January 5, 2022

Blair Rollins
Environmental Specialist
Caerus Oil & Gas LLC (Operator #: 10456)
brollins@caerusoilandgas.com

Report of Work Completed – Historical Spill Investigation

COGCC Location Name (ID)	Story Gulch Unit /8505A-36 B36496 (415180)
Client Location Name	B36 496
COGCC Remediation Project #	19864
Legal Description	Lot 2 Sec. 36 T4S-R96W
Coordinates (Lat/Long)	39.664206 / -108.113367
County	Garfield County, Colorado

Mr. Rollins,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil & Gas LLC (Caerus) to document recent investigation and remediation activities associated with historical releases of drilling mud, condensate, and produced water at the B26 496 well pad (Location). The Location is 14.5 miles north of Parachute, Colorado in Garfield County, as illustrated in the attached Topographic Location Map. Additional information on the Location and the associated remediation project is provided in the title block above, the attached Site Diagrams, and the attached Laboratory Results Summary Table. This ROWC provides background on the Location, methods used to complete the investigation, results of the investigation, and recommendations for how to proceed with this information.

Background

Between March,12, 2010 and February 15, 2011, five separate releases occurred on the Location.

On March 12, 2010, 20 barrels (bbls) of drilling mud were released after a plugged transfer line caused the pre-mix tank to overflow. The release was confined to the working surface of the pad. The transfer pumps were shut down and 15 bbls of drilling mud were recovered using pumps, vacuum trucks, and heavy equipment. The release was reported in Colorado Oil and Gas Conservation Commission (COGCC) Form 19 Document # 2607774.

On November 20, 2010, 55 bbls of drilling mud were released after a valve on the cement bypass vibrated loose, which caused the cuttings catch bin to overflow. The release was confined to the working surface of the pad. The valve was closed, and pumps were used to recover 45 bbls of drilling mud. The release was reported in COGCC Form 19 Document # 2523034.

On November 29, 2010, 15 bbls of produced water were released after the wells produced more water than the equipment was able to pump off site, which caused a frac tank to overflow. The release was confined to the working surface of the pad. The wells and production equipment were shut in, but no fluids were recovered. The release was reported in COGCC Form 19 Document # 2523460.

On February 15, 2011, 250 bbls of drilling mud were released after too much air was pushed through the system while the crew was trying to address a loss of drilling mud downhole. The air forced drilling mud back through the return system and out of the flare stack. The release was confined to the working surface of the pad. After the air was shut off, a pump truck recovered 200 bbls of the spilled material along with 300 bbls of snowmelt on the pad surface. The release was reported in COGCC Form 19 Document # 2524363.

Also on February 15, 2011, 3 bbls of condensate and 10 bbls of produced water were released after the inlet valve on a frac tank was left closed, which caused the other frac tank to overflow. The release was confined to the working surface of the pad. After the valve was re-opened the overflowing immediately ceased, and a pump truck was used to recover 3 bbls of condensate, 10 bbls of produced water and an additional 35 bbls of snowmelt on the pad surface. The release was reported in COGCC Form 19 Document # 2524496.

Methodology

On September 8, 2021, Confluence coordinated and oversaw investigation activities associated with the historical releases at the Location. All activities were conducted in accordance with approved COGCC Form 27 Document # 402631546 and applicable Conditions of Approval (COAs) assigned by the COGCC. Twelve potholes were advanced within the spill investigation area. Investigation activities were directed by Confluence personnel who characterized the soil using visual and olfactory observations and field-screened soil samples for volatile organic compounds (VOC) using a photoionization detector (PID). Field-screening was conducted at each pothole location between 6 and 12 inches below ground surface (bgs) and between 24 and 30 inches bgs, where possible. Due to a shallow shale stone layer, it was not possible to reach a final depth of 24 to 30 inches bgs on every pothole. Field screening did not indicate impacts to soil, with PID measurements ranging from 0.1 to 1.6 parts per million (ppm). Soil samples were collected from the terminus of each pothole for laboratory analysis.

On October 7, 2021, Confluence personnel provided onsite support for remedial excavation via a hydrovac to remove soil identified in pothole locations PH05, PH11, and PH12 with polycyclic aromatic hydrocarbons (PAHs), pH, and sodium adsorption ratio (SAR) values outside of the COGCC Table 910-1 standards. Soil from each excavation area was characterized and field screened. Soil samples were collected from the base and sidewalls of each excavation for analysis. Due to a laboratory error, these samples were incorrectly analyzed for soil constituents listed in COGCC Table 915-1 instead of Table 910-1. Additionally, background soil samples were collected from comparable, nearby, non-impacted native soil to establish background soil conditions including pH, electrical conductivity (EC), and SAR per Rule 915.e.(2).D.

On November 10, 2021, Confluence personnel provided onsite support for additional remedial excavation via mini-excavator to address further PAH exceedances in PH05, and SAR exceedances in PH12. Soil samples were collected from the base and sidewalls of each excavation for analysis.

All spill investigation and excavation soil samples were collected in laboratory prepared jars, immediately placed on ice, and shipped for laboratory analysis of soil constituents listed in COGCC Table 910-1, with the exception of October 7, 2021, which, as mentioned above, were incorrectly analyzed. Sample locations are illustrated in the attached Site Diagrams.

Results

These results summarize observations from onsite investigation efforts and associated field screening results. For organizational and presentation purposes the results summary is divided between general observations of lithology and hydrogeology for the entire Location and excavation activities.

Collected spatial data are depicted in the attached Site Diagrams. Laboratory analytical reports are attached and summarized in the Laboratory Results Summary Table.

Lithology and Hydrogeology

Lithology at the Location is characterized by sandy clay on top of weathered shale. Groundwater is expected to flow south toward Parachute Creek and ultimately into the Colorado River, located 15.0 miles south of the Location.

Initial Investigation Results

Laboratory results of initial spill investigation soil samples indicate compliance with COGCC Table 910-1 except for arsenic, SAR, pH, benzo(A)pyrene, and dibenzo(A,H)anthracene. Arsenic exceedances range from 2.24 milligrams per kilogram (mg/kg) within PH02 to 3.88 mg/kg in PH04. One SAR exceedance of 13.2 was measured in PH12. One pH exceedance of greater than 13 was measured in PH11. Benzo(A)pyrene and dibenzo(A,H)anthracene exceedances reported in PH05 were 0.0702 mg/kg and 0.0298 mg/kg, respectively. All other samples analytes are compliant with COGCC Table 910-1.

Excavation Results

Laboratory results of PH05 final excavation area indicate compliance with COGCC Table 910-1 except for arsenic, benzo(A)pyrene, benzo(B)fluoranthene, and dibenzo(A,H)anthracene. Arsenic exceedances range from 1.96 mg/kg in the west sidewall to 4.15 mg/kg in the south sidewall of the excavation. Benzo(A)pyrene values exceeding COGCC Table 910-1 standards range from 0.129 mg/kg in the east sidewall to 0.0254 mg/kg in the south sidewall. One benzo(B)fluoranthene exceedance was reported in the east sidewall at 0.319 mg/kg. One dibenzo(A,H)anthracene exceedance was reported in the east sidewall at 0.0650 mg/kg. All other analytes are compliant with COGCC Table 910-1.

Laboratory results of the PH11 final excavation area indicate compliance with COGCC Table 910-1 except for arsenic. Arsenic exceedances range from 2.14 mg/kg in the southwest sidewall to 2.85 mg/kg at the base of the excavation. All other analytes are compliant with COGCC Table 910-1.

Laboratory results of the PH12 final excavation area indicate compliance with COGCC Table 910-1 except for arsenic. Arsenic exceedances range from 3.05 mg/kg in the east sidewall to 5.39 at the base of the excavation. All other analytes are compliant with COGCC Table 910-1.

Analysis and Recommendations

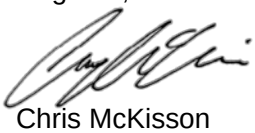
Though spill investigation and excavation soil samples results were above standards for arsenic and PAHs, background data suggests the arsenic exceedances are within naturally occurring levels at the Location. Background samples collected at the Location indicate an arsenic concentration of 5.71 mg/kg, which is above the corresponding values from the initial investigation and excavation samples.

Based on these results and analysis, Confluence recommends that Caerus request closure of the releases associated with COGCC Form 19 Document #'s 2524496, 2523460, 2523034, 2607774,

and for the areas within 2524363 that show compliance with COGCC Table 910-1 (PH01, PH06, PH07, PH08, and PH12) using COGCC Rule 915.f. The PAH exceedances remaining within the PH05 excavation area should continue to be assessed under 915-1 when weather conditions allow for safe access in the spring of 2022.

Confluence is grateful for the opportunity to support you with this project. If you have any questions about the methods, results, or recommendations presented here, please do not hesitate to contact me.

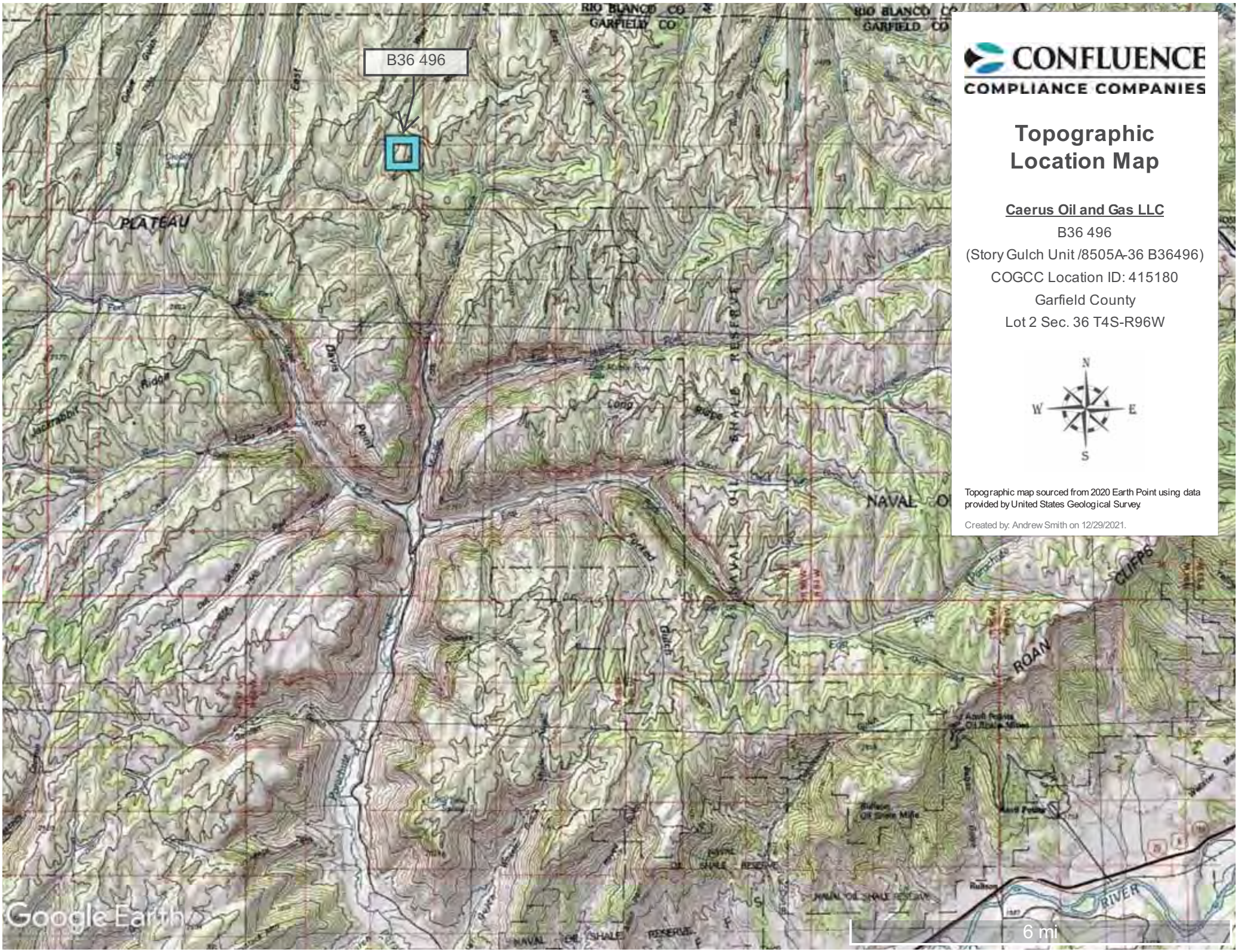
Regards,



Chris McKisson
Senior Project Manager
(720) 490-6758
chris.mckisson@confluence-cc.com

Attachments

- Topographic Location Map
- Site Diagram – Background Samples
- Site Diagram – Investigation Sample Locations
- Site Diagram – PH05 Excavation
- Site Diagram – PH11 Excavation
- Site Diagram – PH12 Excavation
- Laboratory Results Summary Table
- Laboratory Reports



CONFLUENCE
COMPLIANCE COMPANIES

Topographic Location Map

Caerus Oil and Gas LLC

B36 496

(Story Gulch Unit /8505A-36 B36496)

