tr
<b>Sr: Sample Results</b>	<b>10</b>	<sup>6</sup> Sr
SS-1 L1290377-01	<b>10</b>	
SS-2 L1290377-02	<b>12</b>	<sup>7</sup> Qc
SS-3 L1290377-03	<b>14</b>	
SS-4 L1290377-04	<b>16</b>	<sup>8</sup> Gl
SS-5 L1290377-05	<b>18</b>	
DUP-01 L1290377-06	<b>20</b>	<sup>9</sup> Al
TRIP BLANK-01 L1290377-07	<b>22</b>	<sup>10</sup> Sc
<b>Qc: Quality Control Summary</b>	<b>23</b>	
Total Solids by Method 2540 G-2011	<b>23</b>	
Wet Chemistry by Method 300.0	<b>25</b>	
Mercury by Method 7471A	<b>27</b>	
Metals (ICP) by Method 6010B	<b>28</b>	
Volatile Organic Compounds (GC) by Method 8015D/GRO	<b>29</b>	
Volatile Organic Compounds (GC/MS) by Method 8260B	<b>32</b>	
Semi-Volatile Organic Compounds (GC) by Method 8015	<b>39</b>	
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	<b>41</b>	
<b>Gl: Glossary of Terms</b>	<b>43</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>44</b>	
<b>Sc: Sample Chain of Custody</b>	<b>45</b>	

## SS-1 L1290377-01 Solid

Collected by  
TB

Collected date/time  
11/23/20 12:00

Received date/time  
11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1585820	1	12/04/20 03:22	12/04/20 03:30	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	1	12/07/20 22:04	12/08/20 08:03	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	5	12/07/20 22:04	12/08/20 13:15	ELN	Mt. Juliet, TN
Mercury by Method 7471A	WG1585781	1	12/03/20 09:08	12/03/20 14:58	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1585690	1	12/03/20 07:41	12/03/20 19:17	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1586925	25	12/01/20 21:51	12/06/20 01:46	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1586508	1	12/01/20 21:51	12/04/20 15:57	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1585754	1	12/03/20 07:07	12/03/20 15:08	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1586076	1	12/03/20 23:12	12/04/20 12:24	JNJ	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

## SS-2 L1290377-02 Solid

Collected by  
TB

Collected date/time  
11/23/20 12:10

Received date/time  
11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1585820	1	12/04/20 03:22	12/04/20 03:30	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	1	12/07/20 22:04	12/08/20 08:37	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	5	12/07/20 22:04	12/08/20 13:48	ELN	Mt. Juliet, TN
Mercury by Method 7471A	WG1585781	1	12/03/20 09:08	12/03/20 15:00	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1585690	1	12/03/20 07:41	12/03/20 19:20	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1587785	25	12/01/20 21:51	12/07/20 13:03	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1586508	1	12/01/20 21:51	12/04/20 16:16	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1585754	5	12/03/20 07:07	12/03/20 15:47	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1586076	1	12/03/20 23:12	12/04/20 12:47	JNJ	Mt. Juliet, TN

## SS-3 L1290377-03 Solid

Collected by  
TB

Collected date/time  
11/23/20 12:20

Received date/time  
11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1585822	1	12/04/20 03:05	12/04/20 03:14	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	1	12/07/20 22:04	12/08/20 08:54	ELN	Mt. Juliet, TN
Mercury by Method 7471A	WG1585781	1	12/03/20 09:08	12/03/20 15:03	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1585690	1	12/03/20 07:41	12/03/20 19:23	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1587250	25	12/01/20 21:51	12/06/20 17:33	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1586508	1	12/01/20 21:51	12/04/20 16:35	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1585754	1	12/03/20 07:07	12/03/20 14:55	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1586076	1	12/03/20 23:12	12/04/20 12:01	JNJ	Mt. Juliet, TN

## SS-4 L1290377-04 Solid

Collected by  
TB

Collected date/time  
11/23/20 12:30

Received date/time  
11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1585822	1	12/04/20 03:05	12/04/20 03:14	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	1	12/07/20 22:04	12/08/20 09:45	ELN	Mt. Juliet, TN
Mercury by Method 7471A	WG1585781	1	12/03/20 09:08	12/03/20 15:05	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1585690	1	12/03/20 07:41	12/03/20 19:26	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1587250	25	12/01/20 21:51	12/06/20 17:56	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1587463	1	12/01/20 21:51	12/06/20 20:00	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1585754	5	12/03/20 07:07	12/03/20 17:01	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1586076	1	12/03/20 23:12	12/04/20 13:09	JNJ	Mt. Juliet, TN

## SS-5 L1290377-05 Solid

Collected by TB  
Collected date/time 11/23/20 12:40  
Received date/time 11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1585822	1	12/04/20 03:05	12/04/20 03:14	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	1	12/07/20 22:04	12/08/20 10:01	ELN	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	5	12/07/20 22:04	12/08/20 14:05	ELN	Mt. Juliet, TN
Mercury by Method 7471A	WG1585781	1	12/03/20 09:08	12/03/20 15:08	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1585690	1	12/03/20 07:41	12/03/20 19:29	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1587250	25	12/01/20 21:51	12/06/20 18:19	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1587463	1	12/01/20 21:51	12/06/20 20:20	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1585754	5	12/03/20 07:07	12/03/20 17:14	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1586076	1	12/03/20 23:12	12/04/20 13:32	JNJ	Mt. Juliet, TN

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Tr<sup>6</sup> Sr<sup>7</sup> Qc<sup>8</sup> Gl<sup>9</sup> Al<sup>10</sup> Sc

## DUP-01 L1290377-06 Solid

Collected by TB  
Collected date/time 11/23/20 00:00  
Received date/time 11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1585822	1	12/04/20 03:05	12/04/20 03:14	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1587948	1	12/07/20 22:04	12/08/20 10:18	ELN	Mt. Juliet, TN
Mercury by Method 7471A	WG1585781	1	12/03/20 09:08	12/03/20 15:10	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1585690	1	12/03/20 07:41	12/03/20 19:32	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1587250	25	12/01/20 21:51	12/06/20 19:16	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1587463	1	12/01/20 21:51	12/06/20 20:38	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1586032	1	12/03/20 16:30	12/03/20 19:36	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1586076	1	12/03/20 23:12	12/04/20 11:38	JNJ	Mt. Juliet, TN

## TRIP BLANK-01 L1290377-07 GW

Collected by TB  
Collected date/time 11/23/20 00:00  
Received date/time 11/25/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1586006	1	12/03/20 21:10	12/03/20 21:10	ACG	Mt. Juliet, TN

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



Chris McCord  
Project Manager



This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
  - a. Items consistent with NELAC Chapter 5,
  - b. dilution factors,
  - c. preparation methods,
  - d. cleanup methods, and
  - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
  - a. Calculated recovery (%R), and
  - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
  - a. LCS spiking amounts,
  - b. Calculated %R for each analyte, and
  - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a. Samples associated with the MS/MSD clearly identified,
  - b. MS/MSD spiking amounts,
  - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d. Calculated %Rs and relative percent differences (RPDs), and
  - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
  - a. The amount of analyte measured in the duplicate,
  - b. The calculated RPD, and
  - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.



Chris McCord  
Project Manager

Laboratory Name: Pace Analytical National		LRC Date: 12/09/2020 17:59					
Project Name: July 2020 SRO Release Assessment		Laboratory Job Number: L1290377-01, 02, 03, 04, 05, 06 and 07					
Reviewer Name: Chris McCord		Prep Batch Number(s): WG1585781, WG1585754, WG1586032, WG1585690, WG1586508, WG1585822, WG1585820, WG1586006, WG1586076, WG1586925, WG1587250, WG1587463, WG1587785 and WG1587948					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			1
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?	X				
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			3
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Name: Pace Analytical National		LRC Date: 12/09/2020 17:59					
Project Name: July 2020 SRO Release Assessment		Laboratory Job Number: L1290377-01, 02, 03, 04, 05, 06 and 07					
Reviewer Name: Chris McCord		Prep Batch Number(s): WG1585781, WG1585754, WG1586032, WG1585690, WG1586508, WG1585822, WG1585820, WG1586006, WG1586076, WG1586925, WG1587250, WG1587463, WG1587785 and WG1587948					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Name: Pace Analytical National		LRC Date: 12/09/2020 17:59	
Project Name: July 2020 SRO Release Assessment		Laboratory Job Number: L1290377-01, 02, 03, 04, 05, 06 and 07	
Reviewer Name: Chris McCord		Prep Batch Number(s): WG1585781, WG1585754, WG1586032, WG1585690, WG1586508, WG1585822, WG1585820, WG1586006, WG1586076, WG1586925, WG1587250, WG1587463, WG1587785 and WG1587948	
<b>ER #<sup>1</sup></b>	<b>Description</b>		
1	300.0 WG1587948 R3601339-5 and 6: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).		
2	8260B WG1587463 Methyl tert-butyl ether: Percent Recovery is outside of established control limits.		
3	300.0 WG1587948 Sulfate: Relative Percent Difference is outside of established control limits.		
1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

