



Nicholson GeoSolutions LLC

3433 East Lake Drive
Centennial, CO 80121

June 1, 2021

Mr. Jon Armstrong
Berry Petroleum Company
5201 Truxtun Avenue #100
Bakersfield, CA 90399

Subject: I-11 Landfarm Final Discrete Sampling Results

Dear Jon:

Nicholson GeoSolutions LLC conducted final discrete soil sampling of the landfarm on the I-11 well pad in the Garden Gulch area, Garfield County, Colorado on May 8th, 2021. The sampling was conducted in accordance with the new COGCC Series 900 Rules that are in effect as of January 15, 2021 and discussions with COGCC personnel.

This landfarm has been extensively tilled and some portions were passed under the older Rules. The final remnant of the original landfarm contained an estimated 4,320 cubic yards of material and averaged about 6 inches deep at the time of sampling. Nine discrete soil samples were collected. The locations of the samples are shown on Figure 1. Six samples were analyzed for PAHs only (the only remaining COCs in the landfarm soil) and three samples were analyzed for the entire Table 915-1 list of parameters to demonstrate compliance with the new Rules. The Table 915-1 list includes Total Volatile Petroleum Hydrocarbons (TVPH – gasoline range), Total Extractable Petroleum Hydrocarbons (TEPH – diesel and motor oil range), BTEX (benzene, toluene, ethylbenzene, and xylenes), sodium adsorption ratio (SAR), pH, conductivity, metals, PAHs, and selected VOCs (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene).

Table 1 provides a summary of the analytical results for the nine samples. The laboratory report is contained in Appendix A. All results were below the Table 915-1 standards except for arsenic. Arsenic ranged from 4.91 mg/kg to 6.43 mg/kg, within the range of natural background concentrations in soils of the Garden Gulch area (Nicholson 2014).

Based on the sample results, remediation of the landfarm is now complete. Since all SAR pH, and conductivity values are below the Table 915-1 standards, this material does not need to be buried and can be used for general site purposes pending COGCC approval.

Nicholson GeoSolutions LLC

A handwritten signature in blue ink that reads "DK Nicholson". The signature is fluid and cursive, with the initials "DK" being prominent.

David K. Nicholson, P.G.
Principal Geologist

Reference

Nicholson GeoSolutions LLC, 2014, Analysis of Background Arsenic Concentrations for the Garden Gulch, Old Mountain, and Long Ridge Areas, Garfield County, Colorado. Prepared for Berry Petroleum Company, February 24, 2014

Table 1 I-11 Landfarm Sample Results – May 8, 2021

		Sample ID				
Parameter	Table 915-1 Standards	I11-1	I11-2	I11-3	I11-4	I11-5
Contaminants of Concern						
TVPH – gasoline range	500 ¹	<0.1	NA	NA	<0.1	NA
TEPH – diesel/motor oil range		54.2	NA	NA	40.7	NA
Soil Suitability for Reclamation						
sp. conductance (mmhos/cm)	<4	0.244	NA	NA	0.264	NA
SAR (ratio)	<6	1.60	NA	NA	1.84	NA
pH (standard units)	6-8.3	8.07	NA	NA	8.04	NA
boron (hot water extract)	2.0	0.293	NA	NA	0.292	NA
Organic Compounds in Soils						
benzene	1.2	<0.001	NA	NA	<0.001	NA
toluene	490	<0.005	NA	NA	<0.005	NA
ethylbenzene	5.8	<0.0025	NA	NA	<0.0025	NA
xylenes	58	<0.0065	NA	NA	<0.0065	NA
1,2,4-trimethylbenzene	30	<0.005	NA	NA	<0.005	NA
1,3,5-trimethylbenzene	27	<0.005	NA	NA	<0.005	NA
acenaphthene	360	<0.006	<0.006	<0.006	<0.006	<0.006
anthracene	1800	<0.006	<0.006	<0.006	<0.006	<0.006
benzo(a)anthracene	1.1	<0.006	<0.006	<0.006	0.00639	0.00772
benzo(b)flouranthene	1.1	0.0137	0.00709	0.011	0.0212	0.0263
benzo(k)flouranthene	11	<0.006	<0.006	<0.006	<0.006	0.00685
benzo(a)pyrene	0.11	<0.006	<0.006	<0.006	0.00826	0.0105
chrysene	110	<0.006	<0.006	0.0126	0.007	0.00927
dibenz(a,h)anthracene	0.11	<0.006	<0.006	<0.006	<0.006	<0.006
fluoranthene	240	<0.006	<0.006	<0.006	0.00748	0.00931
flourene	240	<0.006	<0.006	<0.006	<0.006	<0.006
indeno(1,2,3-cd)pyrene	1.1	0.0105	<0.006	0.00775	0.0147	0.0176
1-methylnaphthalene	18	0.0251	<0.02	<0.02	0.0209	0.0549
2-methylnaphthalene	24	0.0397	<0.02	0.0327	0.0345	0.083
naphthalene	2	0.0253	<0.02	0.0206	<0.02	0.0499
pyrene	180	<0.006	<0.006	<0.006	0.00692	0.00955
Metals in Soils						
arsenic	0.68	6.43	NA	NA	5.74	NA
barium	15,000	426	NA	NA	399	NA
cadmium	71	<0.5	NA	NA	<0.5	NA
chromium VI	0.3	<2	NA	NA	<2	NA
copper	3,100	26.0	NA	NA	23.1	NA
lead	400	15.0	NA	NA	14.4	NA
nickel	1,500	22.6	NA	NA	21.1	NA
selenium	390	<2	NA	NA	<2	NA
silver	390	<1	NA	NA	<1	NA
zinc	23,000	57.3	NA	NA	51.5	NA

¹The standard is 500 for the combined total of TVPH and TEPH NA = not analyzed

Values in bold type exceed standards

All units and standards in mg/kg except where indicated

Table 1 I-11 Landfarm Sample Results – May 8, 2021

		Sample ID			
Parameter	Table 915-1 Standards	I11-6	I11-7	I11-8	I11-9
Contaminants of Concern					
TVPH – gasoline range	500 ¹	NA	NA	<0.1	NA
TEPH – diesel/motor oil range		NA	NA	57.4	NA
Soil Suitability for Reclamation					
sp. conductance (mmhos/cm)	<4	NA	NA	0.178	NA
SAR (ratio)	<6	NA	NA	1.37	NA
pH (standard units)	6-8.3	NA	NA	8.11	NA
boron (hot water extract)	2.0	NA	NA	0.311	NA
Organic Compounds in Soils					
benzene	1.2	NA	NA	<0.001	NA
toluene	490	NA	NA	<0.005	NA
ethylbenzene	5.8	NA	NA	<0.0025	NA
xylenes	58	NA	NA	<0.0065	NA
1,2,4-trimethylbenzene	30	NA	NA	<0.005	NA
1,3,5-trimethylbenzene	27	NA	NA	<0.005	NA
acenaphthene	360	<0.006	<0.006	0.0103	<0.006
anthracene	1800	<0.006	<0.006	0.00857	<0.006
benzo(a)anthracene	1.1	0.0088	0.0114	0.0183	0.00897
benzo(b)flouranthene	1.1	0.0287	0.0383	0.0521	0.0289
benzo(k)flouranthene	11	0.00754	0.0106	0.0141	0.00682
benzo(a)pyrene	0.11	0.0118	0.0145	0.0198	0.0105
chrysene	110	0.0108	0.0113	0.0174	0.00911
dibenz(a,h)anthracene	0.11	<0.006	0.00616	0.00795	<0.006
fluoranthene	240	0.0114	0.0153	0.0899	0.0122
flourene	240	<0.006	<0.006	0.0127	<0.006
indeno(1,2,3-cd)pyrene	1.1	0.0196	0.0259	0.0352	0.019
1-methylnaphthalene	18	0.0335	0.0348	0.0364	0.0269
2-methylnaphthalene	24	0.0629	0.0624	0.0665	0.0479
naphthalene	2	0.0365	0.035	0.037	0.0279
pyrene	180	0.011	0.0143	0.0669	0.0121
Metals in Soils					
arsenic	0.68	NA	NA	4.91	NA
barium	15,000	NA	NA	421	NA
cadmium	71	NA	NA	<0.5	NA
chromium VI	0.3	NA	NA	<2.0	NA
copper	3,100	NA	NA	25.3	NA
lead	400	NA	NA	14.7	NA
nickel	1,500	NA	NA	25.1	NA
selenium	390	NA	NA	<2	NA
silver	390	NA	NA	<1	NA
zinc	23,000	NA	NA	58.7	NA