COGCC Location ID: 415180

Garfield County

Lot 2 Sec. 36 T4S-R96W

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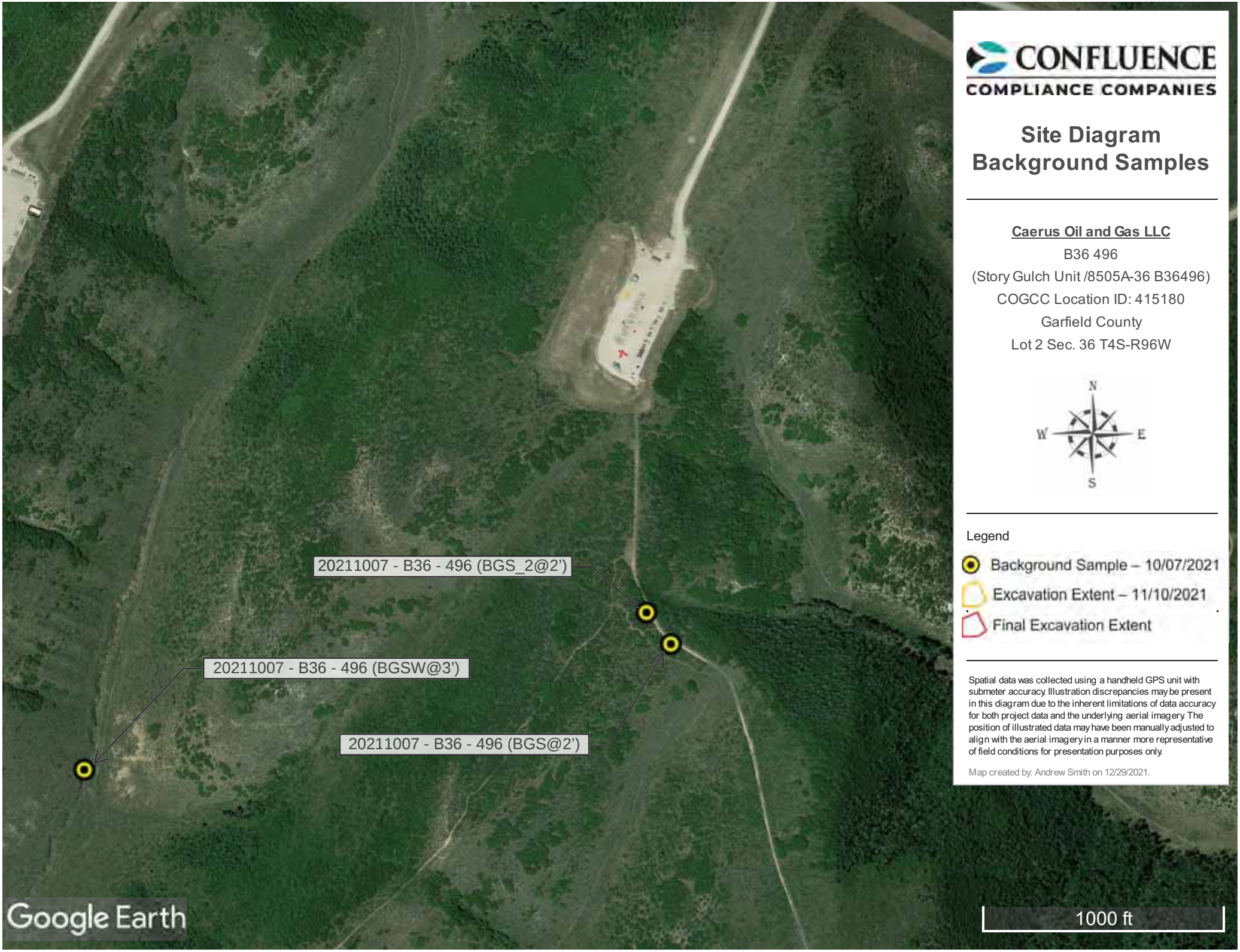
Topographic map sourced from 2020 Earth Point using data provided by United States Geological Survey.

Created by: Andrew Smith on 12/29/2021.



CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
Background Samples

Caerus Oil and Gas LLC
B36 496
(Story Gulch Unit /8505A-36 B36496)
COGCC Location ID: 415180
Garfield County
Lot 2 Sec. 36 T4S-R96W

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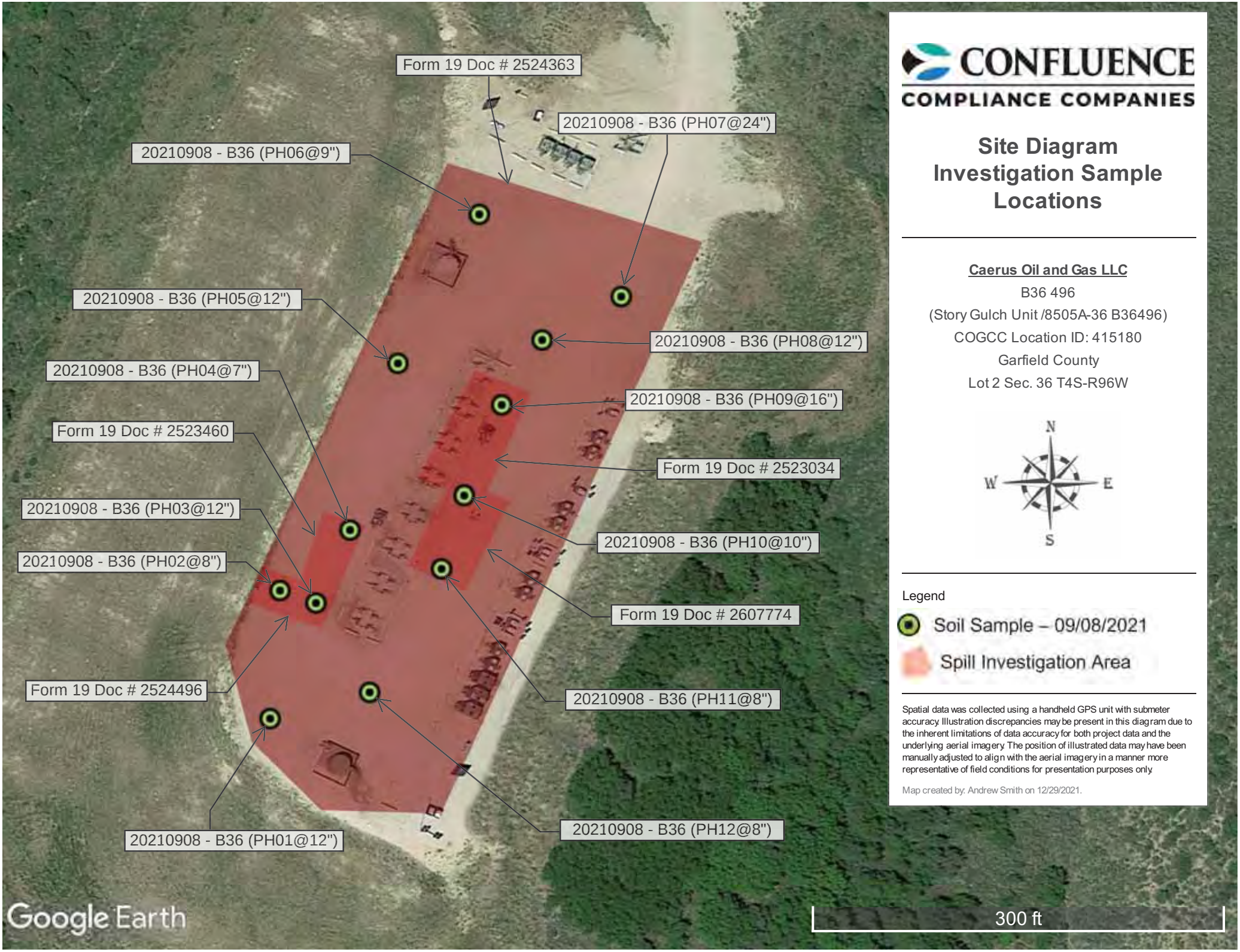
Legend

- Background Sample – 10/07/2021
- Excavation Extent – 11/10/2021
- Final Excavation Extent

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

Map created by: Andrew Smith on 12/29/2021.



CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram Investigation Sample Locations

Caerus Oil and Gas LLC
B36 496
(Story Gulch Unit /8505A-36 B36496)
COGCC Location ID: 415180
Garfield County
Lot 2 Sec. 36 T4S-R96W

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Legend

Soil Sample – 09/08/2021

Spill Investigation Area

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

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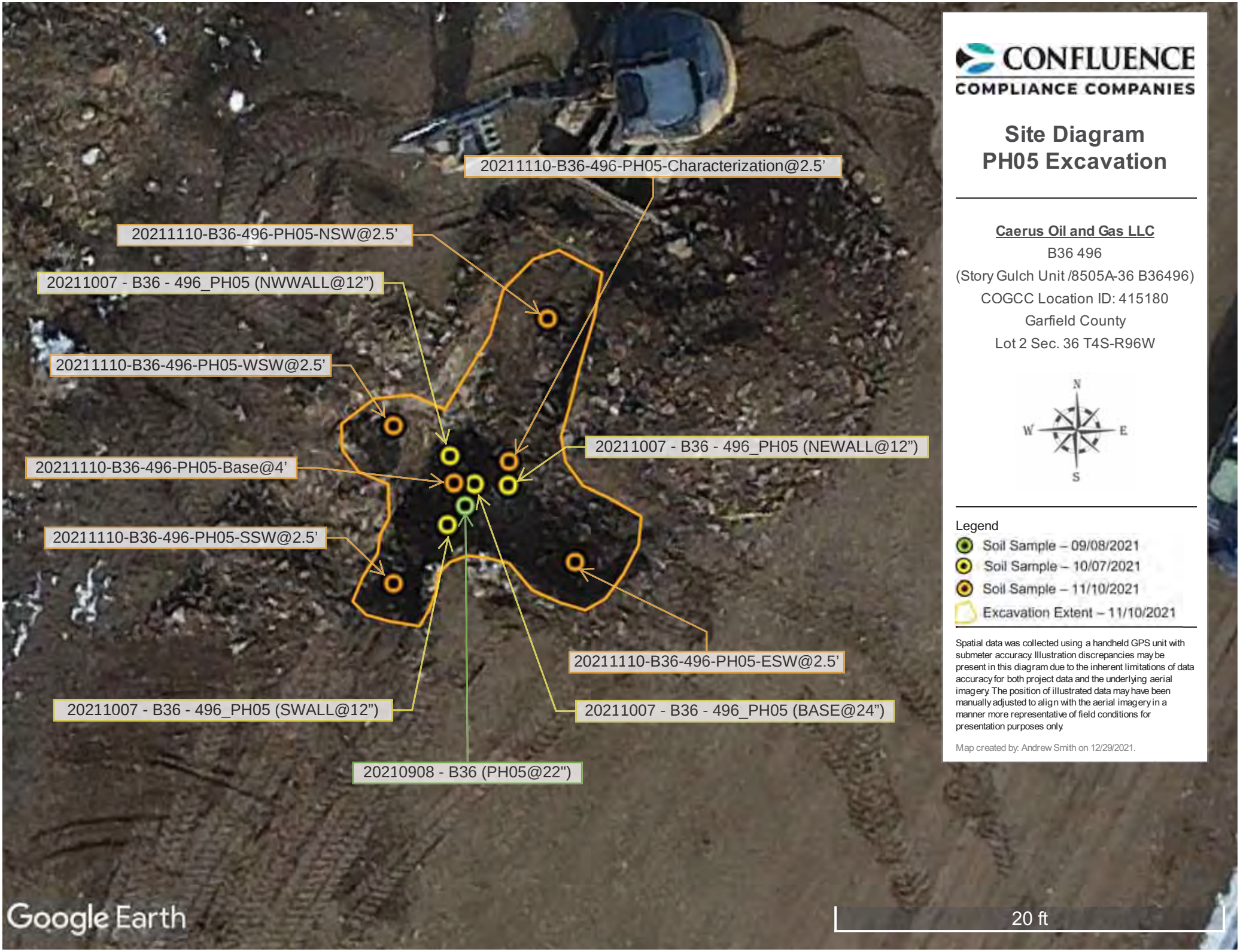

CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
PH05 Excavation

Caerus Oil and Gas LLC
B36 496
(Story Gulch Unit /8505A-36 B36496)
COGCC Location ID: 415180
Garfield County
Lot 2 Sec. 36 T4S-R96W

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Legend
- Soil Sample – 09/08/2021
- Soil Sample – 10/07/2021
- Soil Sample – 11/10/2021
- Excavation Extent – 11/10/2021