Collected date/time: 11/23/20 12:00

L1290377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.0		1	12/04/2020 03:30	<a href="#">WG1585820</a>

## Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	116		10.6	20.0	23.0	1	12/08/2020 08:03	<a href="#">WG1587948</a>
Fluoride	13.3		0.988	2.00	2.30	1	12/08/2020 08:03	<a href="#">WG1587948</a>
Nitrate as (N)	4.54	J	0.640	10.0	11.5	1	12/08/2020 08:03	<a href="#">WG1587948</a>
Nitrite as (N)	U		0.580	10.0	11.5	1	12/08/2020 08:03	<a href="#">WG1587948</a>
Sulfate	2710	J3	74.1	50.0	287	5	12/08/2020 13:15	<a href="#">WG1587948</a>

## Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0241	J	0.0207	0.0400	0.0460	1	12/03/2020 14:58	<a href="#">WG1585781</a>

## Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	2.71		0.595	2.00	2.30	1	12/03/2020 19:17	<a href="#">WG1585690</a>
Barium	114		0.0979	0.500	0.574	1	12/03/2020 19:17	<a href="#">WG1585690</a>
Cadmium	0.342	J	0.0541	0.500	0.574	1	12/03/2020 19:17	<a href="#">WG1585690</a>
Chromium	7.76		0.153	1.00	1.15	1	12/03/2020 19:17	<a href="#">WG1585690</a>
Lead	17.7		0.239	0.500	0.574	1	12/03/2020 19:17	<a href="#">WG1585690</a>
Selenium	U		0.878	2.00	2.30	1	12/03/2020 19:17	<a href="#">WG1585690</a>
Silver	U		0.146	1.00	1.15	1	12/03/2020 19:17	<a href="#">WG1585690</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	2.75	B J	0.758	0.100	3.49	25	12/06/2020 01:46	<a href="#">WG1586925</a>
(S) a,a,a-Trifluorotoluene(FID)	96.9				77.0-120		12/06/2020 01:46	<a href="#">WG1586925</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	0.00113	J	0.000652	0.00100	0.00140	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Chloroform	U		0.00144	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
1,2-Dibromoethane	U		0.000905	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
1,2-Dichlorobenzene	U		0.000593	0.00500	0.00698	1	12/04/2020 15:57	<a href="#">WG1586508</a>
1,4-Dichlorobenzene	U		0.000978	0.00500	0.00698	1	12/04/2020 15:57	<a href="#">WG1586508</a>
1,1-Dichloroethane	U		0.000686	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
1,2-Dichloroethane	U		0.000906	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Ethylbenzene	U		0.00103	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Methyl tert-butyl ether	U		0.000489	0.00100	0.00140	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Naphthalene	0.0102	J	0.00681	0.0125	0.0175	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Styrene	U		0.000320	0.0125	0.0175	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Tetrachloroethene	0.0132		0.00125	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Toluene	U		0.00182	0.00500	0.00698	1	12/04/2020 15:57	<a href="#">WG1586508</a>
1,1,1-Trichloroethane	U		0.00129	0.00250	0.00349	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Trichloroethene	U		0.000816	0.00100	0.00140	1	12/04/2020 15:57	<a href="#">WG1586508</a>
Xylenes, Total	0.00243	J	0.00123	0.00650	0.00908	1	12/04/2020 15:57	<a href="#">WG1586508</a>
(S) Toluene-d8	99.5				75.0-131		12/04/2020 15:57	<a href="#">WG1586508</a>

Collected date/time: 11/23/20 12:00

L1290377

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	104				67.0-138		12/04/2020 15:57	WG1586508
(S) 1,2-Dichloroethane-d4	121				70.0-130		12/04/2020 15:57	WG1586508

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	17.6		1.85	4.00	4.60	1	12/03/2020 15:08	WG1585754
C28-C40 Oil Range	10.9		0.315	4.00	4.60	1	12/03/2020 15:08	WG1585754
(S) o-Terphenyl	40.5				18.0-148		12/03/2020 15:08	WG1585754

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	U		0.00711	0.0333	0.0383	1	12/04/2020 12:24	WG1586076
Naphthalene	U		0.00960	0.0333	0.0383	1	12/04/2020 12:24	WG1586076
1-Methylnaphthalene	0.0680		0.00489	0.0333	0.0383	1	12/04/2020 12:24	WG1586076
2-Methylnaphthalene	0.0253	J	0.00496	0.0333	0.0383	1	12/04/2020 12:24	WG1586076
Phenol	U		0.0154	0.333	0.383	1	12/04/2020 12:24	WG1586076
(S) 2-Fluorophenol	45.2				12.0-120		12/04/2020 12:24	WG1586076
(S) Phenol-d5	43.3				10.0-120		12/04/2020 12:24	WG1586076
(S) Nitrobenzene-d5	34.4				10.0-122		12/04/2020 12:24	WG1586076
(S) 2-Fluorobiphenyl	47.9				15.0-120		12/04/2020 12:24	WG1586076
(S) 2,4,6-Tribromophenol	77.3				10.0-127		12/04/2020 12:24	WG1586076
(S) p-Terphenyl-d14	60.4				10.0-120		12/04/2020 12:24	WG1586076

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/23/20 12:10

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## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.4		1	12/04/2020 03:30	<a href="#">WG1585820</a>

## Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	256		10.3	20.0	22.4	1	12/08/2020 08:37	<a href="#">WG1587948</a>
Fluoride	9.71		0.962	2.00	2.24	1	12/08/2020 08:37	<a href="#">WG1587948</a>
Nitrate as (N)	6.21	J	0.623	10.0	11.2	1	12/08/2020 08:37	<a href="#">WG1587948</a>
Nitrite as (N)	U		0.565	10.0	11.2	1	12/08/2020 08:37	<a href="#">WG1587948</a>
Sulfate	2180		72.2	50.0	280	5	12/08/2020 13:48	<a href="#">WG1587948</a>

## Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	U		0.0201	0.0400	0.0448	1	12/03/2020 15:00	<a href="#">WG1585781</a>

## Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	1.15	J	0.580	2.00	2.24	1	12/03/2020 19:20	<a href="#">WG1585690</a>
Barium	108		0.0953	0.500	0.559	1	12/03/2020 19:20	<a href="#">WG1585690</a>
Cadmium	0.369	J	0.0527	0.500	0.559	1	12/03/2020 19:20	<a href="#">WG1585690</a>
Chromium	8.85		0.149	1.00	1.12	1	12/03/2020 19:20	<a href="#">WG1585690</a>
Lead	11.5		0.233	0.500	0.559	1	12/03/2020 19:20	<a href="#">WG1585690</a>
Selenium	U		0.855	2.00	2.24	1	12/03/2020 19:20	<a href="#">WG1585690</a>
Silver	U		0.142	1.00	1.12	1	12/03/2020 19:20	<a href="#">WG1585690</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	2.00	J	0.718	0.100	3.31	25	12/07/2020 13:03	<a href="#">WG1587785</a>
(S) a,a,a-Trifluorotoluene(FID)	110				77.0-120		12/07/2020 13:03	<a href="#">WG1587785</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	0.00188		0.000618	0.00100	0.00132	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Chloroform	U		0.00136	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
1,2-Dibromoethane	U		0.000857	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
1,2-Dichlorobenzene	U		0.000562	0.00500	0.00661	1	12/04/2020 16:16	<a href="#">WG1586508</a>
1,4-Dichlorobenzene	U		0.000926	0.00500	0.00661	1	12/04/2020 16:16	<a href="#">WG1586508</a>
1,1-Dichloroethane	U		0.000649	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
1,2-Dichloroethane	U		0.000858	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Ethylbenzene	0.00144	J	0.000975	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Methyl tert-butyl ether	U		0.000463	0.00100	0.00132	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Naphthalene	0.0171		0.00645	0.0125	0.0165	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Styrene	U		0.000303	0.0125	0.0165	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Tetrachloroethene	U		0.00119	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Toluene	0.00173	J	0.00172	0.00500	0.00661	1	12/04/2020 16:16	<a href="#">WG1586508</a>
1,1,1-Trichloroethane	U		0.00122	0.00250	0.00331	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Trichloroethene	U		0.000772	0.00100	0.00132	1	12/04/2020 16:16	<a href="#">WG1586508</a>
Xylenes, Total	U		0.00116	0.00650	0.00860	1	12/04/2020 16:16	<a href="#">WG1586508</a>
(S) Toluene-d8	97.8				75.0-131		12/04/2020 16:16	<a href="#">WG1586508</a>