¹The standard is 500 for the combined total of TVPH and TEPH NA = not analyzed

Values in bold type exceed standards

All units and standards in mg/kg except where indicated



Figure 1

May 2021

GeoSolutions
NICHOLSON

Legend

- Final Discrete Confirmation Sample
- Landfarm Perimeter

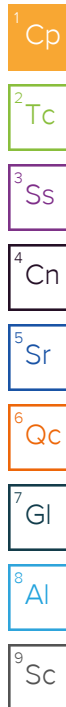
0 37.5 75 150 Feet 1" = 75'

Berry Petroleum Company

Garden Gulch I-11
Landfarm Final
Discrete Confirmation Samples

APPENDIX A
Laboratory Report

May 27, 2021



Berry Petroleum - Denver, CO

Sample Delivery Group: L1351256
Samples Received: 05/12/2021
Project Number:
Description: Berry Landfarms Old Mountain

Report To: Dave Nicholson
3433 E. Lake Dr
Centennial, CO 80121

Entire Report Reviewed By:



Mark W. Beasley
Project Manager

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

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

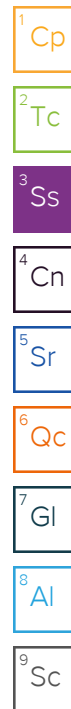
Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Sr: Sample Results	6
I11-1 L1351256-01	6
I11-2 L1351256-02	9
I11-3 L1351256-03	10
I11-4 L1351256-04	11
I11-5 L1351256-05	14
I11-6 L1351256-06	15
I11-7 L1351256-07	16
I11-8 L1351256-08	17
I11-9 L1351256-09	20
Qc: Quality Control Summary	21
Wet Chemistry by Method 3060A/7196A	21
Wet Chemistry by Method 9045D	23
Wet Chemistry by Method 9050AMod	25
Metals (ICP) by Method 6010B	26
Metals (ICP) by Method 6010B-NE493 Ch 2	27
Volatile Organic Compounds (GC) by Method 8015D/GRO	28
Volatile Organic Compounds (GC/MS) by Method 8260B	29
Semi-Volatile Organic Compounds (GC) by Method 8015M	33
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	34
Gl: Glossary of Terms	36
Al: Accreditations & Locations	37
Sc: Sample Chain of Custody	38

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

SAMPLE SUMMARY

I11-1 L1351256-01 Solid

				Collected by DK Nicholson	Collected date/time 05/08/21 16:10	Received date/time 05/12/21 14:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1669026	1	05/26/21 14:26	05/26/21 14:26	KMG	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1671320	1	05/16/21 19:16	05/18/21 22:01	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1672335	1	05/18/21 07:50	05/18/21 10:20	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1669177	1	05/18/21 03:18	05/18/21 08:08	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672561	1	05/18/21 17:01	05/20/21 13:12	KMG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1669024	1	05/20/21 14:43	05/21/21 23:07	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1671180	1	05/14/21 17:17	05/15/21 17:19	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1671294	1	05/14/21 17:17	05/15/21 22:33	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1672108	1	05/18/21 00:45	05/19/21 07:03	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 15:42	LEA	Mt. Juliet, TN



I11-2 L1351256-02 Solid

				Collected by DK Nicholson	Collected date/time 05/08/21 16:15	Received date/time 05/12/21 14:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 15:24	LEA	Mt. Juliet, TN

I11-3 L1351256-03 Solid

				Collected by DK Nicholson	Collected date/time 05/08/21 16:20	Received date/time 05/12/21 14:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 16:00	LEA	Mt. Juliet, TN

I11-4 L1351256-04 Solid

				Collected by DK Nicholson	Collected date/time 05/08/21 16:25	Received date/time 05/12/21 14:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1669026	1	05/26/21 14:29	05/26/21 14:29	KMG	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1671320	1	05/16/21 19:16	05/18/21 22:01	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1672337	1	05/19/21 00:11	05/19/21 11:05	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1669177	1	05/18/21 03:18	05/18/21 08:08	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672561	1.612903	05/18/21 17:01	05/20/21 13:15	KMG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1669024	1	05/20/21 14:43	05/21/21 23:10	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1671180	1	05/14/21 17:17	05/15/21 17:41	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1671294	1	05/14/21 17:17	05/15/21 22:52	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1672108	1	05/18/21 00:45	05/19/21 06:50	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 16:18	LEA	Mt. Juliet, TN

I11-5 L1351256-05 Solid

				Collected by DK Nicholson	Collected date/time 05/08/21 16:30	Received date/time 05/12/21 14:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 19:16	LEA	Mt. Juliet, TN

I11-6 L1351256-06 Solid

				Collected by DK Nicholson	Collected date/time 05/08/21 16:35	Received date/time 05/12/21 14:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 16:36	LEA	Mt. Juliet, TN

SAMPLE SUMMARY

I11-7 L1351256-07 Solid

Collected by
DK Nicholson

Collected date/time
05/08/21 16:40

Received date/time
05/12/21 14:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 16:53	LEA	Mt. Juliet, TN

I11-8 L1351256-08 Solid

Collected by
DK Nicholson

Collected date/time
05/08/21 16:45

Received date/time
05/12/21 14:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1669026	1	05/26/21 14:32	05/26/21 14:32	KMG	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1674004	1	05/20/21 11:33	05/20/21 20:35	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1672337	1	05/19/21 00:11	05/19/21 11:05	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1669177	1	05/18/21 03:18	05/18/21 08:08	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672561	1	05/18/21 17:01	05/20/21 13:23	KMG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1669024	1	05/20/21 14:43	05/21/21 23:13	KMG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1671180	1	05/14/21 17:17	05/15/21 18:03	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1671294	1	05/14/21 17:17	05/15/21 23:11	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1672108	1	05/18/21 00:45	05/19/21 07:42	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 18:05	LEA	Mt. Juliet, TN

I11-9 L1351256-09 Solid

Collected by
DK Nicholson

Collected date/time
05/08/21 16:50

Received date/time
05/12/21 14:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1671479	1	05/16/21 09:07	05/16/21 18:23	LEA	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

CASE NARRATIVE

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



Mark W. Beasley
Project Manager



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.60		1	05/26/2021 14:26	WG1669026

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/18/2021 22:01	WG1671320

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.07	T8	1	05/18/2021 10:20	WG1672335

Sample Narrative:

L1351256-01 WG1672335: 8.07 at 22.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	244		10.0	1	05/18/2021 08:08	WG1669177

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.43		2.00	1	05/20/2021 13:12	WG1672561
Barium	426		0.500	1	05/20/2021 13:12	WG1672561
Cadmium	ND		0.500	1	05/20/2021 13:12	WG1672561
Copper	26.0		2.00	1	05/20/2021 13:12	WG1672561
Lead	15.0		0.500	1	05/20/2021 13:12	WG1672561
Nickel	22.6		2.00	1	05/20/2021 13:12	WG1672561
Selenium	ND		2.00	1	05/20/2021 13:12	WG1672561
Silver	ND		1.00	1	05/20/2021 13:12	WG1672561
Zinc	57.3		5.00	1	05/20/2021 13:12	WG1672561

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.293		0.200	1	05/21/2021 23:07	WG1669024

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/15/2021 17:19	WG1671180
(S) a,a,a-Trifluorotoluene(FID)	112		77.0-120		05/15/2021 17:19	WG1671180

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	05/15/2021 22:33	WG1671294
Acrylonitrile	ND		0.0125	1	05/15/2021 22:33	WG1671294
Benzene	ND		0.00100	1	05/15/2021 22:33	WG1671294
Bromobenzene	ND		0.0125	1	05/15/2021 22:33	WG1671294
Bromodichloromethane	ND		0.00250	1	05/15/2021 22:33	WG1671294