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

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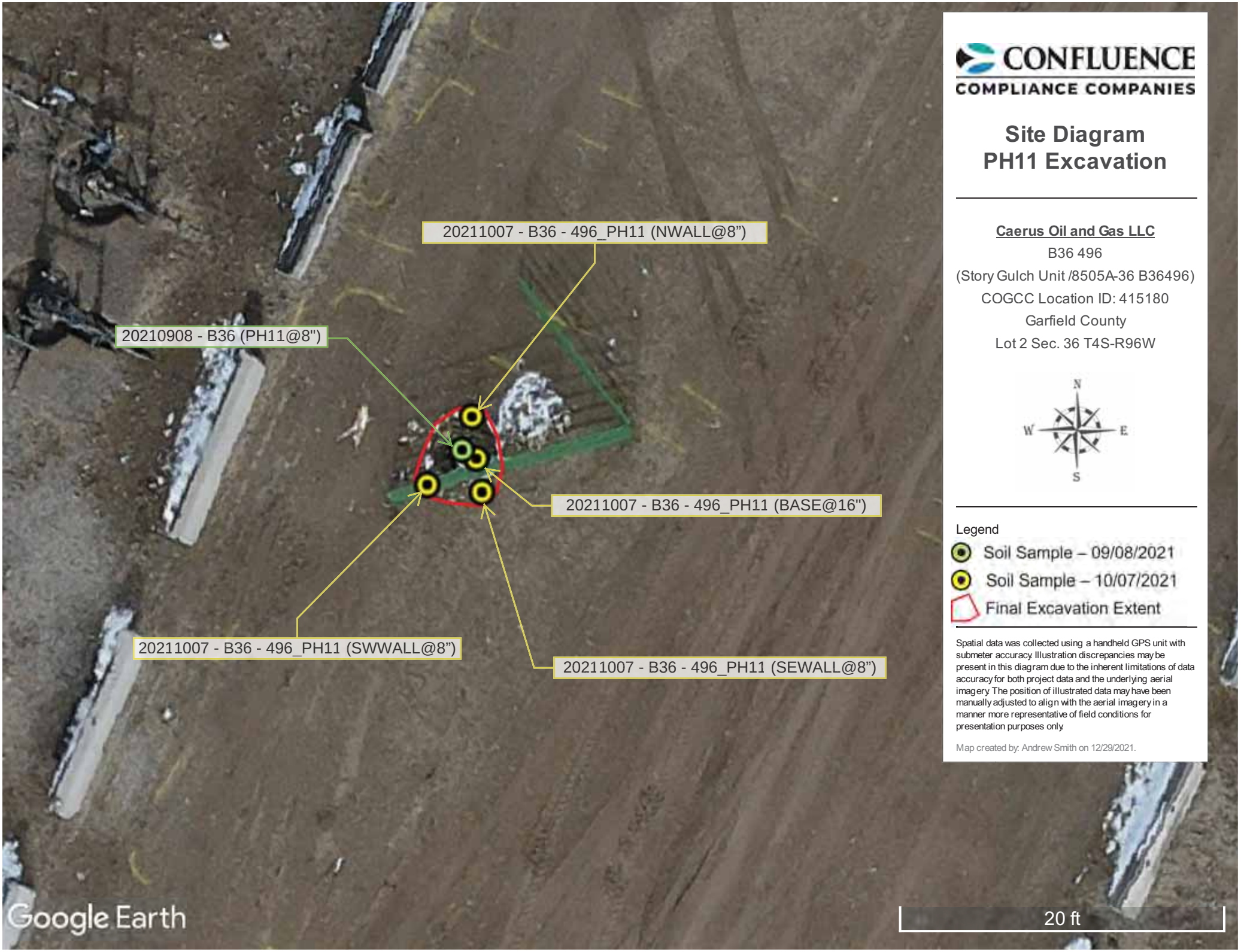

CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
PH11 Excavation

Caerus Oil and Gas LLC
B36 496
(Story Gulch Unit /8505A-36 B36496)
COGCC Location ID: 415180
Garfield County
Lot 2 Sec. 36 T4S-R96W

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Legend
- Soil Sample – 09/08/2021
- Soil Sample – 10/07/2021
- Final Excavation Extent

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

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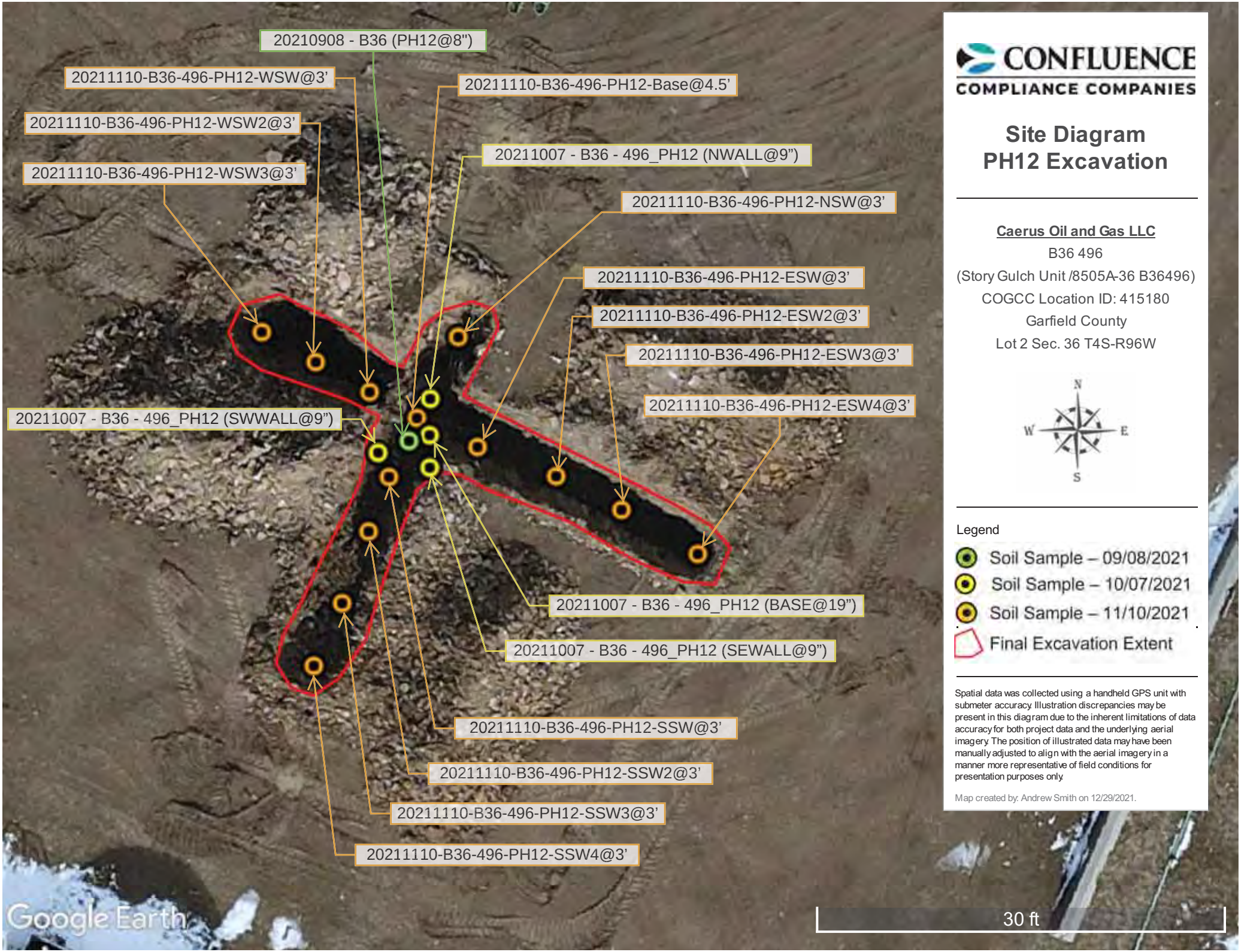

CONFLUENCE
COMPLIANCE COMPANIES

Site Diagram
PH12 Excavation

Caerus Oil and Gas LLC
B36 496
(Story Gulch Unit /8505A-36 B36496)
COGCC Location ID: 415180
Garfield County
Lot 2 Sec. 36 T4S-R96W

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Legend

- Soil Sample – 09/08/2021
- Soil Sample – 10/07/2021
- Soil Sample – 11/10/2021
- Final Excavation Extent

Spatial data was collected using a handheld GPS unit with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. The position of illustrated data may have been manually adjusted to align with the aerial imagery in a manner more representative of field conditions for presentation purposes only.

Map created by: Andrew Smith on 12/29/2021.

CONFLUENCE

Laboratory Results Summary Table - Soil
B36 496

1/3/2022

Soil Screening and Remediation Limits			Organic Compounds (mg/kg [ppm])																			
COGCC Table 910-1 Allowable Concentration -->			500	NA	NA	NA	0.17	85	100	175	NA	NA	1000	1000	0.22	0.022	0.22	2.2	22	0.022	1000	1000
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Sample ID	TPH (total volatile and extractable petroleum hydrocarbons) (GRO+DRO+ORO)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C28) High Fraction	TPH-ORO (C28-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total (sum of o-, m-, p- isomers)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(A)pyrene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Chrysene	Dibenzo(A,H)anthracene	Fluoranthene	Fluorene
9/8/2021	Frac Tank	20210908 - B36 (PH01@12")	4.81	0.0251	4.78	NA	<0.00100	<0.00500	<0.00250	0.00205	NA	NA	<0.00600	<0.00600	<0.00600	<0.00600	0.00661	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH02@8")	1.76	<0.100	1.76	NA	<0.00100	<0.00500	<0.00250	0.00147	NA	NA	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH03@12")	11.74	0.0357	11.7	NA	<0.00100	0.00200	<0.00250	0.00527	NA	NA	<0.00600	<0.00600	0.0101	0.0131	0.0422	0.00903	0.0112	0.00654	0.00911	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH04@7")	3.59	<0.100	3.59	NA	<0.00100	<0.00500	<0.00250	0.00107	NA	NA	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH05@22")	53.31	0.109	53.2	NA	0.000725	0.0112	0.00133	0.0251	NA	NA	<0.00600	0.00549	0.0449	0.0702	0.190	0.0448	0.0490	0.0298	0.0426	0.00259
9/8/2021	Frac Tank	20210908 - B36 (PH06@9")	1.85	<0.100	1.85	NA	<0.00100	<0.00500	<0.00250	0.000925	NA	NA	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH07@24")	10.4	<0.100	10.4	NA	<0.00100	<0.00500	<0.00250	0.00113	NA	NA	<0.00600	<0.00600	<0.00600	<0.00600	0.00334	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH08@12")	19.1	<0.100	19.1	NA	<0.00100	<0.00500	<0.00250	0.00203	NA	NA	<0.00600	<0.00600	0.00889	0.00662	0.0260	0.00623	0.0153	0.00307	0.0107	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH09@16")	68.8	<0.100	68.8	NA	<0.00100	<0.00500	<0.00250	0.00260	NA	NA	<0.00600	<0.00600	0.00675	0.00442	0.0197	0.00510	0.00722	0.00211	0.00840	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH10@10")	201.03	0.0280	201	NA	<0.00100	<0.00500	<0.00250	0.00222	NA	NA	<0.00600	<0.00600	0.0111	0.0123	0.0469	0.0112	0.0123	0.00679	0.0142	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH11@8")	7.48	0.0328	7.45	NA	0.000625	0.0117	<0.00250	0.00200	NA	NA	<0.00600	<0.00600	<0.00600	<0.00600	0.00303	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
9/8/2021	Frac Tank	20210908 - B36 (PH12@8")	10.8	<1.00	10.8	NA	<0.00100	0.00155	<0.00250	<0.00650	NA	NA	<0.00600	<0.00600	0.00231	0.00220	0.00869	0.00253	0.00292	<0.00600	0.00275	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH05(BASE@24")	131.4	0.111	32.8	98.5	0.00138	0.0132	0.00200	0.0245	0.00185	0.00235	<0.00600	0.00331	0.0317	0.0514	0.131	0.0276	0.0396	0.0266	0.0350	0.00446
10/7/2021	Frac Tank	20211007-B36-496-PH05(NEWALL@12")	206	0.0990	53.1	153	0.000775	0.0128	0.00183	0.0267	0.00188	0.00290	<0.00600	0.00378	0.0407	0.0647	0.174	0.0337	0.0430	0.0342	0.0398	0.00311
10/7/2021	Frac Tank	20211007-B36-496-PH05(NWWALL@12")	239	0.117	67.2	172	0.00103	0.0113	0.00225	0.0316	0.00220	0.00463	<0.00600	<0.00600	0.0243	0.0406	0.112	0.0250	0.0268	0.0209	0.0222	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH05(SWALL@12")	199	0.0997	51.1	148	0.000842	0.0078	0.00200	0.0200	0.00171	0.00406	<0.00600	<0.00600	0.0209	0.0314	0.0970	0.0190	0.0227	0.0185	0.0193	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH11(BASE@16")	6.61	0.0326	2.86	3.72	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH11(NWALL@8")	49.5	0.0323	23.5	26.0	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	0.00344	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH11(SEWALL@8")	59.0	0.0322	25.0	34.0	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	0.00215	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH11(SWWALL@8")	4.01	0.0279	2.21	1.77	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH12(BASE@19")	17.7	0.0282	7.10	10.6	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	0.00222	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH12(NWALL@9")	20.7	<0.100	6.47	14.2	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	0.00429	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH12(SEWALL@9")	6.92	0.0224	2.45	4.45	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
10/7/2021	Frac Tank	20211007-B36-496-PH12(SWWALL@9")	19.4	0.0233	6.00	13.4	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	0.0023	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH05-BASE@4'	20.3	0.0466	20.3	NA	<0.00100	0.00210	<0.00250	0.00247	NA	NA	<0.00600	<0.00600	0.00663	0.00874	0.0302	0.00773	0.00913	0.00613	0.00673	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH05-ESW@2.5	31.8	0.0462	31.8	NA	<0.00100	0.00340	<0.00250	0.0104	NA	NA	<0.00600	0.00561	0.0588	0.129	0.319	0.0751	0.0679	0.0650	0.0390	0.00228
11/10/2021	Frac Tank	20211110-B36-496-PH05-NSW@2.5	30.7	0.0511	30.6	NA	<0.00100	0.00158	<0.00250	0.00235	NA	NA	0.00371	0.00281	0.0165	0.0201	0.0705	0.0138	0.0229	0.0118	0.0207	0.00357
11/10/2021	Frac Tank	20211110-B36-496-PH05-SSW@2.5	22.1	0.0868	22.0	NA	<0.00100	0.00318	<0.00250	0.00523	NA	NA	0.00358	<0.00600	0.0166	0.0254	0.0755	0.0160	0.0190	0.0147	0.0147	0.00378
11/10/2021	Frac Tank	20211110-B36-496-PH05-WC	81.73	0.132	81.60	NA	0.000675	0.00428	0.000975	0.00420	NA	NA	<0.00600	0.00683	0.0545	0.0696	0.245	0.0493	0.0776	0.0362	0.0723	0.00658
11/10/2021	Frac Tank	20211110-B36-496-PH05-WSW@2.5	6.06	0.0287	6.03	NA	<0.00100	<0.00500	<0.00250	<0.00650	NA	NA	<0.00600	<0.00600	0.00295	0.00432	0.0139	0.00370	0.00375	0.00285	0.00361	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH12-BASE@5'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-BASE@5'	12.5	0.0305	12.5	NA	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW2@3'	6.12	0.0277	6.09	NA	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	0.00257	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW3@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW4@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-NSW@3'	59.6	1.36	58.2	NA	0.000675	0.00347	0.00185	0.00862	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW@3'	5.2	0.0275	5.17	NA	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW2@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW3@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW4@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-WSW@3'	9.34	0.0293	9.31	NA	<0.00100	<0.00500	<0.00250	<0.00650	<0.00500	<0.00500	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
11/10/2021	Frac Tank	20211110-B36-496-PH12-WSW2@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-WSW3@3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/7/2021	Background	20211007-B36-496(BGS@1.5')	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/7/2021	Background	20211007-B36-496(BGS_2@2')	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/7/2021	Background	20211007-B36-496(BGSW@3')	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Confluence Compliance Companies, LLC
info@confluence-cc.com