Collected date/time: 11/23/20 12:10

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	102				67.0-138		12/04/2020 16:16	WG1586508
(S) 1,2-Dichloroethane-d4	119				70.0-130		12/04/2020 16:16	WG1586508

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	332		9.01	4.00	22.4	5	12/03/2020 15:47	WG1585754
C28-C40 Oil Range	216		1.53	4.00	22.4	5	12/03/2020 15:47	WG1585754
(S) o-Terphenyl	71.0				18.0-148		12/03/2020 15:47	WG1585754

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	U		0.00693	0.0333	0.0373	1	12/04/2020 12:47	WG1586076
Naphthalene	0.0104	J	0.00935	0.0333	0.0373	1	12/04/2020 12:47	WG1586076
1-Methylnaphthalene	0.172		0.00477	0.0333	0.0373	1	12/04/2020 12:47	WG1586076
2-Methylnaphthalene	0.0539		0.00483	0.0333	0.0373	1	12/04/2020 12:47	WG1586076
Phenol	U		0.0150	0.333	0.373	1	12/04/2020 12:47	WG1586076
(S) 2-Fluorophenol	43.4				12.0-120		12/04/2020 12:47	WG1586076
(S) Phenol-d5	42.6				10.0-120		12/04/2020 12:47	WG1586076
(S) Nitrobenzene-d5	33.9				10.0-122		12/04/2020 12:47	WG1586076
(S) 2-Fluorobiphenyl	49.2				15.0-120		12/04/2020 12:47	WG1586076
(S) 2,4,6-Tribromophenol	83.0				10.0-127		12/04/2020 12:47	WG1586076
(S) p-Terphenyl-d14	62.8				10.0-120		12/04/2020 12:47	WG1586076



Collected date/time: 11/23/20 12:20

L1290377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.1		1	12/04/2020 03:14	<a href="#">WG1585822</a>

## Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	89.0		9.67	20.0	21.0	1	12/08/2020 08:54	<a href="#">WG1587948</a>
Fluoride	3.98		0.904	2.00	2.10	1	12/08/2020 08:54	<a href="#">WG1587948</a>
Nitrate as (N)	7.05	J	0.586	10.0	10.5	1	12/08/2020 08:54	<a href="#">WG1587948</a>
Nitrite as (N)	U		0.531	10.0	10.5	1	12/08/2020 08:54	<a href="#">WG1587948</a>
Sulfate	592		13.6	50.0	52.6	1	12/08/2020 08:54	<a href="#">WG1587948</a>

## Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	U		0.0189	0.0400	0.0421	1	12/03/2020 15:03	<a href="#">WG1585781</a>

## Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	U		0.545	2.00	2.10	1	12/03/2020 19:23	<a href="#">WG1585690</a>
Barium	103		0.0896	0.500	0.526	1	12/03/2020 19:23	<a href="#">WG1585690</a>
Cadmium	0.511	J	0.0495	0.500	0.526	1	12/03/2020 19:23	<a href="#">WG1585690</a>
Chromium	6.70		0.140	1.00	1.05	1	12/03/2020 19:23	<a href="#">WG1585690</a>
Lead	2.60		0.219	0.500	0.526	1	12/03/2020 19:23	<a href="#">WG1585690</a>
Selenium	U		0.803	2.00	2.10	1	12/03/2020 19:23	<a href="#">WG1585690</a>
Silver	U		0.134	1.00	1.05	1	12/03/2020 19:23	<a href="#">WG1585690</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	1.69	B J	0.615	0.100	2.83	25	12/06/2020 17:33	<a href="#">WG1587250</a>
(S) a,a,a-Trifluorotoluene(FID)	97.5				77.0-120		12/06/2020 17:33	<a href="#">WG1587250</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	0.000844	J	0.000530	0.00100	0.00113	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Chloroform	U		0.00117	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
1,2-Dibromoethane	U		0.000735	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
1,2-Dichlorobenzene	U		0.000482	0.00500	0.00567	1	12/04/2020 16:35	<a href="#">WG1586508</a>
1,4-Dichlorobenzene	U		0.000794	0.00500	0.00567	1	12/04/2020 16:35	<a href="#">WG1586508</a>
1,1-Dichloroethane	U		0.000557	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
1,2-Dichloroethane	U		0.000736	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Ethylbenzene	U		0.000836	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Methyl tert-butyl ether	U		0.000397	0.00100	0.00113	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Naphthalene	U		0.00553	0.0125	0.0142	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Styrene	U		0.000260	0.0125	0.0142	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Tetrachloroethene	U		0.00102	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Toluene	U		0.00147	0.00500	0.00567	1	12/04/2020 16:35	<a href="#">WG1586508</a>
1,1,1-Trichloroethane	U		0.00105	0.00250	0.00283	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Trichloroethene	U		0.000662	0.00100	0.00113	1	12/04/2020 16:35	<a href="#">WG1586508</a>
Xylenes, Total	U		0.000998	0.00650	0.00737	1	12/04/2020 16:35	<a href="#">WG1586508</a>
(S) Toluene-d8	98.4				75.0-131		12/04/2020 16:35	<a href="#">WG1586508</a>

Collected date/time: 11/23/20 12:20

L1290377

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	98.1				67.0-138		12/04/2020 16:35	WG1586508
(S) 1,2-Dichloroethane-d4	118				70.0-130		12/04/2020 16:35	WG1586508

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	12.1		1.69	4.00	4.21	1	12/03/2020 14:55	WG1585754
C28-C40 Oil Range	10.8		0.288	4.00	4.21	1	12/03/2020 14:55	WG1585754
(S) o-Terphenyl	58.8				18.0-148		12/03/2020 14:55	WG1585754

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	U		0.00651	0.0333	0.0350	1	12/04/2020 12:01	WG1586076
Naphthalene	U		0.00879	0.0333	0.0350	1	12/04/2020 12:01	WG1586076
1-Methylnaphthalene	U		0.00448	0.0333	0.0350	1	12/04/2020 12:01	WG1586076
2-Methylnaphthalene	U		0.00454	0.0333	0.0350	1	12/04/2020 12:01	WG1586076
Phenol	U		0.0141	0.333	0.350	1	12/04/2020 12:01	WG1586076
(S) 2-Fluorophenol	54.0				12.0-120		12/04/2020 12:01	WG1586076
(S) Phenol-d5	51.9				10.0-120		12/04/2020 12:01	WG1586076
(S) Nitrobenzene-d5	39.8				10.0-122		12/04/2020 12:01	WG1586076
(S) 2-Fluorobiphenyl	55.9				15.0-120		12/04/2020 12:01	WG1586076
(S) 2,4,6-Tribromophenol	89.5				10.0-127		12/04/2020 12:01	WG1586076
(S) p-Terphenyl-d14	73.8				10.0-120		12/04/2020 12:01	WG1586076

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/23/20 12:30

L1290377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.9		1	12/04/2020 03:14	<a href="#">WG1585822</a>

## Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	106		9.69	20.0	21.1	1	12/08/2020 09:45	<a href="#">WG1587948</a>
Fluoride	5.48		0.906	2.00	2.11	1	12/08/2020 09:45	<a href="#">WG1587948</a>
Nitrate as (N)	9.66	J	0.587	10.0	10.5	1	12/08/2020 09:45	<a href="#">WG1587948</a>
Nitrite as (N)	U		0.532	10.0	10.5	1	12/08/2020 09:45	<a href="#">WG1587948</a>
Sulfate	775		13.6	50.0	52.7	1	12/08/2020 09:45	<a href="#">WG1587948</a>

## Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	U		0.0190	0.0400	0.0421	1	12/03/2020 15:05	<a href="#">WG1585781</a>

## Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	0.902	J	0.546	2.00	2.11	1	12/03/2020 19:26	<a href="#">WG1585690</a>
Barium	70.5		0.0897	0.500	0.527	1	12/03/2020 19:26	<a href="#">WG1585690</a>
Cadmium	0.372	J	0.0496	0.500	0.527	1	12/03/2020 19:26	<a href="#">WG1585690</a>
Chromium	9.84		0.140	1.00	1.05	1	12/03/2020 19:26	<a href="#">WG1585690</a>
Lead	5.49		0.219	0.500	0.527	1	12/03/2020 19:26	<a href="#">WG1585690</a>
Selenium	U		0.805	2.00	2.11	1	12/03/2020 19:26	<a href="#">WG1585690</a>
Silver	U		0.134	1.00	1.05	1	12/03/2020 19:26	<a href="#">WG1585690</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	1.05	B J	0.618	0.100	2.85	25	12/06/2020 17:56	<a href="#">WG1587250</a>
(S) a,a,a-Trifluorotoluene(FID)	97.9				77.0-120		12/06/2020 17:56	<a href="#">WG1587250</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	0.00472		0.000532	0.00100	0.00114	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Chloroform	U		0.00117	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
1,2-Dibromoethane	U		0.000739	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
1,2-Dichlorobenzene	U		0.000484	0.00500	0.00570	1	12/06/2020 20:00	<a href="#">WG1587463</a>
1,4-Dichlorobenzene	0.00101	J	0.000798	0.00500	0.00570	1	12/06/2020 20:00	<a href="#">WG1587463</a>
1,1-Dichloroethane	U		0.000560	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
1,2-Dichloroethane	U		0.000740	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Ethylbenzene	0.00835		0.000840	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Methyl tert-butyl ether	U	J4	0.000399	0.00100	0.00114	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Naphthalene	0.0130	J	0.00556	0.0125	0.0142	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Styrene	U		0.000261	0.0125	0.0142	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Tetrachloroethene	U		0.00102	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Toluene	0.00270	J	0.00148	0.00500	0.00570	1	12/06/2020 20:00	<a href="#">WG1587463</a>
1,1,1-Trichloroethane	U		0.00105	0.00250	0.00285	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Trichloroethene	U		0.000666	0.00100	0.00114	1	12/06/2020 20:00	<a href="#">WG1587463</a>
Xylenes, Total	0.00757		0.00100	0.00650	0.00741	1	12/06/2020 20:00	<a href="#">WG1587463</a>
(S) Toluene-d8	103				75.0-131		12/06/2020 20:00	<a href="#">WG1587463</a>

Collected date/time: 11/23/20 12:30

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	105				67.0-138		12/06/2020 20:00	WG1587463
(S) 1,2-Dichloroethane-d4	98.7				70.0-130		12/06/2020 20:00	WG1587463

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	36.3		8.48	4.00	21.1	5	12/03/2020 17:01	WG1585754
C28-C40 Oil Range	36.8		1.44	4.00	21.1	5	12/03/2020 17:01	WG1585754
(S) o-Terphenyl	72.9				18.0-148		12/03/2020 17:01	WG1585754

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	0.103		0.00652	0.0333	0.0351	1	12/04/2020 13:09	WG1586076
Naphthalene	U		0.00881	0.0333	0.0351	1	12/04/2020 13:09	WG1586076
1-Methylnaphthalene	0.0206	L	0.00449	0.0333	0.0351	1	12/04/2020 13:09	WG1586076
2-Methylnaphthalene	0.0160	L	0.00455	0.0333	0.0351	1	12/04/2020 13:09	WG1586076
Phenol	U		0.0141	0.333	0.351	1	12/04/2020 13:09	WG1586076
(S) 2-Fluorophenol	55.7				12.0-120		12/04/2020 13:09	WG1586076
(S) Phenol-d5	53.5				10.0-120		12/04/2020 13:09	WG1586076
(S) Nitrobenzene-d5	42.9				10.0-122		12/04/2020 13:09	WG1586076
(S) 2-Fluorobiphenyl	59.0				15.0-120		12/04/2020 13:09	WG1586076
(S) 2,4,6-Tribromophenol	84.3				10.0-127		12/04/2020 13:09	WG1586076
(S) p-Terphenyl-d14	64.8				10.0-120		12/04/2020 13:09	WG1586076

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/23/20 12:40

L1290377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	12/04/2020 03:14	<a href="#">WG1585822</a>

## Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	135		10.0	20.0	21.8	1	12/08/2020 10:01	<a href="#">WG1587948</a>
Fluoride	9.73		0.939	2.00	2.18	1	12/08/2020 10:01	<a href="#">WG1587948</a>
Nitrate as (N)	44.7		0.608	10.0	10.9	1	12/08/2020 10:01	<a href="#">WG1587948</a>
Nitrite as (N)	U		0.551	10.0	10.9	1	12/08/2020 10:01	<a href="#">WG1587948</a>
Sulfate	3320		70.4	50.0	273	5	12/08/2020 14:05	<a href="#">WG1587948</a>

## Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	U		0.0197	0.0400	0.0437	1	12/03/2020 15:08	<a href="#">WG1585781</a>

## Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	2.23		0.566	2.00	2.18	1	12/03/2020 19:29	<a href="#">WG1585690</a>
Barium	88.9		0.0930	0.500	0.546	1	12/03/2020 19:29	<a href="#">WG1585690</a>
Cadmium	0.356	J	0.0514	0.500	0.546	1	12/03/2020 19:29	<a href="#">WG1585690</a>
Chromium	14.6		0.145	1.00	1.09	1	12/03/2020 19:29	<a href="#">WG1585690</a>
Lead	14.2		0.227	0.500	0.546	1	12/03/2020 19:29	<a href="#">WG1585690</a>
Selenium	0.929	J	0.834	2.00	2.18	1	12/03/2020 19:29	<a href="#">WG1585690</a>
Silver	U		0.139	1.00	1.09	1	12/03/2020 19:29	<a href="#">WG1585690</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	1.05	B J	0.668	0.100	3.08	25	12/06/2020 18:19	<a href="#">WG1587250</a>
(S) a,a,a-Trifluorotoluene(FID)	97.2				77.0-120		12/06/2020 18:19	<a href="#">WG1587250</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	0.000975	J	0.000575	0.00100	0.00123	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Chloroform	U		0.00127	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
1,2-Dibromoethane	U		0.000798	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
1,2-Dichlorobenzene	U		0.000523	0.00500	0.00616	1	12/06/2020 20:20	<a href="#">WG1587463</a>
1,4-Dichlorobenzene	U		0.000862	0.00500	0.00616	1	12/06/2020 20:20	<a href="#">WG1587463</a>
1,1-Dichloroethane	U		0.000605	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
1,2-Dichloroethane	U		0.000799	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Ethylbenzene	0.00207	J	0.000908	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Methyl tert-butyl ether	U	J4	0.000431	0.00100	0.00123	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Naphthalene	U		0.00601	0.0125	0.0154	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Styrene	U		0.000282	0.0125	0.0154	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Tetrachloroethene	U		0.00110	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Toluene	0.00160	J	0.00160	0.00500	0.00616	1	12/06/2020 20:20	<a href="#">WG1587463</a>
1,1,1-Trichloroethane	U		0.00114	0.00250	0.00308	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Trichloroethene	U		0.000719	0.00100	0.00123	1	12/06/2020 20:20	<a href="#">WG1587463</a>
Xylenes, Total	0.00404	J	0.00108	0.00650	0.00801	1	12/06/2020 20:20	<a href="#">WG1587463</a>
(S) Toluene-d8	104				75.0-131		12/06/2020 20:20	<a href="#">WG1587463</a>

Collected date/time: 11/23/20 12:40

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	107				67.0-138		12/06/2020 20:20	WG1587463
(S) 1,2-Dichloroethane-d4	98.5				70.0-130		12/06/2020 20:20	WG1587463

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	29.8		8.79	4.00	21.8	5	12/03/2020 17:14	WG1585754
C28-C40 Oil Range	42.3		1.50	4.00	21.8	5	12/03/2020 17:14	WG1585754
(S) o-Terphenyl	78.5				18.0-148		12/03/2020 17:14	WG1585754

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	0.00930	J	0.00676	0.0333	0.0364	1	12/04/2020 13:32	WG1586076
Naphthalene	U		0.00913	0.0333	0.0364	1	12/04/2020 13:32	WG1586076
1-Methylnaphthalene	U		0.00465	0.0333	0.0364	1	12/04/2020 13:32	WG1586076
2-Methylnaphthalene	U		0.00472	0.0333	0.0364	1	12/04/2020 13:32	WG1586076
Phenol	U		0.0146	0.333	0.364	1	12/04/2020 13:32	WG1586076
(S) 2-Fluorophenol	48.5				12.0-120		12/04/2020 13:32	WG1586076
(S) Phenol-d5	45.9				10.0-120		12/04/2020 13:32	WG1586076
(S) Nitrobenzene-d5	36.3				10.0-122		12/04/2020 13:32	WG1586076
(S) 2-Fluorobiphenyl	49.2				15.0-120		12/04/2020 13:32	WG1586076
(S) 2,4,6-Tribromophenol	76.6				10.0-127		12/04/2020 13:32	WG1586076
(S) p-Terphenyl-d14	54.4				10.0-120		12/04/2020 13:32	WG1586076