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Bromoform	ND		0.0250	1	05/15/2021 22:33	WG1671294
Bromomethane	ND		0.0125	1	05/15/2021 22:33	WG1671294
n-Butylbenzene	ND		0.0125	1	05/15/2021 22:33	WG1671294
sec-Butylbenzene	ND		0.0125	1	05/15/2021 22:33	WG1671294
tert-Butylbenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294
Carbon tetrachloride	ND		0.00500	1	05/15/2021 22:33	WG1671294
Chlorobenzene	ND		0.00250	1	05/15/2021 22:33	WG1671294
Chlorodibromomethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
Chloroethane	ND		0.00500	1	05/15/2021 22:33	WG1671294
Chloroform	ND		0.00250	1	05/15/2021 22:33	WG1671294
Chloromethane	ND		0.0125	1	05/15/2021 22:33	WG1671294
2-Chlorotoluene	ND		0.00250	1	05/15/2021 22:33	WG1671294
4-Chlorotoluene	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,2-Dibromo-3-Chloropropane	ND		0.0250	1	05/15/2021 22:33	WG1671294
1,2-Dibromoethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
Dibromomethane	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,2-Dichlorobenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,3-Dichlorobenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,4-Dichlorobenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294
Dichlorodifluoromethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,1-Dichloroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,2-Dichloroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,1-Dichloroethene	ND		0.00250	1	05/15/2021 22:33	WG1671294
cis-1,2-Dichloroethene	ND		0.00250	1	05/15/2021 22:33	WG1671294
trans-1,2-Dichloroethene	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,2-Dichloropropane	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,1-Dichloropropene	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,3-Dichloropropane	ND		0.00500	1	05/15/2021 22:33	WG1671294
cis-1,3-Dichloropropene	ND		0.00250	1	05/15/2021 22:33	WG1671294
trans-1,3-Dichloropropene	ND		0.00500	1	05/15/2021 22:33	WG1671294
2,2-Dichloropropane	ND		0.00250	1	05/15/2021 22:33	WG1671294
Di-isopropyl ether	ND		0.00100	1	05/15/2021 22:33	WG1671294
Ethylbenzene	ND		0.00250	1	05/15/2021 22:33	WG1671294
Hexachloro-1,3-butadiene	ND		0.0250	1	05/15/2021 22:33	WG1671294
Isopropylbenzene	ND		0.00250	1	05/15/2021 22:33	WG1671294
p-Isopropyltoluene	ND		0.00500	1	05/15/2021 22:33	WG1671294
2-Butanone (MEK)	ND		0.100	1	05/15/2021 22:33	WG1671294
Methylene Chloride	ND		0.0250	1	05/15/2021 22:33	WG1671294
4-Methyl-2-pentanone (MIBK)	ND		0.0250	1	05/15/2021 22:33	WG1671294
Methyl tert-butyl ether	ND		0.00100	1	05/15/2021 22:33	WG1671294
Naphthalene	ND		0.0125	1	05/15/2021 22:33	WG1671294
n-Propylbenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294
Styrene	ND		0.0125	1	05/15/2021 22:33	WG1671294
1,1,1,2-Tetrachloroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,1,2,2-Tetrachloroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,1,2-Trichlorotrifluoroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
Tetrachloroethene	ND		0.00250	1	05/15/2021 22:33	WG1671294
Toluene	ND		0.00500	1	05/15/2021 22:33	WG1671294
1,2,3-Trichlorobenzene	ND	J4	0.0125	1	05/15/2021 22:33	WG1671294
1,2,4-Trichlorobenzene	ND	J4	0.0125	1	05/15/2021 22:33	WG1671294
1,1,1-Trichloroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,1,2-Trichloroethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
Trichloroethene	ND		0.00100	1	05/15/2021 22:33	WG1671294
Trichlorofluoromethane	ND		0.00250	1	05/15/2021 22:33	WG1671294
1,2,3-Trichloropropane	ND		0.0125	1	05/15/2021 22:33	WG1671294
1,2,4-Trimethylbenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,3-Trimethylbenzene	ND	J4	0.00500	1	05/15/2021 22:33	WG1671294
1,3,5-Trimethylbenzene	ND		0.00500	1	05/15/2021 22:33	WG1671294
Vinyl chloride	ND		0.00250	1	05/15/2021 22:33	WG1671294
Xylenes, Total	ND		0.00650	1	05/15/2021 22:33	WG1671294
(S) Toluene-d8	116		75.0-131		05/15/2021 22:33	WG1671294
(S) 4-Bromofluorobenzene	91.7		67.0-138		05/15/2021 22:33	WG1671294
(S) 1,2-Dichloroethane-d4	108		70.0-130		05/15/2021 22:33	WG1671294

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	19.9	J3 J6	4.00	1	05/19/2021 07:03	WG1672108
C28-C36 Motor Oil Range	34.3		4.00	1	05/19/2021 07:03	WG1672108
(S) o-Terphenyl	53.6		18.0-148		05/19/2021 07:03	WG1672108

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Benzo(a)anthracene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Benzo(a)pyrene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Benzo(b)fluoranthene	0.0137		0.00600	1	05/16/2021 15:42	WG1671479
Benzo(g,h,i)perylene	0.0123		0.00600	1	05/16/2021 15:42	WG1671479
Benzo(k)fluoranthene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Chrysene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Fluoranthene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 15:42	WG1671479
Indeno(1,2,3-cd)pyrene	0.0105		0.00600	1	05/16/2021 15:42	WG1671479
Naphthalene	0.0253		0.0200	1	05/16/2021 15:42	WG1671479
Phenanthrene	0.00939		0.00600	1	05/16/2021 15:42	WG1671479
Pyrene	ND		0.00600	1	05/16/2021 15:42	WG1671479
1-Methylnaphthalene	0.0251		0.0200	1	05/16/2021 15:42	WG1671479
2-Methylnaphthalene	0.0397		0.0200	1	05/16/2021 15:42	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 15:42	WG1671479
(S) p-Terphenyl-d14	66.2		23.0-120		05/16/2021 15:42	WG1671479
(S) Nitrobenzene-d5	61.9		14.0-149		05/16/2021 15:42	WG1671479
(S) 2-Fluorobiphenyl	55.2		34.0-125		05/16/2021 15:42	WG1671479

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Benzo(a)anthracene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Benzo(a)pyrene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Benzo(b)fluoranthene	0.00709		0.00600	1	05/16/2021 15:24	WG1671479
Benzo(g,h,i)perylene	0.00689		0.00600	1	05/16/2021 15:24	WG1671479
Benzo(k)fluoranthene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Chrysene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Fluoranthene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Naphthalene	ND		0.0200	1	05/16/2021 15:24	WG1671479
Phenanthrene	ND		0.00600	1	05/16/2021 15:24	WG1671479
Pyrene	ND		0.00600	1	05/16/2021 15:24	WG1671479
1-Methylnaphthalene	ND		0.0200	1	05/16/2021 15:24	WG1671479
2-Methylnaphthalene	ND		0.0200	1	05/16/2021 15:24	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 15:24	WG1671479
(S) p-Terphenyl-d14	68.6		23.0-120		05/16/2021 15:24	WG1671479
(S) Nitrobenzene-d5	62.0		14.0-149		05/16/2021 15:24	WG1671479
(S) 2-Fluorobiphenyl	60.1		34.0-125		05/16/2021 15:24	WG1671479

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Benzo(a)anthracene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Benzo(a)pyrene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Benzo(b)fluoranthene	0.0110		0.00600	1	05/16/2021 16:00	WG1671479
Benzo(g,h,i)perylene	0.00847		0.00600	1	05/16/2021 16:00	WG1671479
Benzo(k)fluoranthene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Chrysene	0.0126		0.00600	1	05/16/2021 16:00	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Fluoranthene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 16:00	WG1671479
Indeno(1,2,3-cd)pyrene	0.00775		0.00600	1	05/16/2021 16:00	WG1671479
Naphthalene	0.0206		0.0200	1	05/16/2021 16:00	WG1671479
Phenanthrene	0.0102		0.00600	1	05/16/2021 16:00	WG1671479
Pyrene	ND		0.00600	1	05/16/2021 16:00	WG1671479
1-Methylnaphthalene	ND		0.0200	1	05/16/2021 16:00	WG1671479
2-Methylnaphthalene	0.0327		0.0200	1	05/16/2021 16:00	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 16:00	WG1671479
(S) p-Terphenyl-d14	69.9		23.0-120		05/16/2021 16:00	WG1671479
(S) Nitrobenzene-d5	60.2		14.0-149		05/16/2021 16:00	WG1671479
(S) 2-Fluorobiphenyl	59.2		34.0-125		05/16/2021 16:00	WG1671479

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.84		1	05/26/2021 14:29	WG1669026

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/18/2021 22:01	WG1671320

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.04	T8	1	05/19/2021 11:05	WG1672337

Sample Narrative:

L1351256-04 WG1672337: 8.04 at 22.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	264		10.0	1	05/18/2021 08:08	WG1669177

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.74		3.23	1.612903	05/20/2021 13:15	WG1672561
Barium	399		0.806	1.612903	05/20/2021 13:15	WG1672561
Cadmium	ND		0.806	1.612903	05/20/2021 13:15	WG1672561
Copper	23.1		3.23	1.612903	05/20/2021 13:15	WG1672561
Lead	14.4		0.806	1.612903	05/20/2021 13:15	WG1672561
Nickel	21.1		3.23	1.612903	05/20/2021 13:15	WG1672561
Selenium	ND		3.23	1.612903	05/20/2021 13:15	WG1672561
Silver	ND		1.61	1.612903	05/20/2021 13:15	WG1672561
Zinc	51.5		8.06	1.612903	05/20/2021 13:15	WG1672561