Yellow Fill = Exceedance
Dark Gray Italics = Below Reporting Detection Limit (RDL)
"NA" = Not Analyzed
mg/kg = milligrams per kilogram / parts per million

CONFLUENCE

Laboratory Results Summary Table - Soil
B36 496

1/3/2022

Soil Screening and Remediation Limits								Soil Suitability for Reclamation				Metals (mg/kg [ppm])												
COGCC Table 910-1 Allowable Concentration -->			0.22	NA	NA	23	1000	4	12	6-9	2	0.39	15000	70	120000	23	NA	3100	400	23	1600	390	390	23000
Sample Date	Solid/Soil Source (Equipment) [Vault/Sump, Separator, Tank Battery, Dump Line, Pit, Cuttings, Background, etc.]	Sample ID	Indeno(1,2,3,C,D)pyrene	1- Methylnaphthalene	2- Methylnaphthalene	Naphthalene	Pyrene	EC (Specific Conductance) (millimhos/centimeter) (by saturated paste method)	SAR (Sodium Adsorption Ratio) (calculation) (by saturated paste method)	pH (pH Units) (by saturated paste method)	Boron - Hot Water Soluble (mg/L)	Arsenic	Barium	Cadmium (mg/kg)	Chromium (III)	Chromium (VI)	Chromium (Total)	Copper	Lead	Mercury (Total Mercury by EPA 7471)	Nickel	Selenium	Silver	Zinc
9/8/2021	Frac Tank	20210908 - B36 (PH01@12")	0.00300	<0.0200	<0.0200	<0.0200	<0.00600	0.146	0.881	8.45	NA	3.21	816	0.407	33.7	<2.00	33.7	18.5	13.7	0.0600	24.9	1.64	<1.00	47.2
9/8/2021	Frac Tank	20210908 - B36 (PH02@8")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.595	7.88	8.82	NA	2.24	1030	0.311	32.9	<2.00	32.9	16.4	13.9	0.0294	19.9	0.874	<1.00	43.8
9/8/2021	Frac Tank	20210908 - B36 (PH03@12")	0.0194	0.0277	0.0412	0.0198	0.00485	0.202	1.24	8.19	NA	2.53	3300	0.0720	32.0	<2.00	32.0	18.5	13.4	0.0576	20.4	1.75	<1.00	46.2
9/8/2021	Frac Tank	20210908 - B36 (PH04@7")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.734	4.32	8.44	NA	3.88	618	0.424	40.0	<2.00	40.0	16.1	15.7	0.0245	33.2	2.04	<1.00	49.8
9/8/2021	Frac Tank	20210908 - B36 (PH05@22")	0.0846	0.0390	0.0553	0.0260	0.0230	0.253	1.71	8.57	NA	2.74	5790	<0.500	22.8	<2.00	22.8	14.7	9.28	0.0221	15.1	1.27	<1.00	34.6
9/8/2021	Frac Tank	20210908 - B36 (PH06@9")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.256	0.485	7.06	NA	2.91	371	0.248	41.7	<2.00	41.7	13.5	13.6	0.0208	24.3	0.862	<1.00	47.7
9/8/2021	Frac Tank	20210908 - B36 (PH07@24")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.371	1.23	8.12	NA	2.43	712	0.316	44.2	<2.00	44.2	15.0	14.1	<0.0400	25.5	1.20	<1.00	46.3
9/8/2021	Frac Tank	20210908 - B36 (PH08@12")	0.00798	<0.0200	0.00569	<0.0200	0.00941	0.415	2.58	8.34	NA	3.07	1060	0.296	49.3	<2.00	49.3	17.9	13.1	0.0183	26.4	0.791	<1.00	54.8
9/8/2021	Frac Tank	20210908 - B36 (PH09@16")	0.00845	<0.0200	0.00427	<0.0200	0.00623	0.703	3.82	8.04	NA	3.09	1470	0.357	35.4	<2.00	35.4	38.9	18.7	0.0229	21.9	2.04	<1.00	50.7
9/8/2021	Frac Tank	20210908 - B36 (PH10@10")	0.0214	0.00554	0.00989	0.00565	0.0110	0.550	4.62	8.45	NA	3.47	9570	<0.500	32.8	<2.00	32.8	76.1	13.7	0.0225	21.4	<2.00	<1.00	65.5
9/8/2021	Frac Tank	20210908 - B36 (PH11@8")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.202	1.88	>13	NA	2.48	852	0.378	38.8	<2.00	38.8	16.5	12.9	0.0543	22.9	<2.00	<1.00	49.4
9/8/2021	Frac Tank	20210908 - B36 (PH12@8")	0.00400	<0.0200	<0.0200	<0.0200	<0.00600	1.130	13.2	8.75	NA	3.13	1540	0.282	39.9	<2.00	39.9	19.8	14.4	<0.0400	24.9	<2.00	<1.00	47.9
10/7/2021	Frac Tank	20211007-B36-496-PH05(BASE@24")	0.0560	0.109	0.145	0.0643	0.0217	0.266	1.68	8.78	0.803	6.60	4200	<0.500	NA	<1.00	<1.00	18.7	12.8	NA	18.4	1.41	<1.00	34.6
10/7/2021	Frac Tank	20211007-B36-496-PH05(NEWALL@12")	0.0696	0.0327	0.0481	0.0225	0.0235	0.284	1.82	8.82	0.785	3.59	6770	<0.500	NA	<1.00	<1.00	17.2	13.1	NA	17.2	2.23	<1.00	37.8
10/7/2021	Frac Tank	20211007-B36-496-PH05(NWWALL@12")	0.0446	0.0305	0.0424	0.0203	0.0123	0.334	2.29	8.96	1.03	2.28	4640	<0.500	NA	<1.00	<1.00	17.1	11.1	NA	19.9	1.36	<1.00	39.8
10/7/2021	Frac Tank	20211007-B36-496-PH05(SWALL@12")	0.0393	0.0219	0.0303	0.0140	0.0112	0.315	2.26	8.70	1.08	2.70	4520	<0.500	NA	<1.00	<1.00	15.3	10.0	NA	16.9	1.76	<1.00	34.1
10/7/2021	Frac Tank	20211007-B36-496-PH11(BASE@16")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.189	1.17	8.60	0.0737	2.85	277	0.427	NA	<1.00	<1.00	14.0	13.3	NA	23.7	2.08	<1.00	41.0
10/7/2021	Frac Tank	20211007-B36-496-PH11(NWALL@8")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.229	1.73	8.63	0.107	2.57	633	0.308	NA	<1.00	<1.00	16.2	12.6	NA	20.6	2.87	<1.00	40.8
10/7/2021	Frac Tank	20211007-B36-496-PH11(SEWALL@8")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.267	1.55	8.63	0.0817	2.60	579	0.374	NA	<1.00	<1.00	16.6	12.8	NA	23.2	1.34	<1.00	43.3
10/7/2021	Frac Tank	20211007-B36-496-PH11(SWWALL@8")	<0.00600	<0.0200	<0.0200	0.00484	<0.00600	0.188	1.21	8.52	0.0860	2.14	1510	0.205	NA	<1.00	<1.00	14.5	14.9	NA	23.5	2.39	<1.00	44.9
10/7/2021	Frac Tank	20211007-B36-496-PH12(BASE@19")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	1.320	18.3	9.04	0.158	2.49	601	0.408	NA	0.390	0.390	18.9	14	NA	24.2	1.85	<1.00	46.0
10/7/2021	Frac Tank	20211007-B36-496-PH12(NWALL@9")	0.00192	<0.0200	<0.0200	<0.0200	<0.00600	0.818	12.1	8.75	0.139	3.15	927	0.243	NA	<1.00	<1.00	14.8	11.7	NA	26.1	2.1	<1.00	41.7
10/7/2021	Frac Tank	20211007-B36-496-PH12(SEWALL@9")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	1.270	14.6	8.92	0.149	2.29	340	0.395	NA	0.261	0.261	20.3	15.6	NA	23.9	1.17	<1.00	45.6
10/7/2021	Frac Tank	20211007-B36-496-PH12(SWWALL@9")	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	1.190	19.6	8.95	0.215	1.79	303	0.495	NA	<1.00	<1.00	33.1	25.1	NA	41.3	2.34	<1.00	48.6
11/10/2021	Frac Tank	20211110-B36-496-PH05-BASE@4'	0.0130	0.00821	0.0140	0.00696	0.00364	0.220	1.60	8.81	0.451	2.57	2340	0.132	36.0	<2.00	36.0	18.8	15.5	0.0263	20.8	<2.00	<1.00	46.4
11/10/2021	Frac Tank	20211110-B36-496-PH05-ESW@2.5	0.167	0.0261	0.0357	0.0172	0.0210	0.274	2.08	8.63	1.39	3.24	4340	<0.500	29.3	<2.00	29.3	17.6	13.7	0.0250	20.7	<2.00	<1.00	42.9
11/10/2021	Frac Tank	20211110-B36-496-PH05-NSW@2.5	0.0258	0.0206	0.0306	0.0149	0.0112	0.213	1.58	8.54	1.01	3.09	2830	0.0669	29.8	<2.00	29.8	17.6	13.3	0.0335	19.4	<2.00	<1.00	42.5
11/10/2021	Frac Tank	20211110-B36-496-PH05-SSW@2.5	0.0337	0.176	0.221	0.0988	0.0103	0.208	1.88	8.70	1.06	4.15	3770	0.0777	32.8	0.760	33.6	17.4	14.0	0.0271	20.6	1.74	<1.00	43.1
11/10/2021	Frac Tank	20211110-B36-496-PH05-WC	0.0846	0.0805	0.116	0.0547	0.0504	0.439	2.48	8.70	1.27	3.41	11000	<0.500	19.9	<2.0	19.9	17.3	9.46	0.0198	13.4	<2.00	<1.00	36.1
11/10/2021	Frac Tank	20211110-B36-496-PH05-WSW@2.5	0.00670	<0.0200	0.00461	<0.0200	0.00223	0.181	1.17	8.81	0.368	1.96	879	0.288	27.6	<2.00	27.6	16.9	11.9	0.0294	20.2	1.09	<1.00	37.0
11/10/2021	Frac Tank	20211110-B36-496-PH12-BASE@5'	NA	NA	NA	NA	NA	NA	4.96	8.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-BASE@5'	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.764	NA	NA	0.407	5.39	345	0.363	33.3	<2.00	33.3	13.7	14.4	0.0309	20.6	<2.00	<1.00	39.1
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW@3'	NA	NA	NA	NA	NA	NA	21.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW2@3'	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	1.340	11.2	8.61	0.166	3.05	646	0.317	31.4	<2.00	31.4	15.0	16.5	0.0321	18.5	<2.00	<1.00	35.9
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW3@3'	NA	NA	NA	NA	NA	NA	10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-ESW4@3'	NA	NA	NA	NA	NA	NA	8.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-NSW@3'	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.783	6.76	8.45	0.146	3.53	974	0.309	29.9	<2.00	29.9	40.9	20.5	0.0339	22.5	<2.00	<1.00	42.1
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW@3'	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.518	6.02	8.61	0.152	3.48	590	0.291	32.2	<2.00	32.2	15.1	16.8	0.0349	19.4	<2.00	<1.00	38.6
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW2@3'	NA	NA	NA	NA	NA	NA	8.88	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW3@3'	NA	NA	NA	NA	NA	NA	8.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-SSW4@3'	NA	NA	NA	NA	NA	NA	3.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-WSW@3'	<0.00600	<0.0200	<0.0200	<0.0200	<0.00600	0.712	5.83	8.52	0.130	3.57	499	0.378	27.9	<2.00	27.9	15.8	16.6	0.0404	21.8	<2.00	<1.00	35.3
11/10/2021	Frac Tank	20211110-B36-496-PH12-WSW2@3'	NA	NA	NA	NA	NA	NA	5.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/10/2021	Frac Tank	20211110-B36-496-PH12-WSW3@3'	NA	NA	NA	NA	NA	NA	7.52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/7/2021	Background	20211007-B36-496(BGS@1.5')	NA	NA	NA	NA	NA	0.148	0.122	8.05	NA	5.71	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/7/2021	Background	20211007-B36-496(BGS_2@2')	NA	NA	NA	NA	NA	0.151	0.201	7.35	NA	3.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/7/2021	Background	20211007-B36-496(BGSW@3')	NA	NA	NA	NA	NA	0.192	0.147	7.97	NA	4.52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Confluence Compliance Companies, LLC
info@confluence-cc.com