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/23/20 00:00

L1290377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.1		1	12/04/2020 03:14	<a href="#">WG1585822</a>

## Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	80.6		9.98	20.0	21.7	1	12/08/2020 10:18	<a href="#">WG1587948</a>
Fluoride	2.94		0.933	2.00	2.17	1	12/08/2020 10:18	<a href="#">WG1587948</a>
Nitrate as (N)	6.19	J	0.604	10.0	10.9	1	12/08/2020 10:18	<a href="#">WG1587948</a>
Nitrite as (N)	U		0.548	10.0	10.9	1	12/08/2020 10:18	<a href="#">WG1587948</a>
Sulfate	399		14.0	50.0	54.3	1	12/08/2020 10:18	<a href="#">WG1587948</a>

## Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	U		0.0195	0.0400	0.0434	1	12/03/2020 15:10	<a href="#">WG1585781</a>

## Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	0.887	J	0.562	2.00	2.17	1	12/03/2020 19:32	<a href="#">WG1585690</a>
Barium	83.3		0.0925	0.500	0.543	1	12/03/2020 19:32	<a href="#">WG1585690</a>
Cadmium	0.345	J	0.0511	0.500	0.543	1	12/03/2020 19:32	<a href="#">WG1585690</a>
Chromium	5.81		0.144	1.00	1.09	1	12/03/2020 19:32	<a href="#">WG1585690</a>
Lead	3.17		0.226	0.500	0.543	1	12/03/2020 19:32	<a href="#">WG1585690</a>
Selenium	U		0.829	2.00	2.17	1	12/03/2020 19:32	<a href="#">WG1585690</a>
Silver	U		0.138	1.00	1.09	1	12/03/2020 19:32	<a href="#">WG1585690</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.933	B J	0.663	0.100	3.06	25	12/06/2020 19:16	<a href="#">WG1587250</a>
(S) a,a,a-Trifluorotoluene(FID)	97.5				77.0-120		12/06/2020 19:16	<a href="#">WG1587250</a>

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

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	0.00158		0.000571	0.00100	0.00122	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Chloroform	U		0.00126	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
1,2-Dibromoethane	U		0.000792	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
1,2-Dichlorobenzene	U		0.000520	0.00500	0.00611	1	12/06/2020 20:38	<a href="#">WG1587463</a>
1,4-Dichlorobenzene	U		0.000856	0.00500	0.00611	1	12/06/2020 20:38	<a href="#">WG1587463</a>
1,1-Dichloroethane	U		0.000600	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
1,2-Dichloroethane	U		0.000794	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Ethylbenzene	0.00141	J	0.000901	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Methyl tert-butyl ether	U	J4	0.000428	0.00100	0.00122	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Naphthalene	U		0.00597	0.0125	0.0153	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Styrene	U		0.000280	0.0125	0.0153	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Tetrachloroethene	U		0.00110	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Toluene	0.00282	J	0.00159	0.00500	0.00611	1	12/06/2020 20:38	<a href="#">WG1587463</a>
1,1,1-Trichloroethane	U		0.00113	0.00250	0.00306	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Trichloroethene	U		0.000714	0.00100	0.00122	1	12/06/2020 20:38	<a href="#">WG1587463</a>
Xylenes, Total	0.00448	J	0.00108	0.00650	0.00795	1	12/06/2020 20:38	<a href="#">WG1587463</a>
(S) Toluene-d8	105				75.0-131		12/06/2020 20:38	<a href="#">WG1587463</a>

Collected date/time: 11/23/20 00:00

L1290377

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	106				67.0-138		12/06/2020 20:38	WG1587463
(S) 1,2-Dichloroethane-d4	98.1				70.0-130		12/06/2020 20:38	WG1587463

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	4.37		1.75	4.00	4.34	1	12/03/2020 19:36	WG1586032
C28-C40 Oil Range	3.08	J	0.297	4.00	4.34	1	12/03/2020 19:36	WG1586032
(S) o-Terphenyl	72.1				18.0-148		12/03/2020 19:36	WG1586032

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

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	U		0.00672	0.0333	0.0361	1	12/04/2020 11:38	WG1586076
Naphthalene	U		0.00907	0.0333	0.0361	1	12/04/2020 11:38	WG1586076
1-Methylnaphthalene	U		0.00462	0.0333	0.0361	1	12/04/2020 11:38	WG1586076
2-Methylnaphthalene	U		0.00469	0.0333	0.0361	1	12/04/2020 11:38	WG1586076
Phenol	U		0.0145	0.333	0.361	1	12/04/2020 11:38	WG1586076
(S) 2-Fluorophenol	59.8				12.0-120		12/04/2020 11:38	WG1586076
(S) Phenol-d5	55.7				10.0-120		12/04/2020 11:38	WG1586076
(S) Nitrobenzene-d5	43.3				10.0-122		12/04/2020 11:38	WG1586076
(S) 2-Fluorobiphenyl	58.0				15.0-120		12/04/2020 11:38	WG1586076
(S) 2,4,6-Tribromophenol	84.7				10.0-127		12/04/2020 11:38	WG1586076
(S) p-Terphenyl-d14	67.8				10.0-120		12/04/2020 11:38	WG1586076

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/23/20 00:00

L1290377

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Chloroform	U		0.000111	0.00500	0.00500	1	12/03/2020 21:10	WG1586006
1,2-Dibromoethane	U		0.000126	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
1,2-Dichlorobenzene	U		0.000107	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
1,4-Dichlorobenzene	U		0.000120	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
1,1-Dichloroethane	U		0.000100	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Ethylbenzene	U		0.000137	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Methyl tert-butyl ether	U		0.000101	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Naphthalene	U		0.00100	0.00500	0.00500	1	12/03/2020 21:10	WG1586006
Styrene	U		0.000118	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Tetrachloroethene	U		0.000300	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Toluene	U		0.000278	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
1,1,1-Trichloroethane	U		0.000149	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Trichloroethene	U		0.000190	0.00100	0.00100	1	12/03/2020 21:10	WG1586006
Xylenes, Total	U		0.000174	0.00300	0.00300	1	12/03/2020 21:10	WG1586006
(S) Toluene-d8	107				80.0-120		12/03/2020 21:10	WG1586006
(S) 4-Bromofluorobenzene	86.9				77.0-126		12/03/2020 21:10	WG1586006
(S) 1,2-Dichloroethane-d4	113				70.0-130		12/03/2020 21:10	WG1586006

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Total Solids by Method 2540 G-2011 [L1290377-01,02](#)

Method Blank (MB)

(MB) R3600423-1 12/04/20 03:30

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.0130			

L1290364-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1290364-03 12/04/20 03:30 • (DUP) R3600423-3 12/04/20 03:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	82.4	83.2	1	0.976		10

Laboratory Control Sample (LCS)

(LCS) R3600423-2 12/04/20 03:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	49.9	99.8	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Total Solids by Method 2540 G-2011 [L1290377-03,04,05,06](#)

Method Blank (MB)

(MB) R3600407-1 12/04/20 03:14

Analyte	MB Result %	<u>MB Qualifier</u>	MB MDL %	MB RDL %
Total Solids	0.0160			

L1290383-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1290383-02 12/04/20 03:14 • (DUP) R3600407-3 12/04/20 03:14

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits
Total Solids	77.4	76.0	1	1.87		10

Laboratory Control Sample (LCS)

(LCS) R3600407-2 12/04/20 03:14

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Total Solids	50.0	49.9	99.7	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Wet Chemistry by Method 300.0

[L1290377-01,02,03,04,05,06](#)

## Method Blank (MB)

(MB) R3601339-1 12/07/20 23:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0
Fluoride	U		0.860	2.00
Nitrate as (N)	U		0.557	10.0
Nitrite as (N)	U		0.505	10.0
Sulfate	U		12.9	50.0

## L1288814-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1288814-01 12/08/20 01:35 • (DUP) R3601339-3 12/08/20 01:51

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	U	U	10	0.000		20
Fluoride	U	U	10	0.000		20
Nitrate as (N)	955	940	10	1.62		20
Nitrite as (N)	U	U	10	0.000		20
Sulfate	1300	1280	10	1.19		20

## L1290377-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1290377-01 12/08/20 08:03 • (DUP) R3601339-4 12/08/20 08:20

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	116	120	1	2.59		20
Fluoride	13.3	12.8	1	3.96		20
Nitrate as (N)	4.54	4.68	1	3.06	J	20
Nitrite as (N)	U	U	1	0.000		20

## L1290377-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1290377-01 12/08/20 13:15 • (DUP) R3601339-7 12/08/20 13:32