Metals (ICP) by Method 6010B-NE493 Ch 2

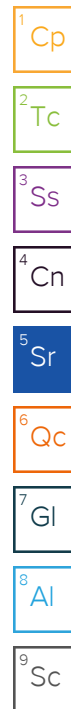
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.292		0.200	1	05/21/2021 23:10	WG1669024

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/15/2021 17:41	WG1671180
(S) a,a,a-Trifluorotoluene(FID)	112		77.0-120		05/15/2021 17:41	WG1671180

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	05/15/2021 22:52	WG1671294
Acrylonitrile	ND		0.0125	1	05/15/2021 22:52	WG1671294
Benzene	ND		0.00100	1	05/15/2021 22:52	WG1671294
Bromobenzene	ND		0.0125	1	05/15/2021 22:52	WG1671294
Bromodichloromethane	ND		0.00250	1	05/15/2021 22:52	WG1671294



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Bromoform	ND		0.0250	1	05/15/2021 22:52	WG1671294
Bromomethane	ND		0.0125	1	05/15/2021 22:52	WG1671294
n-Butylbenzene	ND		0.0125	1	05/15/2021 22:52	WG1671294
sec-Butylbenzene	ND		0.0125	1	05/15/2021 22:52	WG1671294
tert-Butylbenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294
Carbon tetrachloride	ND		0.00500	1	05/15/2021 22:52	WG1671294
Chlorobenzene	ND		0.00250	1	05/15/2021 22:52	WG1671294
Chlorodibromomethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
Chloroethane	ND		0.00500	1	05/15/2021 22:52	WG1671294
Chloroform	ND		0.00250	1	05/15/2021 22:52	WG1671294
Chloromethane	ND		0.0125	1	05/15/2021 22:52	WG1671294
2-Chlorotoluene	ND		0.00250	1	05/15/2021 22:52	WG1671294
4-Chlorotoluene	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,2-Dibromo-3-Chloropropane	ND		0.0250	1	05/15/2021 22:52	WG1671294
1,2-Dibromoethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
Dibromomethane	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,2-Dichlorobenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,3-Dichlorobenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,4-Dichlorobenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294
Dichlorodifluoromethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,1-Dichloroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,2-Dichloroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,1-Dichloroethene	ND		0.00250	1	05/15/2021 22:52	WG1671294
cis-1,2-Dichloroethene	ND		0.00250	1	05/15/2021 22:52	WG1671294
trans-1,2-Dichloroethene	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,2-Dichloropropane	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,1-Dichloropropene	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,3-Dichloropropane	ND		0.00500	1	05/15/2021 22:52	WG1671294
cis-1,3-Dichloropropene	ND		0.00250	1	05/15/2021 22:52	WG1671294
trans-1,3-Dichloropropene	ND		0.00500	1	05/15/2021 22:52	WG1671294
2,2-Dichloropropane	ND		0.00250	1	05/15/2021 22:52	WG1671294
Di-isopropyl ether	ND		0.00100	1	05/15/2021 22:52	WG1671294
Ethylbenzene	ND		0.00250	1	05/15/2021 22:52	WG1671294
Hexachloro-1,3-butadiene	ND		0.0250	1	05/15/2021 22:52	WG1671294
Isopropylbenzene	ND		0.00250	1	05/15/2021 22:52	WG1671294
p-Isopropyltoluene	ND		0.00500	1	05/15/2021 22:52	WG1671294
2-Butanone (MEK)	ND		0.100	1	05/15/2021 22:52	WG1671294
Methylene Chloride	ND		0.0250	1	05/15/2021 22:52	WG1671294
4-Methyl-2-pentanone (MIBK)	ND		0.0250	1	05/15/2021 22:52	WG1671294
Methyl tert-butyl ether	ND		0.00100	1	05/15/2021 22:52	WG1671294
Naphthalene	ND		0.0125	1	05/15/2021 22:52	WG1671294
n-Propylbenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294
Styrene	ND		0.0125	1	05/15/2021 22:52	WG1671294
1,1,1,2-Tetrachloroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,1,2,2-Tetrachloroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,1,2-Trichlorotrifluoroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
Tetrachloroethene	ND		0.00250	1	05/15/2021 22:52	WG1671294
Toluene	ND		0.00500	1	05/15/2021 22:52	WG1671294
1,2,3-Trichlorobenzene	ND	J4	0.0125	1	05/15/2021 22:52	WG1671294
1,2,4-Trichlorobenzene	ND	J4	0.0125	1	05/15/2021 22:52	WG1671294
1,1,1-Trichloroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,1,2-Trichloroethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
Trichloroethene	ND		0.00100	1	05/15/2021 22:52	WG1671294
Trichlorofluoromethane	ND		0.00250	1	05/15/2021 22:52	WG1671294
1,2,3-Trichloropropane	ND		0.0125	1	05/15/2021 22:52	WG1671294
1,2,4-Trimethylbenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,3-Trimethylbenzene	ND	J4	0.00500	1	05/15/2021 22:52	WG1671294
1,3,5-Trimethylbenzene	ND		0.00500	1	05/15/2021 22:52	WG1671294
Vinyl chloride	ND		0.00250	1	05/15/2021 22:52	WG1671294
Xylenes, Total	ND		0.00650	1	05/15/2021 22:52	WG1671294
(S) Toluene-d8	111		75.0-131		05/15/2021 22:52	WG1671294
(S) 4-Bromofluorobenzene	94.8		67.0-138		05/15/2021 22:52	WG1671294
(S) 1,2-Dichloroethane-d4	106		70.0-130		05/15/2021 22:52	WG1671294

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	14.4		4.00	1	05/19/2021 06:50	WG1672108
C28-C36 Motor Oil Range	26.3		4.00	1	05/19/2021 06:50	WG1672108
(S) o-Terphenyl	53.6		18.0-148		05/19/2021 06:50	WG1672108

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 16:18	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 16:18	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 16:18	WG1671479
Benzo(a)anthracene	0.00639		0.00600	1	05/16/2021 16:18	WG1671479
Benzo(a)pyrene	0.00826		0.00600	1	05/16/2021 16:18	WG1671479
Benzo(b)fluoranthene	0.0212		0.00600	1	05/16/2021 16:18	WG1671479
Benzo(g,h,i)perylene	0.0175		0.00600	1	05/16/2021 16:18	WG1671479
Benzo(k)fluoranthene	ND		0.00600	1	05/16/2021 16:18	WG1671479
Chrysene	0.00700		0.00600	1	05/16/2021 16:18	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 16:18	WG1671479
Fluoranthene	0.00748		0.00600	1	05/16/2021 16:18	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 16:18	WG1671479
Indeno(1,2,3-cd)pyrene	0.0147		0.00600	1	05/16/2021 16:18	WG1671479
Naphthalene	ND		0.0200	1	05/16/2021 16:18	WG1671479
Phenanthrene	0.00928		0.00600	1	05/16/2021 16:18	WG1671479
Pyrene	0.00692		0.00600	1	05/16/2021 16:18	WG1671479
1-Methylnaphthalene	0.0209		0.0200	1	05/16/2021 16:18	WG1671479
2-Methylnaphthalene	0.0345		0.0200	1	05/16/2021 16:18	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 16:18	WG1671479
(S) p-Terphenyl-d14	83.6		23.0-120		05/16/2021 16:18	WG1671479
(S) Nitrobenzene-d5	73.1		14.0-149		05/16/2021 16:18	WG1671479
(S) 2-Fluorobiphenyl	69.8		34.0-125		05/16/2021 16:18	WG1671479

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 19:16	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 19:16	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 19:16	WG1671479
Benzo(a)anthracene	0.00772		0.00600	1	05/16/2021 19:16	WG1671479
Benzo(a)pyrene	0.0105		0.00600	1	05/16/2021 19:16	WG1671479
Benzo(b)fluoranthene	0.0263		0.00600	1	05/16/2021 19:16	WG1671479
Benzo(g,h,i)perylene	0.0203		0.00600	1	05/16/2021 19:16	WG1671479
Benzo(k)fluoranthene	0.00685		0.00600	1	05/16/2021 19:16	WG1671479
Chrysene	0.00927		0.00600	1	05/16/2021 19:16	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 19:16	WG1671479
Fluoranthene	0.00931		0.00600	1	05/16/2021 19:16	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 19:16	WG1671479
Indeno(1,2,3-cd)pyrene	0.0176		0.00600	1	05/16/2021 19:16	WG1671479
Naphthalene	0.0499		0.0200	1	05/16/2021 19:16	WG1671479
Phenanthrene	0.0185		0.00600	1	05/16/2021 19:16	WG1671479
Pyrene	0.00955		0.00600	1	05/16/2021 19:16	WG1671479
1-Methylnaphthalene	0.0549		0.0200	1	05/16/2021 19:16	WG1671479
2-Methylnaphthalene	0.0830		0.0200	1	05/16/2021 19:16	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 19:16	WG1671479
(S) p-Terphenyl-d14	75.9		23.0-120		05/16/2021 19:16	WG1671479
(S) Nitrobenzene-d5	68.5		14.0-149		05/16/2021 19:16	WG1671479
(S) 2-Fluorobiphenyl	62.7		34.0-125		05/16/2021 19:16	WG1671479

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 16:36	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 16:36	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 16:36	WG1671479
Benzo(a)anthracene	0.00880		0.00600	1	05/16/2021 16:36	WG1671479
Benzo(a)pyrene	0.0118		0.00600	1	05/16/2021 16:36	WG1671479
Benzo(b)fluoranthene	0.0287		0.00600	1	05/16/2021 16:36	WG1671479
Benzo(g,h,i)perylene	0.0221		0.00600	1	05/16/2021 16:36	WG1671479
Benzo(k)fluoranthene	0.00754		0.00600	1	05/16/2021 16:36	WG1671479
Chrysene	0.0108		0.00600	1	05/16/2021 16:36	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 16:36	WG1671479
Fluoranthene	0.0114		0.00600	1	05/16/2021 16:36	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 16:36	WG1671479
Indeno(1,2,3-cd)pyrene	0.0196		0.00600	1	05/16/2021 16:36	WG1671479
Naphthalene	0.0365		0.0200	1	05/16/2021 16:36	WG1671479
Phenanthrene	0.0175		0.00600	1	05/16/2021 16:36	WG1671479
Pyrene	0.0110		0.00600	1	05/16/2021 16:36	WG1671479
1-Methylnaphthalene	0.0335		0.0200	1	05/16/2021 16:36	WG1671479
2-Methylnaphthalene	0.0629		0.0200	1	05/16/2021 16:36	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 16:36	WG1671479
(S) p-Terphenyl-d14	76.3		23.0-120		05/16/2021 16:36	WG1671479
(S) Nitrobenzene-d5	70.2		14.0-149		05/16/2021 16:36	WG1671479
(S) 2-Fluorobiphenyl	62.2		34.0-125		05/16/2021 16:36	WG1671479

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 16:53	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 16:53	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 16:53	WG1671479
Benzo(a)anthracene	0.0114		0.00600	1	05/16/2021 16:53	WG1671479
Benzo(a)pyrene	0.0145		0.00600	1	05/16/2021 16:53	WG1671479
Benzo(b)fluoranthene	0.0383		0.00600	1	05/16/2021 16:53	WG1671479
Benzo(g,h,i)perylene	0.0291		0.00600	1	05/16/2021 16:53	WG1671479
Benzo(k)fluoranthene	0.0106		0.00600	1	05/16/2021 16:53	WG1671479
Chrysene	0.0113		0.00600	1	05/16/2021 16:53	WG1671479
Dibenz(a,h)anthracene	0.00616		0.00600	1	05/16/2021 16:53	WG1671479
Fluoranthene	0.0153		0.00600	1	05/16/2021 16:53	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 16:53	WG1671479
Indeno(1,2,3-cd)pyrene	0.0259		0.00600	1	05/16/2021 16:53	WG1671479
Naphthalene	0.0350		0.0200	1	05/16/2021 16:53	WG1671479
Phenanthrene	0.0210		0.00600	1	05/16/2021 16:53	WG1671479
Pyrene	0.0143		0.00600	1	05/16/2021 16:53	WG1671479
1-Methylnaphthalene	0.0348		0.0200	1	05/16/2021 16:53	WG1671479
2-Methylnaphthalene	0.0624		0.0200	1	05/16/2021 16:53	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 16:53	WG1671479
(S) p-Terphenyl-d14	73.1		23.0-120		05/16/2021 16:53	WG1671479
(S) Nitrobenzene-d5	63.7		14.0-149		05/16/2021 16:53	WG1671479
(S) 2-Fluorobiphenyl	61.6		34.0-125		05/16/2021 16:53	WG1671479

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.37		1	05/26/2021 14:32	WG1669026

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/20/2021 20:35	WG1674004

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	RDL	Dilution	Analysis date / time	Batch
pH	8.11	T8		1	05/19/2021 11:05	WG1672337

Sample Narrative:

L1351256-08 WG1672337: 8.11 at 22.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	178		10.0	1	05/18/2021 08:08	WG1669177

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.91		2.00	1	05/20/2021 13:23	WG1672561
Barium	421		0.500	1	05/20/2021 13:23	WG1672561
Cadmium	ND		0.500	1	05/20/2021 13:23	WG1672561
Copper	25.3		2.00	1	05/20/2021 13:23	WG1672561
Lead	14.7		0.500	1	05/20/2021 13:23	WG1672561
Nickel	25.1		2.00	1	05/20/2021 13:23	WG1672561
Selenium	ND		2.00	1	05/20/2021 13:23	WG1672561
Silver	ND		1.00	1	05/20/2021 13:23	WG1672561
Zinc	58.7		5.00	1	05/20/2021 13:23	WG1672561

Metals (ICP) by Method 6010B-NE493 Ch 2

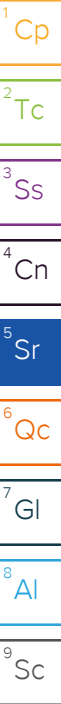
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.311		0.200	1	05/21/2021 23:13	WG1669024

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/15/2021 18:03	WG1671180
(S) a,a,a-Trifluorotoluene(FID)	111		77.0-120		05/15/2021 18:03	WG1671180

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	05/15/2021 23:11	WG1671294
Acrylonitrile	ND		0.0125	1	05/15/2021 23:11	WG1671294
Benzene	ND		0.00100	1	05/15/2021 23:11	WG1671294
Bromobenzene	ND		0.0125	1	05/15/2021 23:11	WG1671294
Bromodichloromethane	ND		0.00250	1	05/15/2021 23:11	WG1671294