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	2710	1630	5	49.6	J3	20

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

Laboratory Control Sample (LCS)

(LCS) R3601339-2 12/08/20 00:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chloride	200	209	105	90.0-110	
Fluoride	20.0	21.2	106	90.0-110	
Nitrate as (N)	20.0	21.4	107	90.0-110	
Nitrite as (N)	20.0	21.2	106	90.0-110	
Sulfate	200	206	103	90.0-110	

L1290377-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290377-03 12/08/20 08:54 • (MS) R3601339-5 12/08/20 09:11 • (MSD) R3601339-6 12/08/20 09:28

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	526	89.0	630	631	103	103	1	80.0-120			0.153	20
Fluoride	52.6	3.98	52.4	52.2	92.2	91.7	1	80.0-120			0.463	20
Nitrate as (N)	52.6	7.05	61.4	61.1	103	103	1	80.0-120			0.499	20
Nitrite as (N)	52.6	U	54.7	54.4	104	103	1	80.0-120			0.580	20
Sulfate	526	592	1110	1130	99.2	103	1	80.0-120	<u>E</u>	<u>E</u>	1.55	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Tr

<sup>6</sup>Sr

<sup>7</sup>Qc

<sup>8</sup>Gl

<sup>9</sup>Al

<sup>10</sup>Sc

Mercury by Method 7471A [L1290377-01,02,03,04,05,06](#)

Method Blank (MB)

(MB) R3600036-1 12/03/20 14:01				
	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3600036-2 12/03/20 14:04					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.491	98.1	80.0-120	

L1290357-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290357-01 12/03/20 14:06 • (MS) R3600036-3 12/03/20 14:09 • (MSD) R3600036-4 12/03/20 14:11												
	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.556	0.0991	0.644	0.596	97.9	89.3	1	75.0-125			7.75	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Tr

<sup>6</sup>Sr

<sup>7</sup>Qc

<sup>8</sup>Gl

<sup>9</sup>Al

<sup>10</sup>Sc

Metals (ICP) by Method 6010B

[L1290377-01,02,03,04,05,06](#)

## Method Blank (MB)

(MB) R3600240-1 12/03/20 18:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.518	2.00
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
Lead	U		0.208	0.500
Selenium	U		0.764	2.00
Silver	U		0.127	1.00

## Laboratory Control Sample (LCS)

(LCS) R3600240-2 12/03/20 18:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	103	103	80.0-120	
Barium	100	111	111	80.0-120	
Cadmium	100	106	106	80.0-120	
Chromium	100	107	107	80.0-120	
Lead	100	107	107	80.0-120	
Selenium	100	109	109	80.0-120	
Silver	20.0	19.6	98.2	80.0-120	

## L1290404-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290404-01 12/03/20 18:43 • (MS) R3600240-5 12/03/20 18:51 • (MSD) R3600240-6 12/03/20 18:53

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	158	6.63	158	155	95.8	94.0	1	75.0-125			1.79	20
Barium	158	99.3	247	229	93.3	82.1	1	75.0-125			7.46	20
Cadmium	158	U	157	151	99.7	95.5	1	75.0-125			4.27	20
Chromium	158	7.91	163	157	98.3	94.8	1	75.0-125			3.37	20
Lead	158	6.77	169	160	103	97.4	1	75.0-125			5.44	20
Selenium	158	2.73	149	145	92.8	90.1	1	75.0-125			2.80	20
Silver	31.5	U	28.5	27.3	90.4	86.5	1	75.0-125			4.41	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

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

L1290377-01

Method Blank (MB)

(MB) R3600725-2 12/05/20 14:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0814	⌵	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	97.3			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3600725-1 12/05/20 11:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.68	103	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			103	77.0-120	

L1290107-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290107-01 12/05/20 16:47 • (MS) R3600725-3 12/06/20 02:56 • (MSD) R3600725-4 12/06/20 03:19

Analyte	Spike Amount (dry) mg/kg	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	138	1.74	118	131	67.5	75.1	25	10.0-151			10.4	28
(S) a,a,a-Trifluorotoluene(FID)					101	102		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Method Blank (MB)

(MB) R3600935-2 12/06/20 14:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0921	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	96.9			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3600935-1 12/06/20 12:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.69	103	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			105	77.0-120	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Method Blank (MB)

(MB) R3601125-4 12/07/20 12:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120

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

(LCS) R3601125-2 12/07/20 11:06 • (LCSD) R3601125-3 12/07/20 11:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.19	5.86	94.4	107	72.0-127			12.1	20
(S) a,a,a-Trifluorotoluene(FID)				101	103	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

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

L1290377-07

Method Blank (MB)

(MB) R3600478-2 12/03/20 20:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Chloroform	U		0.000111	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
Ethylbenzene	U		0.000137	0.00100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
Styrene	U		0.000118	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
Trichloroethene	U		0.000190	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	106			80.0-120
(S) 4-Bromofluorobenzene	88.3			77.0-126
(S) 1,2-Dichloroethane-d4	112			70.0-130

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Laboratory Control Sample (LCS)

(LCS) R3600478-1 12/03/20 19:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00511	102	70.0-123	
Chloroform	0.00500	0.00490	98.0	73.0-120	
1,2-Dibromoethane	0.00500	0.00558	112	80.0-122	
1,2-Dichlorobenzene	0.00500	0.00481	96.2	79.0-121	
1,4-Dichlorobenzene	0.00500	0.00511	102	79.0-120	
1,1-Dichloroethane	0.00500	0.00559	112	70.0-126	
1,2-Dichloroethane	0.00500	0.00539	108	70.0-128	
Ethylbenzene	0.00500	0.00542	108	79.0-123	
Methyl tert-butyl ether	0.00500	0.00443	88.6	68.0-125	
Naphthalene	0.00500	0.00392	78.4	54.0-135	
Styrene	0.00500	0.00489	97.8	73.0-130	
Tetrachloroethene	0.00500	0.00537	107	72.0-132	
Toluene	0.00500	0.00532	106	79.0-120	
1,1,1-Trichloroethane	0.00500	0.00452	90.4	73.0-124	

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

L1290377-07

Laboratory Control Sample (LCS)

(LCS) R3600478-1 12/03/20 19:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Trichloroethene	0.00500	0.00497	99.4	78.0-124	
Xylenes, Total	0.0150	0.0151	101	79.0-123	
(S) Toluene-d8			106	80.0-120	
(S) 4-Bromofluorobenzene			90.7	77.0-126	
(S) 1,2-Dichloroethane-d4			110	70.0-130	

L1290503-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290503-01 12/03/20 23:12 • (MS) R3600478-3 12/04/20 03:40 • (MSD) R3600478-4 12/04/20 04:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Benzene	0.00500	U	0.00594	0.00576	119	115	1	17.0-158			3.08	27
Chloroform	0.00500	U	0.00565	0.00573	113	115	1	29.0-154			1.41	28
1,2-Dibromoethane	0.00500	U	0.00636	0.00625	127	125	1	34.0-147			1.74	27
1,2-Dichlorobenzene	0.00500	U	0.00577	0.00542	115	108	1	34.0-149			6.26	28
1,4-Dichlorobenzene	0.00500	U	0.00622	0.00567	124	113	1	35.0-142			9.25	27
1,1-Dichloroethane	0.00500	U	0.00651	0.00632	130	126	1	25.0-158			2.96	27
1,2-Dichloroethane	0.00500	U	0.00622	0.00621	124	124	1	29.0-151			0.161	27
Ethylbenzene	0.00500	U	0.00615	0.00595	123	119	1	30.0-155			3.31	27
Methyl tert-butyl ether	0.00500	U	0.00497	0.00491	99.4	98.2	1	28.0-150			1.21	29
Naphthalene	0.00500	U	0.00411	0.00422	82.2	84.4	1	12.0-156			2.64	35
Styrene	0.00500	U	0.00574	0.00571	115	114	1	33.0-155			0.524	28
Tetrachloroethene	0.00500	U	0.00585	0.00579	117	116	1	10.0-160			1.03	27
Toluene	0.00500	U	0.00621	0.00596	124	119	1	26.0-154			4.11	28
1,1,1-Trichloroethane	0.00500	U	0.00511	0.00493	102	98.6	1	23.0-160			3.59	28
Trichloroethene	0.00500	U	0.00551	0.00540	110	108	1	10.0-160			2.02	25
Xylenes, Total	0.0150	U	0.0174	0.0172	116	115	1	29.0-154			1.16	28
(S) Toluene-d8					107	106		80.0-120				
(S) 4-Bromofluorobenzene					92.2	95.4		77.0-126				
(S) 1,2-Dichloroethane-d4					106	109		70.0-130				

L1290517-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290517-01 12/04/20 00:17 • (MS) R3600478-5 12/04/20 04:21 • (MSD) R3600478-6 12/04/20 04:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Benzene	0.00500	U	0.00570	0.00625	114	125	1	17.0-158			9.21	27
Chloroform	0.00500	U	0.00563	0.00611	113	122	1	29.0-154			8.18	28
1,2-Dibromoethane	0.00500	U	0.00627	0.00668	125	134	1	34.0-147			6.33	27

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

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

L1290377-07

L1290517-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290517-01 12/04/20 00:17 • (MS) R3600478-5 12/04/20 04:21 • (MSD) R3600478-6 12/04/20 04:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,2-Dichlorobenzene	0.00500	U	0.00540	0.00595	108	119	1	34.0-149			9.69	28
1,4-Dichlorobenzene	0.00500	U	0.00584	0.00636	117	127	1	35.0-142			8.52	27
1,1-Dichloroethane	0.00500	U	0.00622	0.00693	124	139	1	25.0-158			10.8	27
1,2-Dichloroethane	0.00500	U	0.00597	0.00639	119	128	1	29.0-151			6.80	27
Ethylbenzene	0.00500	U	0.00620	0.00669	124	134	1	30.0-155			7.60	27
Methyl tert-butyl ether	0.00500	U	0.00475	0.00516	95.0	103	1	28.0-150			8.27	29
Naphthalene	0.00500	U	0.00438	0.00470	87.6	94.0	1	12.0-156			7.05	35
Styrene	0.00500	U	0.00553	0.00612	111	122	1	33.0-155			10.1	28
Tetrachloroethene	0.00500	U	0.00556	0.00626	111	125	1	10.0-160			11.8	27
Toluene	0.00500	U	0.00580	0.00630	116	126	1	26.0-154			8.26	28
1,1,1-Trichloroethane	0.00500	U	0.00481	0.00550	96.2	110	1	23.0-160			13.4	28
Trichloroethene	0.00500	U	0.00526	0.00568	105	114	1	10.0-160			7.68	25
Xylenes, Total	0.0150	U	0.0168	0.0180	112	120	1	29.0-154			6.90	28
(S) Toluene-d8					105	104		80.0-120				
(S) 4-Bromofluorobenzene					93.3	93.1		77.0-126				
(S) 1,2-Dichloroethane-d4					109	107		70.0-130				

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

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

L1290377-01.02.03

Method Blank (MB)

(MB) R3600371-3 12/04/20 06:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Chloroform	U		0.00103	0.00250
1,2-Dibromoethane	U		0.000648	0.00250
1,2-Dichlorobenzene	U		0.000425	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
Ethylbenzene	U		0.000737	0.00250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
Styrene	U		0.000229	0.0125
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,1-Trichloroethane	U		0.000923	0.00250
Trichloroethene	U		0.000584	0.00100
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	97.8			75.0-131
(S) 4-Bromofluorobenzene	97.1			67.0-138
(S) 1,2-Dichloroethane-d4	116			70.0-130

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

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

(LCS) R3600371-1 12/04/20 04:49 • (LCSD) R3600371-2 12/04/20 05:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.120	0.123	96.0	98.4	70.0-123			2.47	20
Chloroform	0.125	0.140	0.140	112	112	72.0-123			0.000	20
1,2-Dibromoethane	0.125	0.116	0.118	92.8	94.4	74.0-128			1.71	20
1,2-Dichlorobenzene	0.125	0.121	0.122	96.8	97.6	76.0-124			0.823	20
1,4-Dichlorobenzene	0.125	0.120	0.121	96.0	96.8	77.0-121			0.830	20
1,1-Dichloroethane	0.125	0.135	0.135	108	108	70.0-127			0.000	20
1,2-Dichloroethane	0.125	0.126	0.122	101	97.6	65.0-131			3.23	20
Ethylbenzene	0.125	0.122	0.124	97.6	99.2	74.0-126			1.63	20
Methyl tert-butyl ether	0.125	0.131	0.131	105	105	66.0-132			0.000	20
Naphthalene	0.125	0.125	0.145	100	116	59.0-130			14.8	20
Styrene	0.125	0.115	0.118	92.0	94.4	72.0-127			2.58	20
Tetrachloroethene	0.125	0.126	0.138	101	110	70.0-136			9.09	20
Toluene	0.125	0.119	0.122	95.2	97.6	75.0-121			2.49	20
1,1,1-Trichloroethane	0.125	0.150	0.154	120	123	69.0-126			2.63	20

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

(LCS) R3600371-1 12/04/20 04:49 • (LCSD) R3600371-2 12/04/20 05:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Trichloroethene	0.125	0.125	0.128	100	102	76.0-126			2.37	20
Xylenes, Total	0.375	0.360	0.368	96.0	98.1	72.0-127			2.20	20
(S) Toluene-d8				98.6	99.2	75.0-131				
(S) 4-Bromofluorobenzene				98.9	98.2	67.0-138				
(S) 1,2-Dichloroethane-d4				122	122	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

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

[L1290377-04,05,06](#)

Method Blank (MB)

(MB) R3601005-2 12/06/20 19:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Chloroform	U		0.00103	0.00250
1,2-Dibromoethane	U		0.000648	0.00250
1,2-Dichlorobenzene	U		0.000425	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
Ethylbenzene	U		0.000737	0.00250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
Styrene	U		0.000229	0.0125
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,1-Trichloroethane	U		0.000923	0.00250
Trichloroethene	U		0.000584	0.00100
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	107			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	94.8			70.0-130

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3601005-1 12/06/20 18:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.114	91.2	70.0-123	
Chloroform	0.125	0.117	93.6	72.0-123	
1,2-Dibromoethane	0.125	0.124	99.2	74.0-128	
1,2-Dichlorobenzene	0.125	0.120	96.0	76.0-124	
1,4-Dichlorobenzene	0.125	0.112	89.6	77.0-121	
1,1-Dichloroethane	0.125	0.118	94.4	70.0-127	
1,2-Dichloroethane	0.125	0.117	93.6	65.0-131	
Ethylbenzene	0.125	0.123	98.4	74.0-126	
Methyl tert-butyl ether	0.125	0.173	138	66.0-132	<u>J4</u>
Naphthalene	0.125	0.112	89.6	59.0-130	
Styrene	0.125	0.127	102	72.0-127	
Tetrachloroethene	0.125	0.137	110	70.0-136	
Toluene	0.125	0.126	101	75.0-121	
1,1,1-Trichloroethane	0.125	0.114	91.2	69.0-126	

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

[L1290377-04,05,06](#)

Laboratory Control Sample (LCS)

(LCS) R3601005-1 12/06/20 18:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Trichloroethene	0.125	0.136	109	76.0-126	
Xylenes, Total	0.375	0.388	103	72.0-127	
(S) Toluene-d8			103	75.0-131	
(S) 4-Bromofluorobenzene			107	67.0-138	
(S) 1,2-Dichloroethane-d4			97.7	70.0-130	

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc

Method Blank (MB)

(MB) R3600098-1 12/03/20 12:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	74.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3600098-2 12/03/20 12:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	40.0	80.0	50.0-150	
(S) o-Terphenyl			73.4	18.0-148	

L1290097-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290097-01 12/03/20 12:47 • (MS) R3600098-3 12/03/20 13:00 • (MSD) R3600098-4 12/03/20 13:13

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	54.5	U	37.1	32.3	68.0	59.6	1	50.0-150			13.8	20
(S) o-Terphenyl					68.6	62.1		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Semi-Volatile Organic Compounds (GC) by Method 8015 [L1290377-06](#)

Method Blank (MB)

(MB) R3600226-1 12/03/20 18:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	66.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3600226-2 12/03/20 19:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	43.1	86.2	50.0-150	
(S) o-Terphenyl			83.0	18.0-148	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3600226-3 12/03/20 20:15 • (MSD) R3600226-4 12/03/20 20:27

Analyte	Spike Amount mg/kg	Original Result	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	77.1		34.0	40.1	65.1	77.6	1	50.0-150			16.5	20
(S) o-Terphenyl					56.9	60.0		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C L1290377-01,02,03,04,05,06

Method Blank (MB)

(MB) R3600564-2 12/04/20 10:48

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzo(a)pyrene	U		0.00619	0.0333
1-Methylnaphthalene	U		0.00426	0.0333
2-Methylnaphthalene	U		0.00432	0.0333
Naphthalene	U		0.00836	0.0333
Phenol	U		0.0134	0.333
(S) Nitrobenzene-d5	76.6			10.0-122
(S) 2-Fluorobiphenyl	79.0			15.0-120
(S) p-Terphenyl-d14	83.5			10.0-120
(S) Phenol-d5	89.5			10.0-120
(S) 2-Fluorophenol	95.3			12.0-120
(S) 2,4,6-Tribromophenol	85.4			10.0-127