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Bromoform	ND		0.0250	1	05/15/2021 23:11	WG1671294
Bromomethane	ND		0.0125	1	05/15/2021 23:11	WG1671294
n-Butylbenzene	ND		0.0125	1	05/15/2021 23:11	WG1671294
sec-Butylbenzene	ND		0.0125	1	05/15/2021 23:11	WG1671294
tert-Butylbenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294
Carbon tetrachloride	ND		0.00500	1	05/15/2021 23:11	WG1671294
Chlorobenzene	ND		0.00250	1	05/15/2021 23:11	WG1671294
Chlorodibromomethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
Chloroethane	ND		0.00500	1	05/15/2021 23:11	WG1671294
Chloroform	ND		0.00250	1	05/15/2021 23:11	WG1671294
Chloromethane	ND		0.0125	1	05/15/2021 23:11	WG1671294
2-Chlorotoluene	ND		0.00250	1	05/15/2021 23:11	WG1671294
4-Chlorotoluene	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,2-Dibromo-3-Chloropropane	ND		0.0250	1	05/15/2021 23:11	WG1671294
1,2-Dibromoethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
Dibromomethane	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,2-Dichlorobenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,3-Dichlorobenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,4-Dichlorobenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294
Dichlorodifluoromethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,1-Dichloroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,2-Dichloroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,1-Dichloroethene	ND		0.00250	1	05/15/2021 23:11	WG1671294
cis-1,2-Dichloroethene	ND		0.00250	1	05/15/2021 23:11	WG1671294
trans-1,2-Dichloroethene	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,2-Dichloropropane	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,1-Dichloropropene	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,3-Dichloropropane	ND		0.00500	1	05/15/2021 23:11	WG1671294
cis-1,3-Dichloropropene	ND		0.00250	1	05/15/2021 23:11	WG1671294
trans-1,3-Dichloropropene	ND		0.00500	1	05/15/2021 23:11	WG1671294
2,2-Dichloropropane	ND		0.00250	1	05/15/2021 23:11	WG1671294
Di-isopropyl ether	ND		0.00100	1	05/15/2021 23:11	WG1671294
Ethylbenzene	ND		0.00250	1	05/15/2021 23:11	WG1671294
Hexachloro-1,3-butadiene	ND		0.0250	1	05/15/2021 23:11	WG1671294
Isopropylbenzene	ND		0.00250	1	05/15/2021 23:11	WG1671294
p-Isopropyltoluene	ND		0.00500	1	05/15/2021 23:11	WG1671294
2-Butanone (MEK)	ND		0.100	1	05/15/2021 23:11	WG1671294
Methylene Chloride	ND		0.0250	1	05/15/2021 23:11	WG1671294
4-Methyl-2-pentanone (MIBK)	ND		0.0250	1	05/15/2021 23:11	WG1671294
Methyl tert-butyl ether	ND		0.00100	1	05/15/2021 23:11	WG1671294
Naphthalene	ND		0.0125	1	05/15/2021 23:11	WG1671294
n-Propylbenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294
Styrene	ND		0.0125	1	05/15/2021 23:11	WG1671294
1,1,1,2-Tetrachloroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,1,2,2-Tetrachloroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,1,2-Trichlorotrifluoroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
Tetrachloroethene	ND		0.00250	1	05/15/2021 23:11	WG1671294
Toluene	ND		0.00500	1	05/15/2021 23:11	WG1671294
1,2,3-Trichlorobenzene	ND	J4	0.0125	1	05/15/2021 23:11	WG1671294
1,2,4-Trichlorobenzene	ND	J4	0.0125	1	05/15/2021 23:11	WG1671294
1,1,1-Trichloroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,1,2-Trichloroethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
Trichloroethene	ND		0.00100	1	05/15/2021 23:11	WG1671294
Trichlorofluoromethane	ND		0.00250	1	05/15/2021 23:11	WG1671294
1,2,3-Trichloropropane	ND		0.0125	1	05/15/2021 23:11	WG1671294
1,2,4-Trimethylbenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
1,2,3-Trimethylbenzene	ND	J4	0.00500	1	05/15/2021 23:11	WG1671294
1,3,5-Trimethylbenzene	ND		0.00500	1	05/15/2021 23:11	WG1671294
Vinyl chloride	ND		0.00250	1	05/15/2021 23:11	WG1671294
Xylenes, Total	ND		0.00650	1	05/15/2021 23:11	WG1671294
(S) Toluene-d8	114		75.0-131		05/15/2021 23:11	WG1671294
(S) 4-Bromofluorobenzene	93.9		67.0-138		05/15/2021 23:11	WG1671294
(S) 1,2-Dichloroethane-d4	102		70.0-130		05/15/2021 23:11	WG1671294

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	21.9		4.00	1	05/19/2021 07:42	WG1672108
C28-C36 Motor Oil Range	35.5		4.00	1	05/19/2021 07:42	WG1672108
(S) o-Terphenyl	53.9		18.0-148		05/19/2021 07:42	WG1672108

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00857		0.00600	1	05/16/2021 18:05	WG1671479
Acenaphthene	0.0103		0.00600	1	05/16/2021 18:05	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 18:05	WG1671479
Benzo(a)anthracene	0.0183		0.00600	1	05/16/2021 18:05	WG1671479
Benzo(a)pyrene	0.0198		0.00600	1	05/16/2021 18:05	WG1671479
Benzo(b)fluoranthene	0.0521		0.00600	1	05/16/2021 18:05	WG1671479
Benzo(g,h,i)perylene	0.0389		0.00600	1	05/16/2021 18:05	WG1671479
Benzo(k)fluoranthene	0.0141		0.00600	1	05/16/2021 18:05	WG1671479
Chrysene	0.0174		0.00600	1	05/16/2021 18:05	WG1671479
Dibenz(a,h)anthracene	0.00795		0.00600	1	05/16/2021 18:05	WG1671479
Fluoranthene	0.0899		0.00600	1	05/16/2021 18:05	WG1671479
Fluorene	0.0127		0.00600	1	05/16/2021 18:05	WG1671479
Indeno(1,2,3-cd)pyrene	0.0352		0.00600	1	05/16/2021 18:05	WG1671479
Naphthalene	0.0370		0.0200	1	05/16/2021 18:05	WG1671479
Phenanthrene	0.101		0.00600	1	05/16/2021 18:05	WG1671479
Pyrene	0.0669		0.00600	1	05/16/2021 18:05	WG1671479
1-Methylnaphthalene	0.0364		0.0200	1	05/16/2021 18:05	WG1671479
2-Methylnaphthalene	0.0665		0.0200	1	05/16/2021 18:05	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 18:05	WG1671479
(S) p-Terphenyl-d14	75.6		23.0-120		05/16/2021 18:05	WG1671479
(S) Nitrobenzene-d5	70.2		14.0-149		05/16/2021 18:05	WG1671479
(S) 2-Fluorobiphenyl	64.2		34.0-125		05/16/2021 18:05	WG1671479

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/16/2021 18:23	WG1671479
Acenaphthene	ND		0.00600	1	05/16/2021 18:23	WG1671479
Acenaphthylene	ND		0.00600	1	05/16/2021 18:23	WG1671479
Benzo(a)anthracene	0.00897		0.00600	1	05/16/2021 18:23	WG1671479
Benzo(a)pyrene	0.0105		0.00600	1	05/16/2021 18:23	WG1671479
Benzo(b)fluoranthene	0.0289		0.00600	1	05/16/2021 18:23	WG1671479
Benzo(g,h,i)perylene	0.0215		0.00600	1	05/16/2021 18:23	WG1671479
Benzo(k)fluoranthene	0.00682		0.00600	1	05/16/2021 18:23	WG1671479
Chrysene	0.00911		0.00600	1	05/16/2021 18:23	WG1671479
Dibenz(a,h)anthracene	ND		0.00600	1	05/16/2021 18:23	WG1671479
Fluoranthene	0.0122		0.00600	1	05/16/2021 18:23	WG1671479
Fluorene	ND		0.00600	1	05/16/2021 18:23	WG1671479
Indeno(1,2,3-cd)pyrene	0.0190		0.00600	1	05/16/2021 18:23	WG1671479
Naphthalene	0.0279		0.0200	1	05/16/2021 18:23	WG1671479
Phenanthrene	0.0159		0.00600	1	05/16/2021 18:23	WG1671479
Pyrene	0.0121		0.00600	1	05/16/2021 18:23	WG1671479
1-Methylnaphthalene	0.0269		0.0200	1	05/16/2021 18:23	WG1671479
2-Methylnaphthalene	0.0479		0.0200	1	05/16/2021 18:23	WG1671479
2-Chloronaphthalene	ND		0.0200	1	05/16/2021 18:23	WG1671479
(S) p-Terphenyl-d14	67.0		23.0-120		05/16/2021 18:23	WG1671479
(S) Nitrobenzene-d5	57.9		14.0-149		05/16/2021 18:23	WG1671479
(S) 2-Fluorobiphenyl	55.7		34.0-125		05/16/2021 18:23	WG1671479

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3656116-1 05/18/21 21:54

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
Chromium,Hexavalent	U		0.640	2.00

¹Cp

²Tc

³Ss

Laboratory Control Sample (LCS)

(LCS) R3656116-2 05/18/21 21:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chromium,Hexavalent	24.0	25.9	108	80.0-120	

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3657264-1 05/20/21 20:33

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

L1351256-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1351256-08 05/20/21 20:35 • (DUP) R3657264-3 05/20/21 20:35

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	ND	1	0.000		20

L1354641-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1354641-04 05/20/21 20:40 • (DUP) R3657264-8 05/20/21 20:40

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3657264-2 05/20/21 20:33

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	21.6	89.8	80.0-120	

L1353806-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353806-08 05/20/21 20:35 • (MS) R3657264-4 05/20/21 20:35 • (MSD) R3657264-5 05/20/21 20:35

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	4.42	3.89	22.1	19.4	1	75.0-125	J6	J6	12.8	20

L1353806-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1353806-08 05/20/21 20:35 • (MS) R3657264-6 05/20/21 20:36

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	644	ND	303	47.0	50	75.0-125	J6

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1351256-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1351256-01 05/18/21 10:20 • (DUP) R3655804-3 05/18/21 10:20

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.07	8.06	1	0.124		1

Sample Narrative:

OS: 8.07 at 22.6C

DUP: 8.06 at 22.5C

Laboratory Control Sample (LCS)

(LCS) R3655804-1 05/18/21 10:20

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.07 at 22.2C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3656323-1 05/19/21 11:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.09 at 21.8C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3655625-1 05/18/21 08:08

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1351085-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1351085-01 05/18/21 08:08 • (DUP) R3655625-3 05/18/21 08:08

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	454	440	1	3.13		20

L1351256-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1351256-01 05/18/21 08:08 • (DUP) R3655625-4 05/18/21 08:08