Laboratory Control Sample (LCS)

(LCS) R3600564-1 12/04/20 10:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzo(a)pyrene	0.666	0.622	93.4	45.0-120	
1-Methylnaphthalene	0.666	0.310	46.5	34.0-120	
2-Methylnaphthalene	0.666	0.298	44.7	34.0-120	
Naphthalene	0.666	0.299	44.9	18.0-120	
Phenol	0.666	0.405	60.8	28.0-120	
(S) Nitrobenzene-d5			42.0	10.0-122	
(S) 2-Fluorobiphenyl			57.7	15.0-120	
(S) p-Terphenyl-d14			77.2	10.0-120	
(S) Phenol-d5			63.5	10.0-120	
(S) 2-Fluorophenol			65.2	12.0-120	
(S) 2,4,6-Tribromophenol			84.4	10.0-127	

L1290240-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290240-21 12/04/20 13:10 • (MS) R3600564-3 12/04/20 13:30 • (MSD) R3600564-4 12/04/20 13:50

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzo(a)pyrene	0.843	U	0.553	0.667	65.6	79.1	1	24.0-120			18.7	30
1-Methylnaphthalene	0.843	U	0.363	0.447	43.1	53.0	1	10.0-120			20.6	36
2-Methylnaphthalene	0.843	U	0.352	0.434	41.7	51.5	1	10.0-120			20.9	37
Naphthalene	0.843	U	0.356	0.438	42.2	52.0	1	10.0-120			20.7	35

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C [L1290377-01,02,03,04,05,06](#)

L1290240-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1290240-21 12/04/20 13:10 • (MS) R3600564-3 12/04/20 13:30 • (MSD) R3600564-4 12/04/20 13:50

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phenol	0.843	U	0.463	0.614	55.0	72.8	1	12.0-120			28.0	38
(S) Nitrobenzene-d5					41.1	51.1		10.0-122				
(S) 2-Fluorobiphenyl					51.7	63.7		15.0-120				
(S) p-Terphenyl-d14					58.3	67.9		10.0-120				
(S) Phenol-d5					58.3	73.3		10.0-120				
(S) 2-Fluorophenol					57.7	76.0		12.0-120				
(S) 2,4,6-Tribromophenol					59.5	78.7		10.0-127				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Tr

<sup>6</sup>Sr

<sup>7</sup>Qc

<sup>8</sup>Gl

<sup>9</sup>Al

<sup>10</sup>Sc

## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(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 Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
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.
J4	The associated batch QC was outside the established quality control range for accuracy.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

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

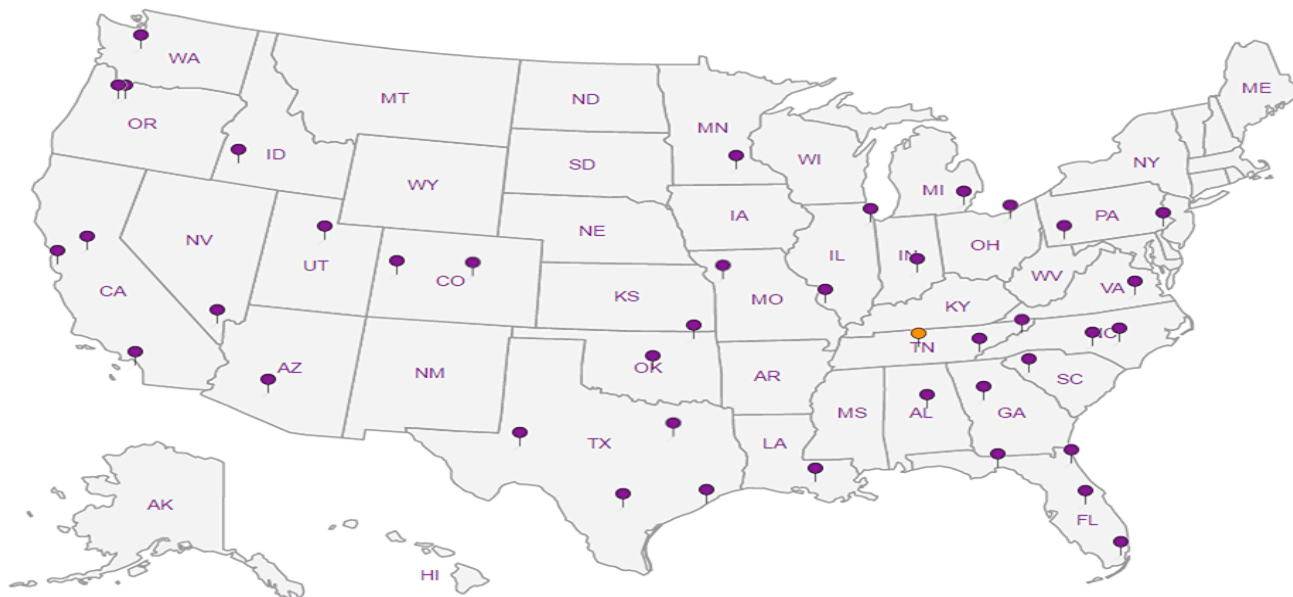
## Third Party Federal Accreditations


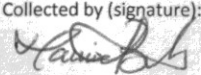
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

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

## Our Locations

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



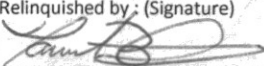
<b>TRC Solutions - Austin, TX</b> 505 E. Huntland Dr, Ste 250 Austin, TX 78752				Billing Information: <b>Accounts Payable</b> 21 Griffin Road North Windsor, CT 06095				Pres Chk				Analysis / Container / Preservative				Chain of Custody Page ____ of ____	
Report to: <b>Julie Speer</b>				Email To: jspeer@trccompanies.com													
Project Description: July 2020 SRO Release Assessment				City/State Collected: <b>Artesia, NM</b>		Please Circle: PT MT CT ET						12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859					
Phone: <del>512-684-3170</del> <b>512-431-8184</b>		Client Project # <b>414065.0000.0000</b>		Lab Project # <b>TRCATX-WQCC</b>						SDG # <b>1290377</b> <b>J173</b>							
Collected by (print): <b>Tania Babu</b>		Site/Facility ID # <b>(NAVAJO - ARTESIA)</b>		P.O. #						Acctnum: <b>TRCATX</b> Template: <b>T178209</b> Prelogin: <b>P811114</b> PM: <b>526 - Chris McCord</b> PB:							
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day _____ Five Day _____ Next Day _____ 5 Day (Rad Only) _____ Two Day _____ 10 Day (Rad Only) _____ Three Day _____		Quote #						Shipped Via: <b>FedEx Ground</b>							
Immediately Packed on Ice N _____ Y <u>X</u>				Date Results Needed		No. of Cntrs						Remarks Sample # (lab only)					
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time												
SS-1	grab	SS	-	11/23/20	1200	4	X	X	X	X	VOC	80zClr-NoPres			-01		
SS-2		SS			1210										-02		
SS-3		SS			1220										-03		
SS-4		SS			1230										-04		
SS-5		SS			1240										-05		
DUP-01		SS													-06		
Trip Blank 01	-	SS liq	-	11/23/20	-	2					X				-07		
		SS															
		SS															

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

Remarks: V8260/SV8270 reporting WQCC list.  
**HOLD SPLP analysis**

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

Tracking # **9059 0894 1220**

Relinquished by: (Signature) 

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

Relinquished by: (Signature)

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

Relinquished by: (Signature)

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

Received by: (Signature)

Temp: **11/29/20** Time: **10:15**

Received by: (Signature)

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

Received for lab by: (Signature)

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

Hold:

Condition: **NCF / OK**

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N

COC Signed/Accurate: Y Y N

Bottles arrive intact: Y Y N

Correct bottles used: Y Y N

Sufficient volume sent: Y Y N

If Applicable

VOA Zero Headspace: Y Y N

Preservation Correct/Checked: Y Y N

RAD Screen <0.5 mR/hr: Y Y N

If preservation required by Login: Date/Time

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 22052

**CONDITIONS**

Operator: NAVAJO REFINING COMPANY, L.L.C. P.O. Box 159 Artesia, NM 88211	OGRID:	15694
	Action Number:	22052
	Action Type:	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	Review of July 2020 Secondary Reverse Osmosis (SRO) Release, Site Characterization, Assessment, and Closure Report: Content satisfactory 1. OCD approves request for site closure, release resolved	12/29/2021