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	244	247	1	1.55		20

Laboratory Control Sample (LCS)

(LCS) R3655625-2 05/18/21 08:08

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	273	102	85.0-115	

Method Blank (MB)

(MB) R3657150-1 05/20/21 12:50

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
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

Laboratory Control Sample (LCS)

(LCS) R3657150-2 05/20/21 12:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	89.7	89.7	80.0-120	
Barium	100	95.9	95.9	80.0-120	
Cadmium	100	91.8	91.8	80.0-120	
Copper	100	94.9	94.9	80.0-120	
Lead	100	91.8	91.8	80.0-120	
Nickel	100	92.3	92.3	80.0-120	
Selenium	100	92.7	92.7	80.0-120	
Silver	20.0	17.0	85.0	80.0-120	
Zinc	100	90.3	90.3	80.0-120	

L1351251-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1351251-01 05/20/21 12:55 • (MS) R3657150-5 05/20/21 13:03 • (MSD) R3657150-6 05/20/21 13:06

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	19.6	101	101	81.3	81.0	1	75.0-125			0.313	20
Barium	100	22.0	115	116	93.3	94.4	1	75.0-125			0.962	20
Cadmium	100	ND	88.7	87.0	88.5	86.8	1	75.0-125			1.93	20
Copper	100	8.93	102	101	92.7	92.5	1	75.0-125			0.173	20
Lead	100	17.8	114	114	96.5	96.5	1	75.0-125			0.0482	20
Nickel	100	8.55	109	109	100	101	1	75.0-125			0.451	20
Selenium	100	3.43	85.7	82.6	82.3	79.2	1	75.0-125			3.72	20
Silver	20.0	ND	16.4	16.3	82.1	81.3	1	75.0-125			0.976	20
Zinc	100	47.1	150	146	103	99.0	1	75.0-125			2.82	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3657861-1 05/21/21 22:14

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3657861-2 05/21/21 22:17 • (LCSD) R3657861-3 05/21/21 22:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	0.970	0.959	97.0	95.9	80.0-120			1.12	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3654989-2 05/15/21 09:57

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)	120			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3654989-1 05/15/21 08:44

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)			111	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3656239-3 05/15/21 21:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3656239-3 05/15/21 21:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	0.00700	U	0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	112			75.0-131
(S) 4-Bromofluorobenzene	94.9			67.0-138
(S) 1,2-Dichloroethane-d4	107			70.0-130

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

(LCS) R3656239-1 05/15/21 20:39 • (LCSD) R3656239-2 05/15/21 20:58

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 %
Acetone	0.625	0.834	0.944	133	151	10.0-160			12.4	31
Acrylonitrile	0.625	0.724	0.798	116	128	45.0-153			9.72	22
Benzene	0.125	0.115	0.114	92.0	91.2	70.0-123			0.873	20
Bromobenzene	0.125	0.133	0.142	106	114	73.0-121			6.55	20
Bromodichloromethane	0.125	0.110	0.111	88.0	88.8	73.0-121			0.905	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3656239-1 05/15/21 20:39 • (LCSD) R3656239-2 05/15/21 20:58

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 %
Bromoform	0.125	0.126	0.144	101	115	64.0-132			13.3	20
Bromomethane	0.125	0.123	0.119	98.4	95.2	56.0-147			3.31	20
n-Butylbenzene	0.125	0.100	0.121	80.0	96.8	68.0-135			19.0	20
sec-Butylbenzene	0.125	0.121	0.131	96.8	105	74.0-130			7.94	20
tert-Butylbenzene	0.125	0.120	0.127	96.0	102	75.0-127			5.67	20
Carbon tetrachloride	0.125	0.121	0.123	96.8	98.4	66.0-128			1.64	20
Chlorobenzene	0.125	0.127	0.132	102	106	76.0-128			3.86	20
Chlorodibromomethane	0.125	0.110	0.113	88.0	90.4	74.0-127			2.69	20
Chloroethane	0.125	0.128	0.119	102	95.2	61.0-134			7.29	20
Chloroform	0.125	0.115	0.118	92.0	94.4	72.0-123			2.58	20
Chloromethane	0.125	0.132	0.128	106	102	51.0-138			3.08	20
2-Chlorotoluene	0.125	0.119	0.141	95.2	113	75.0-124			16.9	20
4-Chlorotoluene	0.125	0.113	0.124	90.4	99.2	75.0-124			9.28	20
1,2-Dibromo-3-Chloropropane	0.125	0.110	0.119	88.0	95.2	59.0-130			7.86	20
1,2-Dibromoethane	0.125	0.116	0.124	92.8	99.2	74.0-128			6.67	20
Dibromomethane	0.125	0.123	0.123	98.4	98.4	75.0-122			0.000	20
1,2-Dichlorobenzene	0.125	0.125	0.135	100	108	76.0-124			7.69	20
1,3-Dichlorobenzene	0.125	0.123	0.136	98.4	109	76.0-125			10.0	20
1,4-Dichlorobenzene	0.125	0.111	0.127	88.8	102	77.0-121			13.4	20
Dichlorodifluoromethane	0.125	0.119	0.113	95.2	90.4	43.0-156			5.17	20
1,1-Dichloroethane	0.125	0.125	0.124	100	99.2	70.0-127			0.803	20
1,2-Dichloroethane	0.125	0.132	0.134	106	107	65.0-131			1.50	20
1,1-Dichloroethene	0.125	0.109	0.108	87.2	86.4	65.0-131			0.922	20
cis-1,2-Dichloroethene	0.125	0.120	0.115	96.0	92.0	73.0-125			4.26	20
trans-1,2-Dichloroethene	0.125	0.107	0.111	85.6	88.8	71.0-125			3.67	20
1,2-Dichloropropane	0.125	0.116	0.115	92.8	92.0	74.0-125			0.866	20
1,1-Dichloropropene	0.125	0.112	0.109	89.6	87.2	73.0-125			2.71	20
1,3-Dichloropropane	0.125	0.121	0.131	96.8	105	80.0-125			7.94	20
cis-1,3-Dichloropropene	0.125	0.108	0.110	86.4	88.0	76.0-127			1.83	20
trans-1,3-Dichloropropene	0.125	0.118	0.131	94.4	105	73.0-127			10.4	20
2,2-Dichloropropane	0.125	0.114	0.112	91.2	89.6	59.0-135			1.77	20
Di-isopropyl ether	0.125	0.119	0.120	95.2	96.0	60.0-136			0.837	20
Ethylbenzene	0.125	0.133	0.145	106	116	74.0-126			8.63	20
Hexachloro-1,3-butadiene	0.125	0.0876	0.104	70.1	83.2	57.0-150			17.1	20
Isopropylbenzene	0.125	0.125	0.137	100	110	72.0-127			9.16	20
p-Isopropyltoluene	0.125	0.116	0.127	92.8	102	72.0-133			9.05	20
2-Butanone (MEK)	0.625	0.766	0.791	123	127	30.0-160			3.21	24
Methylene Chloride	0.125	0.108	0.105	86.4	84.0	68.0-123			2.82	20
4-Methyl-2-pentanone (MIBK)	0.625	0.787	0.837	126	134	56.0-143			6.16	20
Methyl tert-butyl ether	0.125	0.119	0.121	95.2	96.8	66.0-132			1.67	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3656239-1 05/15/21 20:39 • (LCSD) R3656239-2 05/15/21 20:58

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 %
Naphthalene	0.125	0.0945	0.103	75.6	82.4	59.0-130			8.61	20
n-Propylbenzene	0.125	0.121	0.126	96.8	101	74.0-126			4.05	20
Styrene	0.125	0.117	0.128	93.6	102	72.0-127			8.98	20
1,1,1,2-Tetrachloroethane	0.125	0.137	0.145	110	116	74.0-129			5.67	20
1,1,2,2-Tetrachloroethane	0.125	0.0976	0.103	78.1	82.4	68.0-128			5.38	20
Tetrachloroethene	0.125	0.123	0.137	98.4	110	70.0-136			10.8	20
Toluene	0.125	0.123	0.130	98.4	104	75.0-121			5.53	20
1,1,2-Trichlorotrifluoroethane	0.125	0.104	0.105	83.2	84.0	61.0-139			0.957	20
1,2,3-Trichlorobenzene	0.125	0.0677	0.0785	54.2	62.8	59.0-139	J4		14.8	20
1,2,4-Trichlorobenzene	0.125	0.0731	0.0801	58.5	64.1	62.0-137	J4		9.14	20
1,1,1-Trichloroethane	0.125	0.136	0.134	109	107	69.0-126			1.48	20
1,1,2-Trichloroethane	0.125	0.120	0.123	96.0	98.4	78.0-123			2.47	20
Trichloroethene	0.125	0.155	0.148	124	118	76.0-126			4.62	20
Trichlorofluoromethane	0.125	0.118	0.117	94.4	93.6	61.0-142			0.851	20
1,2,3-Trichloropropane	0.125	0.145	0.135	116	108	67.0-129			7.14	20
1,2,3-Trimethylbenzene	0.125	0.0829	0.0926	66.3	74.1	74.0-124	J4		11.1	20
1,2,4-Trimethylbenzene	0.125	0.112	0.123	89.6	98.4	70.0-126			9.36	20
1,3,5-Trimethylbenzene	0.125	0.112	0.121	89.6	96.8	73.0-127			7.73	20
Vinyl chloride	0.125	0.117	0.109	93.6	87.2	63.0-134			7.08	20
Xylenes, Total	0.375	0.361	0.382	96.3	102	72.0-127			5.65	20
(S) Toluene-d8				108	108	75.0-131				
(S) 4-Bromofluorobenzene				99.9	99.1	67.0-138				
(S) 1,2-Dichloroethane-d4				113	115	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3656206-1 05/19/21 04:13

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-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	55.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3656206-2 05/19/21 04:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	46.2	92.4	50.0-150	
(S) o-Terphenyl			75.4	18.0-148	

L1351256-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1351256-01 05/19/21 07:03 • (MS) R3656206-3 05/19/21 07:16 • (MSD) R3656206-4 05/19/21 07:29

Analyte	Spike Amount mg/kg	Original Result mg/kg	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	49.0	19.9	36.4	71.4	33.7	106	1	50.0-150	J6	J3	64.9	20
(S) o-Terphenyl					44.8	37.5		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3655093-2 05/16/21 12:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	80.3			14.0-149
(S) 2-Fluorobiphenyl	77.6			34.0-125
(S) p-Terphenyl-d14	99.2			23.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3655093-1 05/16/21 12:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0602	75.3	50.0-126	
Acenaphthene	0.0800	0.0703	87.9	50.0-120	
Acenaphthylene	0.0800	0.0702	87.8	50.0-120	
Benzo(a)anthracene	0.0800	0.0651	81.4	45.0-120	
Benzo(a)pyrene	0.0800	0.0535	66.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0638	79.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0677	84.6	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0653	81.6	49.0-125	
Chrysene	0.0800	0.0694	86.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0648	81.0	47.0-125	
Fluoranthene	0.0800	0.0724	90.5	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3655093-1 05/16/21 12:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0715	89.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0643	80.4	46.0-125	
Naphthalene	0.0800	0.0705	88.1	50.0-120	
Phenanthrene	0.0800	0.0648	81.0	47.0-120	
Pyrene	0.0800	0.0750	93.8	43.0-123	
1-Methylnaphthalene	0.0800	0.0764	95.5	51.0-121	
2-Methylnaphthalene	0.0800	0.0717	89.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0634	79.3	50.0-120	
(S) Nitrobenzene-d5			81.2	14.0-149	
(S) 2-Fluorobiphenyl			78.3	34.0-125	
(S) p-Terphenyl-d14			95.3	23.0-120	

L1350780-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350780-01 05/16/21 17:11 • (MS) R3655093-3 05/16/21 17:29 • (MSD) R3655093-4 05/16/21 17:47

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0776	ND	0.0555	0.0627	71.5	79.6	1	10.0-145			12.2	30
Acenaphthene	0.0776	ND	0.0588	0.0673	75.8	85.4	1	14.0-127			13.5	27
Acenaphthylene	0.0776	ND	0.0524	0.0608	67.5	77.2	1	21.0-124			14.8	25
Benzo(a)anthracene	0.0776	ND	0.0613	0.0685	79.0	86.9	1	10.0-139			11.1	30
Benzo(a)pyrene	0.0776	ND	0.0539	0.0602	69.5	76.4	1	10.0-141			11.0	31
Benzo(b)fluoranthene	0.0776	ND	0.0558	0.0631	71.9	80.1	1	10.0-140			12.3	36
Benzo(g,h,i)perylene	0.0776	ND	0.0574	0.0626	74.0	79.4	1	10.0-140			8.67	33
Benzo(k)fluoranthene	0.0776	ND	0.0548	0.0611	70.6	77.5	1	10.0-137			10.9	31
Chrysene	0.0776	ND	0.0663	0.0713	85.4	90.5	1	10.0-145			7.27	30
Dibenz(a,h)anthracene	0.0776	ND	0.0548	0.0601	70.6	76.3	1	10.0-132			9.23	31
Fluoranthene	0.0776	ND	0.0585	0.0653	75.4	82.9	1	10.0-153			11.0	33
Fluorene	0.0776	0.00785	0.0711	0.0751	81.5	85.3	1	11.0-130			5.47	29
Indeno(1,2,3-cd)pyrene	0.0776	ND	0.0548	0.0603	70.6	76.5	1	10.0-137			9.56	32
Naphthalene	0.0776	ND	0.0578	0.0649	74.5	82.4	1	10.0-135			11.6	27
Phenanthrene	0.0776	ND	0.0666	0.0695	85.8	88.2	1	10.0-144			4.26	31
Pyrene	0.0776	0.0272	0.0939	0.0950	86.0	86.0	1	10.0-148			1.16	35
1-Methylnaphthalene	0.0776	ND	0.0597	0.0685	76.9	86.9	1	10.0-142			13.7	28
2-Methylnaphthalene	0.0776	ND	0.0588	0.0662	75.8	84.0	1	10.0-137			11.8	28
2-Chloronaphthalene	0.0776	ND	0.0424	0.0497	54.6	63.1	1	29.0-120			15.9	24
(S) Nitrobenzene-d5					77.1	76.9		14.0-149				
(S) 2-Fluorobiphenyl					64.5	70.4		34.0-125				
(S) p-Terphenyl-d14					92.5	97.7		23.0-120				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

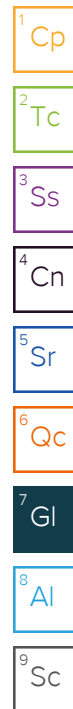
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

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

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.



ACCREDITATIONS & LOCATIONS

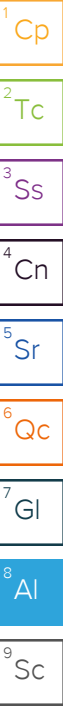
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

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

* 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 Analytical.



Company Name/Address:

Berry Petroleum - Denver, CO

3433 E. Lake Dr
Centennial, CO 80121

Billing Information:

Don Wilbourn
235 Callahan Ave
Parachute, CO 81635Christy Halsell
Berry
Roosevelt, VTPres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebanon Rd. Mount Juliet, TN 37122
Submitting a sample via this chain of custody
constitutes acknowledgment and acceptance of the
Pace Terms and Conditions found at:
<https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

Report to:
Dave Nicholson

Email To: dknicholson@q.com

Project Description:
Berry Landfarms

Garden Gulch

City/State
Collected:Please Circle:
PT MT CT ET

Phone: 303-601-2023

Client Project #

Lab Project #

BERPETDCO-NICHOLSON

Collected by (print):

Site/Facility ID #

P.O. #

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 #

Date Results Needed

No.
of
CntsImmediately
Packed on Ice N Y

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

I-11-1
I-11-2
I-11-3
I-11-4
I-11-5
I-11-6
I-11-7
I-11-8
I-11-9

SS

5/8

1610

6

SS

1615

1

SS

1620

1

SS

1625

6

SS

1630

1

SS

1635

1

SS

1640

1

SS

1645

6

SS

1650

1

SS

* Matrix:

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

Remarks: Metals = Ag, As, Ba, Cd, CR6, Cu, Hot Water B, Ni, Pb, Se, Zn

* incl. 1,2,4-TMB, 1,3,5-TMB, and naphthalene

pH

Temp

Flow

Other

Samples returned via:

UPS FedEx Courier

Tracking #

9883 0089 1935

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes/No

HCL/MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date:

Time:

Hold:

Condition:

NCF / OK

Sample Receipt Checklist

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

* Metals 4ozClr-NoPres, CR6, SAR

CR6 4ozClr-NoPres Hot water-Boron

DRO/ORO 4ozClr-NoPres

GRO 4ozClr-NoPres

PH 4ozClr-NoPres, SPCON

SAR 4ozClr-NoPres

SPCON 4ozClr-NoPres

SV8270PAHSIM 4ozClr-NoPres

V8260 4ozClr-NoPres Full Screen *