Yellow Fill = Exceedance
Dark Gray Italics = Below Reporting Detection Limit (RDL)
"NA" = Not Analyzed
mg/kg = milligrams per kilogram / parts per million

ANALYTICAL REPORT

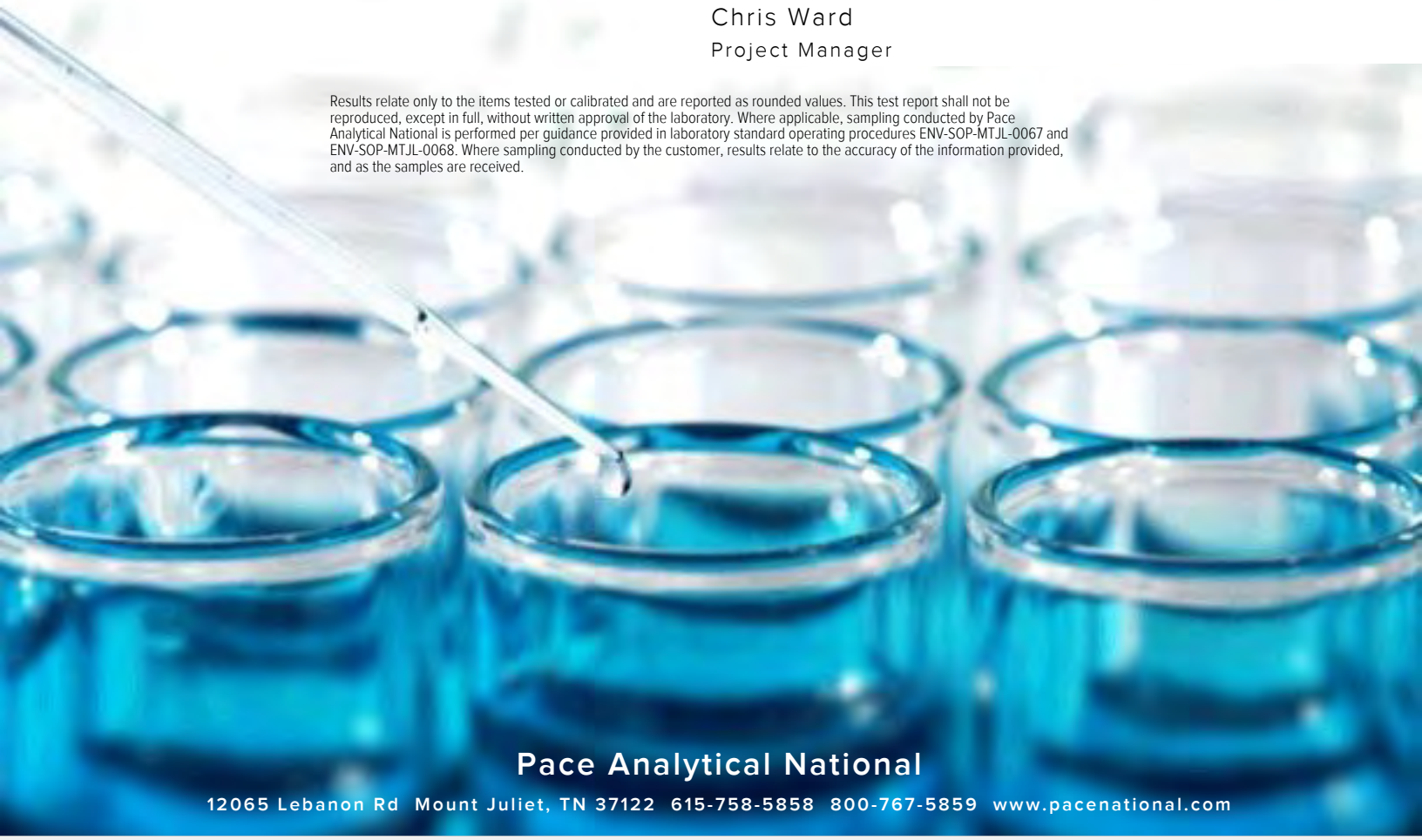
September 20, 2021

Caerus Oil and Gas

Sample Delivery Group:	L1401867
Samples Received:	09/10/2021
Project Number:	
Description:	B36 Historical
Site:	B36
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20210908-B36(PH01@12") L1401867-01 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 14:00 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 21:59	09/16/21 21:59	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 20:59	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:13	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1738858	1	09/12/21 12:00	09/12/21 16:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:15	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 20:59	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:38	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 02:44	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 17:51	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 14:50	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 08:48	AAT	Mt. Juliet, TN

20210908-B36(PH02@8") L1401867-02 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 14:10 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:02	09/16/21 22:02	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:02	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:13	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:18	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:02	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:42	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 03:05	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 18:10	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 13:00	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 09:08	AAT	Mt. Juliet, TN

20210908-B36(PH03@12") L1401867-03 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 14:20 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:05	09/16/21 22:05	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:04	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:14	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:20	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:04	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:45	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 03:27	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 18:29	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 15:45	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 15:26	AAT	Mt. Juliet, TN

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

20210908-B36(PH04@7") L1401867-04 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 14:30 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:07	09/16/21 22:07	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:07	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:14	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:23	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:07	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:48	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 03:48	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 18:48	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 13:14	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 09:28	AAT	Mt. Juliet, TN

20210908-B36(PH05@22") L1401867-05 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 14:40 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:10	09/16/21 22:10	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:15	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:15	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:25	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:15	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	5	09/12/21 17:21	09/17/21 11:20	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:52	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 04:10	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 19:07	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	20	09/14/21 05:25	09/14/21 16:54	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 15:46	AAT	Mt. Juliet, TN

20210908-B36(PH06@9") L1401867-06 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 14:50 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:13	09/16/21 22:13	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:18	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:16	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:33	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:18	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:55	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 04:31	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 19:26	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 12:46	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 09:48	AAT	Mt. Juliet, TN

20210908-B36(PH07@24") L1401867-07 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 15:05 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:15	09/16/21 22:15	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:21	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:16	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:35	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:21	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 21:58	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 04:53	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740113	1	09/14/21 11:02	09/14/21 19:45	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 18:33	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 10:48	AAT	Mt. Juliet, TN

20210908-B36(PH08@12") L1401867-08 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 15:15 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:18	09/16/21 22:18	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:23	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:17	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740122	1	09/15/21 13:00	09/15/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:38	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:23	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 22:02	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 05:14	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740734	1	09/14/21 11:02	09/15/21 16:08	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 14:36	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 11:08	AAT	Mt. Juliet, TN

20210908-B36(PH09@16") L1401867-09 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 15:25 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:21	09/16/21 22:21	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:26	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:22	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1741187	1	09/16/21 07:00	09/16/21 10:00	MRM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:40	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:26	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 22:22	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 05:36	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740734	1	09/14/21 11:02	09/15/21 16:27	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 15:59	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 11:27	AAT	Mt. Juliet, TN

20210908-B36(PH10@10") L1401867-10 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 15:35 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:29	09/16/21 22:29	CCE	Mt. Juliet, TN
Calculated Results	WG1738664	1	09/12/21 17:21	09/16/21 21:29	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:26	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1741187	1	09/16/21 07:00	09/16/21 10:00	MRM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:43	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	1	09/12/21 17:21	09/16/21 21:29	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738664	5	09/12/21 17:21	09/17/21 11:22	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 22:25	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 05:58	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740734	1	09/14/21 11:02	09/15/21 16:46	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 16:40	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 11:47	AAT	Mt. Juliet, TN

20210908-B36(PH11@8") L1401867-11 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 15:45 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:31	09/16/21 22:31	CCE	Mt. Juliet, TN
Calculated Results	WG1738982	1	09/13/21 06:11	09/17/21 02:14	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:27	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1740229	1	09/14/21 22:00	09/14/21 22:45	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:46	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738982	1	09/13/21 06:11	09/17/21 02:14	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 22:29	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 06:19	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740749	1	09/14/21 11:02	09/15/21 16:28	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 15:04	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 12:07	AAT	Mt. Juliet, TN

20210908-B36(PH12@8") L1401867-12 Solid

Collected by: Andrew Smith | Collected date/time: 09/08/21 15:55 | Received date/time: 09/10/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1738914	1	09/16/21 22:34	09/16/21 22:34	CCE	Mt. Juliet, TN
Calculated Results	WG1738982	1	09/13/21 06:11	09/17/21 02:17	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1739468	1	09/13/21 18:00	09/14/21 21:31	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1741187	1	09/16/21 07:00	09/16/21 10:00	MRM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1739083	1	09/14/21 16:00	09/14/21 18:00	BMD	Mt. Juliet, TN
Mercury by Method 7471A	WG1738679	1	09/11/21 12:28	09/13/21 10:48	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1738982	1	09/13/21 06:11	09/17/21 02:17	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1739972	5	09/15/21 06:37	09/15/21 22:32	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1740290	1	09/14/21 11:02	09/16/21 06:41	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1740749	1	09/14/21 11:02	09/15/21 16:47	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1739557	1	09/14/21 05:25	09/14/21 15:17	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1739556	1	09/14/21 22:53	09/15/21 12:27	AAT	Mt. Juliet, TN

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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.881		1	09/16/2021 21:59	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	33.7		0.133	1.00	1	09/16/2021 20:59	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:13	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.45	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-01 WG1740122: 8.45 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	146		10.0	1	09/12/2021 16:00	WG1738858

Sample Narrative:

L1401867-01 WG1738858: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0600		0.0180	0.0400	1	09/13/2021 10:15	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	816		0.0852	0.500	1	09/16/2021 20:59	WG1738664
Cadmium	0.407	J	0.0471	0.500	1	09/16/2021 20:59	WG1738664
Chromium	33.7		0.133	1.00	1	09/16/2021 20:59	WG1738664
Copper	18.5		0.400	2.00	1	09/16/2021 20:59	WG1738664
Lead	13.7		0.208	0.500	1	09/16/2021 20:59	WG1738664
Nickel	24.9		0.132	2.00	1	09/16/2021 20:59	WG1738664
Selenium	1.64	J	0.764	2.00	1	09/16/2021 20:59	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 20:59	WG1738664
Zinc	47.2		0.832	5.00	1	09/16/2021 20:59	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.21		0.100	1.00	5	09/15/2021 21:38	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0251	J	0.0217	0.100	1	09/16/2021 02:44	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*09/16/2021 02:44*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/14/2021 17:51	WG1740113
Toluene	U		0.00130	0.00500	1	09/14/2021 17:51	WG1740113
Ethylbenzene	U		0.000737	0.00250	1	09/14/2021 17:51	WG1740113
Total Xylenes	0.00205	J	0.000880	0.00650	1	09/14/2021 17:51	WG1740113
(S) Toluene-d8	*100*			*75.0-131*		*09/14/2021 17:51*	WG1740113
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*09/14/2021 17:51*	WG1740113
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*09/14/2021 17:51*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.78		0.769	4.00	1	09/14/2021 14:50	WG1739557
(S) o-Terphenyl	*46.4*			*18.0-148*		*09/14/2021 14:50*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 08:48	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 08:48	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 08:48	WG1739556
Benzo(a)anthracene	U		0.00173	0.00600	1	09/15/2021 08:48	WG1739556
Benzo(a)pyrene	U		0.00179	0.00600	1	09/15/2021 08:48	WG1739556
Benzo(b)fluoranthene	0.00661		0.00153	0.00600	1	09/15/2021 08:48	WG1739556
Benzo(g,h,i)perylene	0.00335	J	0.00177	0.00600	1	09/15/2021 08:48	WG1739556
Benzo(k)fluoranthene	U		0.00215	0.00600	1	09/15/2021 08:48	WG1739556
Chrysene	U		0.00232	0.00600	1	09/15/2021 08:48	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 08:48	WG1739556
Fluoranthene	U		0.00227	0.00600	1	09/15/2021 08:48	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 08:48	WG1739556
Indeno(1,2,3-cd)pyrene	0.00300	J	0.00181	0.00600	1	09/15/2021 08:48	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 08:48	WG1739556
Phenanthrene	0.00237	J	0.00231	0.00600	1	09/15/2021 08:48	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 08:48	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 08:48	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 08:48	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 08:48	WG1739556
(S) p-Terphenyl-d14	*92.6*			*23.0-120*		*09/15/2021 08:48*	WG1739556
(S) Nitrobenzene-d5	*71.5*			*14.0-149*		*09/15/2021 08:48*	WG1739556
(S) 2-Fluorobiphenyl	*77.7*			*34.0-125*		*09/15/2021 08:48*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	7.88		1	09/16/2021 22:02	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	32.9		0.133	1.00	1	09/16/2021 21:02	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:13	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.82	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-02 WG1740122: 8.82 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	595		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-02 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0294	J	0.0180	0.0400	1	09/13/2021 10:18	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	1030		0.0852	0.500	1	09/16/2021 21:02	WG1738664
Cadmium	0.311	J	0.0471	0.500	1	09/16/2021 21:02	WG1738664
Chromium	32.9		0.133	1.00	1	09/16/2021 21:02	WG1738664
Copper	16.4		0.400	2.00	1	09/16/2021 21:02	WG1738664
Lead	13.9		0.208	0.500	1	09/16/2021 21:02	WG1738664
Nickel	19.9		0.132	2.00	1	09/16/2021 21:02	WG1738664
Selenium	0.874	J	0.764	2.00	1	09/16/2021 21:02	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:02	WG1738664
Zinc	43.8		0.832	5.00	1	09/16/2021 21:02	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.24		0.100	1.00	5	09/15/2021 21:42	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 03:05	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*		*09/16/2021 03:05*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/14/2021 18:10	WG1740113
Toluene	U		0.00130	0.00500	1	09/14/2021 18:10	WG1740113
Ethylbenzene	U		0.000737	0.00250	1	09/14/2021 18:10	WG1740113
Total Xylenes	0.00147	J	0.000880	0.00650	1	09/14/2021 18:10	WG1740113
(S) Toluene-d8	*101*			*75.0-131*		*09/14/2021 18:10*	WG1740113
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/14/2021 18:10*	WG1740113
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*09/14/2021 18:10*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.76	J	0.769	4.00	1	09/14/2021 13:00	WG1739557
(S) o-Terphenyl	*43.7*			*18.0-148*		*09/14/2021 13:00*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 09:08	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 09:08	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 09:08	WG1739556
Benzo(a)anthracene	U		0.00173	0.00600	1	09/15/2021 09:08	WG1739556
Benzo(a)pyrene	U		0.00179	0.00600	1	09/15/2021 09:08	WG1739556
Benzo(b)fluoranthene	U		0.00153	0.00600	1	09/15/2021 09:08	WG1739556
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	09/15/2021 09:08	WG1739556
Benzo(k)fluoranthene	U		0.00215	0.00600	1	09/15/2021 09:08	WG1739556
Chrysene	U		0.00232	0.00600	1	09/15/2021 09:08	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 09:08	WG1739556
Fluoranthene	U		0.00227	0.00600	1	09/15/2021 09:08	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 09:08	WG1739556
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	09/15/2021 09:08	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 09:08	WG1739556
Phenanthrene	U		0.00231	0.00600	1	09/15/2021 09:08	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 09:08	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 09:08	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 09:08	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 09:08	WG1739556
(S) p-Terphenyl-d14	*86.4*			*23.0-120*		*09/15/2021 09:08*	WG1739556
(S) Nitrobenzene-d5	*70.2*			*14.0-149*		*09/15/2021 09:08*	WG1739556
(S) 2-Fluorobiphenyl	*74.8*			*34.0-125*		*09/15/2021 09:08*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.24		1	09/16/2021 22:05	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	32.0		0.133	1.00	1	09/16/2021 21:04	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:14	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.19	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-03 WG1740122: 8.19 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	202		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-03 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0576		0.0180	0.0400	1	09/13/2021 10:20	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	3300		0.0852	0.500	1	09/16/2021 21:04	WG1738664
Cadmium	0.0720	J	0.0471	0.500	1	09/16/2021 21:04	WG1738664
Chromium	32.0		0.133	1.00	1	09/16/2021 21:04	WG1738664
Copper	18.5		0.400	2.00	1	09/16/2021 21:04	WG1738664
Lead	13.4		0.208	0.500	1	09/16/2021 21:04	WG1738664
Nickel	20.4		0.132	2.00	1	09/16/2021 21:04	WG1738664
Selenium	1.75	J	0.764	2.00	1	09/16/2021 21:04	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:04	WG1738664
Zinc	46.2		0.832	5.00	1	09/16/2021 21:04	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.53		0.100	1.00	5	09/15/2021 21:45	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0357	J	0.0217	0.100	1	09/16/2021 03:27	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*09/16/2021 03:27*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/14/2021 18:29	WG1740113
Toluene	0.00200	J	0.00130	0.00500	1	09/14/2021 18:29	WG1740113
Ethylbenzene	U		0.000737	0.00250	1	09/14/2021 18:29	WG1740113
Total Xylenes	0.00527	J	0.000880	0.00650	1	09/14/2021 18:29	WG1740113
(S) Toluene-d8	*101*			*75.0-131*		*09/14/2021 18:29*	WG1740113
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/14/2021 18:29*	WG1740113
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*09/14/2021 18:29*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	11.7		0.769	4.00	1	09/14/2021 15:45	WG1739557
(S) o-Terphenyl	*34.3*			*18.0-148*		*09/14/2021 15:45*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 15:26	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 15:26	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 15:26	WG1739556
Benzo(a)anthracene	0.0101		0.00173	0.00600	1	09/15/2021 15:26	WG1739556
Benzo(a)pyrene	0.0131		0.00179	0.00600	1	09/15/2021 15:26	WG1739556
Benzo(b)fluoranthene	0.0422		0.00153	0.00600	1	09/15/2021 15:26	WG1739556
Benzo(g,h,i)perylene	0.0232		0.00177	0.00600	1	09/15/2021 15:26	WG1739556
Benzo(k)fluoranthene	0.00903		0.00215	0.00600	1	09/15/2021 15:26	WG1739556
Chrysene	0.0112		0.00232	0.00600	1	09/15/2021 15:26	WG1739556
Dibenz(a,h)anthracene	0.00654		0.00172	0.00600	1	09/15/2021 15:26	WG1739556
Fluoranthene	0.00911		0.00227	0.00600	1	09/15/2021 15:26	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 15:26	WG1739556
Indeno(1,2,3-cd)pyrene	0.0194		0.00181	0.00600	1	09/15/2021 15:26	WG1739556
Naphthalene	0.0198	J	0.00408	0.0200	1	09/15/2021 15:26	WG1739556
Phenanthrene	0.0179		0.00231	0.00600	1	09/15/2021 15:26	WG1739556
Pyrene	0.00485	J	0.00200	0.00600	1	09/15/2021 15:26	WG1739556
1-Methylnaphthalene	0.0277		0.00449	0.0200	1	09/15/2021 15:26	WG1739556
2-Methylnaphthalene	0.0412		0.00427	0.0200	1	09/15/2021 15:26	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 15:26	WG1739556
(S) p-Terphenyl-d14	*100*			*23.0-120*		*09/15/2021 15:26*	WG1739556
(S) Nitrobenzene-d5	*81.9*			*14.0-149*		*09/15/2021 15:26*	WG1739556
(S) 2-Fluorobiphenyl	*82.4*			*34.0-125*		*09/15/2021 15:26*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.32		1	09/16/2021 22:07	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	40.0		0.133	1.00	1	09/16/2021 21:07	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:14	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.44	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-04 WG1740122: 8.44 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	734		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-04 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0245	J	0.0180	0.0400	1	09/13/2021 10:23	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	618		0.0852	0.500	1	09/16/2021 21:07	WG1738664
Cadmium	0.424	J	0.0471	0.500	1	09/16/2021 21:07	WG1738664
Chromium	40.0		0.133	1.00	1	09/16/2021 21:07	WG1738664
Copper	16.1		0.400	2.00	1	09/16/2021 21:07	WG1738664
Lead	15.7		0.208	0.500	1	09/16/2021 21:07	WG1738664
Nickel	33.2		0.132	2.00	1	09/16/2021 21:07	WG1738664
Selenium	2.04		0.764	2.00	1	09/16/2021 21:07	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:07	WG1738664
Zinc	49.8		0.832	5.00	1	09/16/2021 21:07	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.88		0.100	1.00	5	09/15/2021 21:48	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 03:48	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*109*			*77.0-120*		*09/16/2021 03:48*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/14/2021 18:48	WG1740113
Toluene	U		0.00130	0.00500	1	09/14/2021 18:48	WG1740113
Ethylbenzene	U		0.000737	0.00250	1	09/14/2021 18:48	WG1740113
Total Xylenes	0.00107	J	0.000880	0.00650	1	09/14/2021 18:48	WG1740113
(S) Toluene-d8	*100*			*75.0-131*		*09/14/2021 18:48*	WG1740113
(S) 4-Bromofluorobenzene	*104*			*67.0-138*		*09/14/2021 18:48*	WG1740113
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*09/14/2021 18:48*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	3.59	J	0.769	4.00	1	09/14/2021 13:14	WG1739557
(S) o-Terphenyl	*48.0*			*18.0-148*		*09/14/2021 13:14*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 09:28	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 09:28	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 09:28	WG1739556
Benzo(a)anthracene	U		0.00173	0.00600	1	09/15/2021 09:28	WG1739556
Benzo(a)pyrene	U		0.00179	0.00600	1	09/15/2021 09:28	WG1739556
Benzo(b)fluoranthene	U		0.00153	0.00600	1	09/15/2021 09:28	WG1739556
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	09/15/2021 09:28	WG1739556
Benzo(k)fluoranthene	U		0.00215	0.00600	1	09/15/2021 09:28	WG1739556
Chrysene	U		0.00232	0.00600	1	09/15/2021 09:28	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 09:28	WG1739556
Fluoranthene	U		0.00227	0.00600	1	09/15/2021 09:28	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 09:28	WG1739556
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	09/15/2021 09:28	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 09:28	WG1739556
Phenanthrene	U		0.00231	0.00600	1	09/15/2021 09:28	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 09:28	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 09:28	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 09:28	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 09:28	WG1739556
(S) p-Terphenyl-d14	*84.0*			*23.0-120*		*09/15/2021 09:28*	WG1739556
(S) Nitrobenzene-d5	*68.4*			*14.0-149*		*09/15/2021 09:28*	WG1739556
(S) 2-Fluorobiphenyl	*70.7*			*34.0-125*		*09/15/2021 09:28*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.71		1	09/16/2021 22:10	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	22.8		0.133	1.00	1	09/16/2021 21:15	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:15	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.57	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-05 WG1740122: 8.57 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	253		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-05 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0221	J	0.0180	0.0400	1	09/13/2021 10:25	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	5790		0.426	2.50	5	09/17/2021 11:20	WG1738664
Cadmium	U		0.0471	0.500	1	09/16/2021 21:15	WG1738664
Chromium	22.8		0.133	1.00	1	09/16/2021 21:15	WG1738664
Copper	14.7		0.400	2.00	1	09/16/2021 21:15	WG1738664
Lead	9.28		0.208	0.500	1	09/16/2021 21:15	WG1738664
Nickel	15.1		0.132	2.00	1	09/16/2021 21:15	WG1738664
Selenium	1.27	J	0.764	2.00	1	09/16/2021 21:15	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:15	WG1738664
Zinc	34.6		0.832	5.00	1	09/16/2021 21:15	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.74		0.100	1.00	5	09/15/2021 21:52	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.109		0.0217	0.100	1	09/16/2021 04:10	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*		*09/16/2021 04:10*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000725	J	0.000467	0.00100	1	09/14/2021 19:07	WG1740113
Toluene	0.0112		0.00130	0.00500	1	09/14/2021 19:07	WG1740113
Ethylbenzene	0.00133	J	0.000737	0.00250	1	09/14/2021 19:07	WG1740113
Total Xylenes	0.0251		0.000880	0.00650	1	09/14/2021 19:07	WG1740113
(S) Toluene-d8	*100*			*75.0-131*		*09/14/2021 19:07*	WG1740113
(S) 4-Bromofluorobenzene	*106*			*67.0-138*		*09/14/2021 19:07*	WG1740113
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*09/14/2021 19:07*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	53.2	J	15.4	80.0	20	09/14/2021 16:54	WG1739557
(S) o-Terphenyl	*45.5*	J7		*18.0-148*		*09/14/2021 16:54*	WG1739557

Sample Narrative:

L1401867-05 WG1739557: Cannot run at lower dilution due to viscosity of extract

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00549	J	0.00230	0.00600	1	09/15/2021 15:46	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 15:46	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 15:46	WG1739556
Benzo(a)anthracene	0.0449		0.00173	0.00600	1	09/15/2021 15:46	WG1739556
Benzo(a)pyrene	0.0702		0.00179	0.00600	1	09/15/2021 15:46	WG1739556
Benzo(b)fluoranthene	0.190		0.00153	0.00600	1	09/15/2021 15:46	WG1739556
Benzo(g,h,i)perylene	0.0940		0.00177	0.00600	1	09/15/2021 15:46	WG1739556
Benzo(k)fluoranthene	0.0448		0.00215	0.00600	1	09/15/2021 15:46	WG1739556
Chrysene	0.0490		0.00232	0.00600	1	09/15/2021 15:46	WG1739556
Dibenz(a,h)anthracene	0.0298		0.00172	0.00600	1	09/15/2021 15:46	WG1739556
Fluoranthene	0.0426		0.00227	0.00600	1	09/15/2021 15:46	WG1739556
Fluorene	0.00259	J	0.00205	0.00600	1	09/15/2021 15:46	WG1739556
Indeno(1,2,3-cd)pyrene	0.0846		0.00181	0.00600	1	09/15/2021 15:46	WG1739556
Naphthalene	0.0260		0.00408	0.0200	1	09/15/2021 15:46	WG1739556
Phenanthrene	0.0437		0.00231	0.00600	1	09/15/2021 15:46	WG1739556
Pyrene	0.0230		0.00200	0.00600	1	09/15/2021 15:46	WG1739556
1-Methylnaphthalene	0.0390		0.00449	0.0200	1	09/15/2021 15:46	WG1739556
2-Methylnaphthalene	0.0553		0.00427	0.0200	1	09/15/2021 15:46	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 15:46	WG1739556
(S) p-Terphenyl-d14	*95.1*			*23.0-120*		*09/15/2021 15:46*	WG1739556
(S) Nitrobenzene-d5	*80.5*			*14.0-149*		*09/15/2021 15:46*	WG1739556
(S) 2-Fluorobiphenyl	*80.3*			*34.0-125*		*09/15/2021 15:46*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.485		1	09/16/2021 22:13	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	41.7		0.133	1.00	1	09/16/2021 21:18	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:16	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.06	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-06 WG1740122: 7.06 at 20.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	256		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-06 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0208	J	0.0180	0.0400	1	09/13/2021 10:33	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	371		0.0852	0.500	1	09/16/2021 21:18	WG1738664
Cadmium	0.248	J	0.0471	0.500	1	09/16/2021 21:18	WG1738664
Chromium	41.7		0.133	1.00	1	09/16/2021 21:18	WG1738664
Copper	13.5		0.400	2.00	1	09/16/2021 21:18	WG1738664
Lead	13.6		0.208	0.500	1	09/16/2021 21:18	WG1738664
Nickel	24.3		0.132	2.00	1	09/16/2021 21:18	WG1738664
Selenium	0.862	J	0.764	2.00	1	09/16/2021 21:18	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:18	WG1738664
Zinc	47.7		0.832	5.00	1	09/16/2021 21:18	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.91		0.100	1.00	5	09/15/2021 21:55	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 04:31	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*		*09/16/2021 04:31*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/14/2021 19:26	WG1740113
Toluene	U		0.00130	0.00500	1	09/14/2021 19:26	WG1740113
Ethylbenzene	U		0.000737	0.00250	1	09/14/2021 19:26	WG1740113
Total Xylenes	0.000925	J	0.000880	0.00650	1	09/14/2021 19:26	WG1740113
(S) Toluene-d8	*104*			*75.0-131*		*09/14/2021 19:26*	WG1740113
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*09/14/2021 19:26*	WG1740113
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*09/14/2021 19:26*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.85	J	0.769	4.00	1	09/14/2021 12:46	WG1739557
(S) o-Terphenyl	*46.5*			*18.0-148*		*09/14/2021 12:46*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 09:48	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 09:48	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 09:48	WG1739556
Benzo(a)anthracene	U		0.00173	0.00600	1	09/15/2021 09:48	WG1739556
Benzo(a)pyrene	U		0.00179	0.00600	1	09/15/2021 09:48	WG1739556
Benzo(b)fluoranthene	U		0.00153	0.00600	1	09/15/2021 09:48	WG1739556
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	09/15/2021 09:48	WG1739556
Benzo(k)fluoranthene	U		0.00215	0.00600	1	09/15/2021 09:48	WG1739556
Chrysene	U		0.00232	0.00600	1	09/15/2021 09:48	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 09:48	WG1739556
Fluoranthene	U		0.00227	0.00600	1	09/15/2021 09:48	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 09:48	WG1739556
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	09/15/2021 09:48	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 09:48	WG1739556
Phenanthrene	U		0.00231	0.00600	1	09/15/2021 09:48	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 09:48	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 09:48	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 09:48	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 09:48	WG1739556
(S) p-Terphenyl-d14	*90.4*			*23.0-120*		*09/15/2021 09:48*	WG1739556
(S) Nitrobenzene-d5	*67.4*			*14.0-149*		*09/15/2021 09:48*	WG1739556
(S) 2-Fluorobiphenyl	*75.3*			*34.0-125*		*09/15/2021 09:48*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.23		1	09/16/2021 22:15	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	44.2		0.133	1.00	1	09/16/2021 21:21	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:16	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.12	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:
L1401867-07 WG1740122: 8.12 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	371		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:
L1401867-07 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0180	0.0400	1	09/13/2021 10:35	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	712		0.0852	0.500	1	09/16/2021 21:21	WG1738664
Cadmium	0.316	J	0.0471	0.500	1	09/16/2021 21:21	WG1738664
Chromium	44.2		0.133	1.00	1	09/16/2021 21:21	WG1738664
Copper	15.0		0.400	2.00	1	09/16/2021 21:21	WG1738664
Lead	14.1		0.208	0.500	1	09/16/2021 21:21	WG1738664
Nickel	25.5		0.132	2.00	1	09/16/2021 21:21	WG1738664
Selenium	1.20	J	0.764	2.00	1	09/16/2021 21:21	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:21	WG1738664
Zinc	46.3		0.832	5.00	1	09/16/2021 21:21	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.43		0.100	1.00	5	09/15/2021 21:58	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 04:53	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*		*09/16/2021 04:53*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/14/2021 19:45	WG1740113
Toluene	U		0.00130	0.00500	1	09/14/2021 19:45	WG1740113
Ethylbenzene	U		0.000737	0.00250	1	09/14/2021 19:45	WG1740113
Total Xylenes	0.00113	J	0.000880	0.00650	1	09/14/2021 19:45	WG1740113
(S) Toluene-d8	*100*			*75.0-131*		*09/14/2021 19:45*	WG1740113
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/14/2021 19:45*	WG1740113
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*09/14/2021 19:45*	WG1740113

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	10.4		0.769	4.00	1	09/14/2021 18:33	WG1739557
(S) o-Terphenyl	*54.4*			*18.0-148*		*09/14/2021 18:33*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 10:48	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 10:48	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 10:48	WG1739556
Benzo(a)anthracene	U		0.00173	0.00600	1	09/15/2021 10:48	WG1739556
Benzo(a)pyrene	U		0.00179	0.00600	1	09/15/2021 10:48	WG1739556
Benzo(b)fluoranthene	0.00334	J	0.00153	0.00600	1	09/15/2021 10:48	WG1739556
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	09/15/2021 10:48	WG1739556
Benzo(k)fluoranthene	U		0.00215	0.00600	1	09/15/2021 10:48	WG1739556
Chrysene	U		0.00232	0.00600	1	09/15/2021 10:48	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 10:48	WG1739556
Fluoranthene	U		0.00227	0.00600	1	09/15/2021 10:48	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 10:48	WG1739556
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	09/15/2021 10:48	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 10:48	WG1739556
Phenanthrene	U		0.00231	0.00600	1	09/15/2021 10:48	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 10:48	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 10:48	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 10:48	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 10:48	WG1739556
(S) p-Terphenyl-d14	*78.1*			*23.0-120*		*09/15/2021 10:48*	WG1739556
(S) Nitrobenzene-d5	*59.0*			*14.0-149*		*09/15/2021 10:48*	WG1739556
(S) 2-Fluorobiphenyl	*64.3*			*34.0-125*		*09/15/2021 10:48*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.58		1	09/16/2021 22:18	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	49.3		0.133	1.00	1	09/16/2021 21:23	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:17	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.34	T8	1	09/15/2021 15:00	WG1740122

Sample Narrative:

L1401867-08 WG1740122: 8.34 at 20.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	415		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-08 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0183	J	0.0180	0.0400	1	09/13/2021 10:38	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	1060		0.0852	0.500	1	09/16/2021 21:23	WG1738664
Cadmium	0.296	J	0.0471	0.500	1	09/16/2021 21:23	WG1738664
Chromium	49.3		0.133	1.00	1	09/16/2021 21:23	WG1738664
Copper	17.9		0.400	2.00	1	09/16/2021 21:23	WG1738664
Lead	13.1		0.208	0.500	1	09/16/2021 21:23	WG1738664
Nickel	26.4		0.132	2.00	1	09/16/2021 21:23	WG1738664
Selenium	0.791	J	0.764	2.00	1	09/16/2021 21:23	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:23	WG1738664
Zinc	54.8		0.832	5.00	1	09/16/2021 21:23	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.07		0.100	1.00	5	09/15/2021 22:02	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 05:14	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*		*09/16/2021 05:14*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/15/2021 16:08	WG1740734
Toluene	U		0.00130	0.00500	1	09/15/2021 16:08	WG1740734
Ethylbenzene	U		0.000737	0.00250	1	09/15/2021 16:08	WG1740734
Total Xylenes	0.00203	J	0.000880	0.00650	1	09/15/2021 16:08	WG1740734
(S) Toluene-d8	*100*			*75.0-131*		*09/15/2021 16:08*	WG1740734
(S) 4-Bromofluorobenzene	*105*			*67.0-138*		*09/15/2021 16:08*	WG1740734
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*09/15/2021 16:08*	WG1740734

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	19.1		0.769	4.00	1	09/14/2021 14:36	WG1739557
(S) o-Terphenyl	*48.0*			*18.0-148*		*09/14/2021 14:36*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 11:08	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 11:08	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 11:08	WG1739556
Benzo(a)anthracene	0.00889		0.00173	0.00600	1	09/15/2021 11:08	WG1739556
Benzo(a)pyrene	0.00662		0.00179	0.00600	1	09/15/2021 11:08	WG1739556
Benzo(b)fluoranthene	0.0260		0.00153	0.00600	1	09/15/2021 11:08	WG1739556
Benzo(g,h,i)perylene	0.00993		0.00177	0.00600	1	09/15/2021 11:08	WG1739556
Benzo(k)fluoranthene	0.00623		0.00215	0.00600	1	09/15/2021 11:08	WG1739556
Chrysene	0.0153		0.00232	0.00600	1	09/15/2021 11:08	WG1739556
Dibenz(a,h)anthracene	0.00307	J	0.00172	0.00600	1	09/15/2021 11:08	WG1739556
Fluoranthene	0.0107		0.00227	0.00600	1	09/15/2021 11:08	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 11:08	WG1739556
Indeno(1,2,3-cd)pyrene	0.00798		0.00181	0.00600	1	09/15/2021 11:08	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 11:08	WG1739556
Phenanthrene	0.00634		0.00231	0.00600	1	09/15/2021 11:08	WG1739556
Pyrene	0.00941		0.00200	0.00600	1	09/15/2021 11:08	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 11:08	WG1739556
2-Methylnaphthalene	0.00569	J	0.00427	0.0200	1	09/15/2021 11:08	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 11:08	WG1739556
(S) p-Terphenyl-d14	*90.7*			*23.0-120*		*09/15/2021 11:08*	WG1739556
(S) Nitrobenzene-d5	*72.8*			*14.0-149*		*09/15/2021 11:08*	WG1739556
(S) 2-Fluorobiphenyl	*78.4*			*34.0-125*		*09/15/2021 11:08*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.82		1	09/16/2021 22:21	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	35.4		0.133	1.00	1	09/16/2021 21:26	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:22	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.04	T8	1	09/16/2021 10:00	WG1741187

Sample Narrative:

L1401867-09 WG1741187: 8.04 at 21.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	703		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-09 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0229	J	0.0180	0.0400	1	09/13/2021 10:40	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	1470		0.0852	0.500	1	09/16/2021 21:26	WG1738664
Cadmium	0.357	J	0.0471	0.500	1	09/16/2021 21:26	WG1738664
Chromium	35.4		0.133	1.00	1	09/16/2021 21:26	WG1738664
Copper	38.9		0.400	2.00	1	09/16/2021 21:26	WG1738664
Lead	18.7		0.208	0.500	1	09/16/2021 21:26	WG1738664
Nickel	21.9		0.132	2.00	1	09/16/2021 21:26	WG1738664
Selenium	2.04		0.764	2.00	1	09/16/2021 21:26	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:26	WG1738664
Zinc	50.7		0.832	5.00	1	09/16/2021 21:26	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.09		0.100	1.00	5	09/15/2021 22:22	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 05:36	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*09/16/2021 05:36*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/15/2021 16:27	WG1740734
Toluene	U		0.00130	0.00500	1	09/15/2021 16:27	WG1740734
Ethylbenzene	U		0.000737	0.00250	1	09/15/2021 16:27	WG1740734
Total Xylenes	0.00260	J	0.000880	0.00650	1	09/15/2021 16:27	WG1740734
(S) Toluene-d8	*101*			*75.0-131*		*09/15/2021 16:27*	WG1740734
(S) 4-Bromofluorobenzene	*109*			*67.0-138*		*09/15/2021 16:27*	WG1740734
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*09/15/2021 16:27*	WG1740734

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	68.8	J3 J6	0.769	4.00	1	09/14/2021 15:59	WG1739557
(S) o-Terphenyl	*31.3*			*18.0-148*		*09/14/2021 15:59*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 11:27	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 11:27	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 11:27	WG1739556
Benzo(a)anthracene	0.00675		0.00173	0.00600	1	09/15/2021 11:27	WG1739556
Benzo(a)pyrene	0.00442	J	0.00179	0.00600	1	09/15/2021 11:27	WG1739556
Benzo(b)fluoranthene	0.0197		0.00153	0.00600	1	09/15/2021 11:27	WG1739556
Benzo(g,h,i)perylene	0.00902		0.00177	0.00600	1	09/15/2021 11:27	WG1739556
Benzo(k)fluoranthene	0.00510	J	0.00215	0.00600	1	09/15/2021 11:27	WG1739556
Chrysene	0.00722		0.00232	0.00600	1	09/15/2021 11:27	WG1739556
Dibenz(a,h)anthracene	0.00211	J	0.00172	0.00600	1	09/15/2021 11:27	WG1739556
Fluoranthene	0.00840		0.00227	0.00600	1	09/15/2021 11:27	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 11:27	WG1739556
Indeno(1,2,3-cd)pyrene	0.00845		0.00181	0.00600	1	09/15/2021 11:27	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 11:27	WG1739556
Phenanthrene	0.00808		0.00231	0.00600	1	09/15/2021 11:27	WG1739556
Pyrene	0.00623		0.00200	0.00600	1	09/15/2021 11:27	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 11:27	WG1739556
2-Methylnaphthalene	0.00427	J	0.00427	0.0200	1	09/15/2021 11:27	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 11:27	WG1739556
(S) p-Terphenyl-d14	*90.6*			*23.0-120*		*09/15/2021 11:27*	WG1739556
(S) Nitrobenzene-d5	*75.9*			*14.0-149*		*09/15/2021 11:27*	WG1739556
(S) 2-Fluorobiphenyl	*77.9*			*34.0-125*		*09/15/2021 11:27*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.62		1	09/16/2021 22:29	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	32.8		0.133	1.00	1	09/16/2021 21:29	WG1738664

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:26	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.45	T8	1	09/16/2021 10:00	WG1741187

Sample Narrative:

L1401867-10 WG1741187: 8.45 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	550		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-10 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0225	J	0.0180	0.0400	1	09/13/2021 10:43	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	9570		0.426	2.50	5	09/17/2021 11:22	WG1738664
Cadmium	U		0.0471	0.500	1	09/16/2021 21:29	WG1738664
Chromium	32.8		0.133	1.00	1	09/16/2021 21:29	WG1738664
Copper	76.1		0.400	2.00	1	09/16/2021 21:29	WG1738664
Lead	13.7		0.208	0.500	1	09/16/2021 21:29	WG1738664
Nickel	21.4		0.132	2.00	1	09/16/2021 21:29	WG1738664
Selenium	U		0.764	2.00	1	09/16/2021 21:29	WG1738664
Silver	U		0.127	1.00	1	09/16/2021 21:29	WG1738664
Zinc	65.5		0.832	5.00	1	09/16/2021 21:29	WG1738664

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.47		0.100	1.00	5	09/15/2021 22:25	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0280	J	0.0217	0.100	1	09/16/2021 05:58	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*106*			*77.0-120*		*09/16/2021 05:58*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/15/2021 16:46	WG1740734
Toluene	U		0.00130	0.00500	1	09/15/2021 16:46	WG1740734
Ethylbenzene	U		0.000737	0.00250	1	09/15/2021 16:46	WG1740734
Total Xylenes	0.00222	J	0.000880	0.00650	1	09/15/2021 16:46	WG1740734
(S) Toluene-d8	*99.8*			*75.0-131*		*09/15/2021 16:46*	WG1740734
(S) 4-Bromofluorobenzene	*106*			*67.0-138*		*09/15/2021 16:46*	WG1740734
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*09/15/2021 16:46*	WG1740734

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	201		0.769	4.00	1	09/14/2021 16:40	WG1739557
(S) o-Terphenyl	*40.2*			*18.0-148*		*09/14/2021 16:40*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 11:47	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 11:47	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 11:47	WG1739556
Benzo(a)anthracene	0.0111		0.00173	0.00600	1	09/15/2021 11:47	WG1739556
Benzo(a)pyrene	0.0123		0.00179	0.00600	1	09/15/2021 11:47	WG1739556
Benzo(b)fluoranthene	0.0469		0.00153	0.00600	1	09/15/2021 11:47	WG1739556
Benzo(g,h,i)perylene	0.0252		0.00177	0.00600	1	09/15/2021 11:47	WG1739556
Benzo(k)fluoranthene	0.0112		0.00215	0.00600	1	09/15/2021 11:47	WG1739556
Chrysene	0.0123		0.00232	0.00600	1	09/15/2021 11:47	WG1739556
Dibenz(a,h)anthracene	0.00679		0.00172	0.00600	1	09/15/2021 11:47	WG1739556
Fluoranthene	0.0142		0.00227	0.00600	1	09/15/2021 11:47	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 11:47	WG1739556
Indeno(1,2,3-cd)pyrene	0.0214		0.00181	0.00600	1	09/15/2021 11:47	WG1739556
Naphthalene	0.00565	J	0.00408	0.0200	1	09/15/2021 11:47	WG1739556
Phenanthrene	0.0132		0.00231	0.00600	1	09/15/2021 11:47	WG1739556
Pyrene	0.0110		0.00200	0.00600	1	09/15/2021 11:47	WG1739556
1-Methylnaphthalene	0.00554	J	0.00449	0.0200	1	09/15/2021 11:47	WG1739556
2-Methylnaphthalene	0.00989	J	0.00427	0.0200	1	09/15/2021 11:47	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 11:47	WG1739556
(S) p-Terphenyl-d14	*96.3*			*23.0-120*		*09/15/2021 11:47*	WG1739556
(S) Nitrobenzene-d5	*78.2*			*14.0-149*		*09/15/2021 11:47*	WG1739556
(S) 2-Fluorobiphenyl	*82.7*			*34.0-125*		*09/15/2021 11:47*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.88		1	09/16/2021 22:31	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	38.8		0.133	1.00	1	09/17/2021 02:14	WG1738982

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U	J6 O1	0.640	2.00	1	09/14/2021 21:27	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	>13	T8	1	09/14/2021 22:45	WG1740229

Sample Narrative:

L1401867-11 WG1740229: 22 at 8.88C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	202		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-11 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0543		0.0180	0.0400	1	09/13/2021 10:46	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	852		0.0852	0.500	1	09/17/2021 02:14	WG1738982
Cadmium	0.378	J	0.0471	0.500	1	09/17/2021 02:14	WG1738982
Chromium	38.8		0.133	1.00	1	09/17/2021 02:14	WG1738982
Copper	16.5		0.400	2.00	1	09/17/2021 02:14	WG1738982
Lead	12.9		0.208	0.500	1	09/17/2021 02:14	WG1738982
Nickel	22.9		0.132	2.00	1	09/17/2021 02:14	WG1738982
Selenium	U		0.764	2.00	1	09/17/2021 02:14	WG1738982
Silver	U		0.127	1.00	1	09/17/2021 02:14	WG1738982
Zinc	49.4		0.832	5.00	1	09/17/2021 02:14	WG1738982

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.48		0.100	1.00	5	09/15/2021 22:29	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0328	J	0.0217	0.100	1	09/16/2021 06:19	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*09/16/2021 06:19*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000625	J	0.000467	0.00100	1	09/15/2021 16:28	WG1740749
Toluene	0.0117		0.00130	0.00500	1	09/15/2021 16:28	WG1740749
Ethylbenzene	U		0.000737	0.00250	1	09/15/2021 16:28	WG1740749
Total Xylenes	0.00200	J	0.000880	0.00650	1	09/15/2021 16:28	WG1740749
(S) Toluene-d8	*96.0*			*75.0-131*		*09/15/2021 16:28*	WG1740749
(S) 4-Bromofluorobenzene	*99.2*			*67.0-138*		*09/15/2021 16:28*	WG1740749
(S) 1,2-Dichloroethane-d4	*93.8*			*70.0-130*		*09/15/2021 16:28*	WG1740749

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	7.45		0.769	4.00	1	09/14/2021 15:04	WG1739557
(S) o-Terphenyl	*50.6*			*18.0-148*		*09/14/2021 15:04*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 12:07	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 12:07	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 12:07	WG1739556
Benzo(a)anthracene	U		0.00173	0.00600	1	09/15/2021 12:07	WG1739556
Benzo(a)pyrene	U		0.00179	0.00600	1	09/15/2021 12:07	WG1739556
Benzo(b)fluoranthene	0.00303	J	0.00153	0.00600	1	09/15/2021 12:07	WG1739556
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	09/15/2021 12:07	WG1739556
Benzo(k)fluoranthene	U		0.00215	0.00600	1	09/15/2021 12:07	WG1739556
Chrysene	U		0.00232	0.00600	1	09/15/2021 12:07	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 12:07	WG1739556
Fluoranthene	U		0.00227	0.00600	1	09/15/2021 12:07	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 12:07	WG1739556
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	09/15/2021 12:07	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 12:07	WG1739556
Phenanthrene	U		0.00231	0.00600	1	09/15/2021 12:07	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 12:07	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 12:07	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 12:07	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 12:07	WG1739556
(S) p-Terphenyl-d14	*88.7*			*23.0-120*		*09/15/2021 12:07*	WG1739556
(S) Nitrobenzene-d5	*70.3*			*14.0-149*		*09/15/2021 12:07*	WG1739556
(S) 2-Fluorobiphenyl	*71.9*			*34.0-125*		*09/15/2021 12:07*	WG1739556

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	13.2		1	09/16/2021 22:34	WG1738914

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	39.9		0.133	1.00	1	09/17/2021 02:17	WG1738982

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	09/14/2021 21:31	WG1739468

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.75	T8	1	09/16/2021 10:00	WG1741187

Sample Narrative:

L1401867-12 WG1741187: 8.75 at 21.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1130		10.0	1	09/14/2021 18:00	WG1739083

Sample Narrative:

L1401867-12 WG1739083: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	U		0.0180	0.0400	1	09/13/2021 10:48	WG1738679

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	1540		0.0852	0.500	1	09/17/2021 02:17	WG1738982
Cadmium	0.282	J	0.0471	0.500	1	09/17/2021 02:17	WG1738982
Chromium	39.9		0.133	1.00	1	09/17/2021 02:17	WG1738982
Copper	19.8		0.400	2.00	1	09/17/2021 02:17	WG1738982
Lead	14.4		0.208	0.500	1	09/17/2021 02:17	WG1738982
Nickel	24.9		0.132	2.00	1	09/17/2021 02:17	WG1738982
Selenium	U		0.764	2.00	1	09/17/2021 02:17	WG1738982
Silver	U		0.127	1.00	1	09/17/2021 02:17	WG1738982
Zinc	47.9		0.832	5.00	1	09/17/2021 02:17	WG1738982

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.13		0.100	1.00	5	09/15/2021 22:32	WG1739972

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	09/16/2021 06:41	WG1740290
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*09/16/2021 06:41*	WG1740290

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	09/15/2021 16:47	WG1740749
Toluene	0.00155	J	0.00130	0.00500	1	09/15/2021 16:47	WG1740749
Ethylbenzene	U		0.000737	0.00250	1	09/15/2021 16:47	WG1740749
Total Xylenes	U		0.000880	0.00650	1	09/15/2021 16:47	WG1740749
(S) Toluene-d8	*102*			*75.0-131*		*09/15/2021 16:47*	WG1740749
(S) 4-Bromofluorobenzene	*87.9*			*67.0-138*		*09/15/2021 16:47*	WG1740749
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*09/15/2021 16:47*	WG1740749

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	10.8		0.769	4.00	1	09/14/2021 15:17	WG1739557
(S) o-Terphenyl	*52.8*			*18.0-148*		*09/14/2021 15:17*	WG1739557

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	09/15/2021 12:27	WG1739556
Acenaphthene	U		0.00209	0.00600	1	09/15/2021 12:27	WG1739556
Acenaphthylene	U		0.00216	0.00600	1	09/15/2021 12:27	WG1739556
Benzo(a)anthracene	0.00231	J	0.00173	0.00600	1	09/15/2021 12:27	WG1739556
Benzo(a)pyrene	0.00220	J	0.00179	0.00600	1	09/15/2021 12:27	WG1739556
Benzo(b)fluoranthene	0.00869		0.00153	0.00600	1	09/15/2021 12:27	WG1739556
Benzo(g,h,i)perylene	0.00536	J	0.00177	0.00600	1	09/15/2021 12:27	WG1739556
Benzo(k)fluoranthene	0.00253	J	0.00215	0.00600	1	09/15/2021 12:27	WG1739556
Chrysene	0.00292	J	0.00232	0.00600	1	09/15/2021 12:27	WG1739556
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	09/15/2021 12:27	WG1739556
Fluoranthene	0.00275	J	0.00227	0.00600	1	09/15/2021 12:27	WG1739556
Fluorene	U		0.00205	0.00600	1	09/15/2021 12:27	WG1739556
Indeno(1,2,3-cd)pyrene	0.00400	J	0.00181	0.00600	1	09/15/2021 12:27	WG1739556
Naphthalene	U		0.00408	0.0200	1	09/15/2021 12:27	WG1739556
Phenanthrene	0.00296	J	0.00231	0.00600	1	09/15/2021 12:27	WG1739556
Pyrene	U		0.00200	0.00600	1	09/15/2021 12:27	WG1739556
1-Methylnaphthalene	U		0.00449	0.0200	1	09/15/2021 12:27	WG1739556
2-Methylnaphthalene	U		0.00427	0.0200	1	09/15/2021 12:27	WG1739556
2-Chloronaphthalene	U		0.00466	0.0200	1	09/15/2021 12:27	WG1739556
(S) p-Terphenyl-d14	*80.9*			*23.0-120*		*09/15/2021 12:27*	WG1739556
(S) Nitrobenzene-d5	*66.0*			*14.0-149*		*09/15/2021 12:27*	WG1739556
(S) 2-Fluorobiphenyl	*68.8*			*34.0-125*		*09/15/2021 12:27*	WG1739556

Method Blank (MB)

(MB) R3704319-1 09/14/21 21:02

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

L1401140-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1401140-01 09/14/21 21:05 • (DUP) R3704319-3 09/14/21 21:05

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

L1401867-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1401867-12 09/14/21 21:31 • (DUP) R3704319-8 09/14/21 21:31

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

Laboratory Control Sample (LCS)

(LCS) R3704319-2 09/14/21 21:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	25.4	106	80.0-120	

L1401867-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401867-11 09/14/21 21:27 • (MS) R3704319-4 09/14/21 21:27 • (MSD) R3704319-5 09/14/21 21:28

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 %
Chromium,Hexavalent	20.0	U	8.72	8.84	43.6	44.2	1	75.0-125	J6	J6	1.37	20

L1401867-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1401867-11 09/14/21 21:27 • (MS) R3704319-6 09/14/21 21:29

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	708	U	630	89.0	50	75.0-125	

L1401537-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1401537-04 09/15/21 15:00 • (DUP) R3704791-2 09/15/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.33	7.34	1	0.136		1

Sample Narrative:

OS: 7.33 at 20.6C

DUP: 7.34 at 20.8C

L1401867-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1401867-05 09/15/21 15:00 • (DUP) R3704791-3 09/15/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.57	8.58	1	0.117		1

Sample Narrative:

OS: 8.57 at 20.7C

DUP: 8.58 at 20.7C

Laboratory Control Sample (LCS)

(LCS) R3704791-1 09/15/21 15:00

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

Sample Narrative:

LCS: 10.04 at 20.4C

L1401867-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1401867-11 09/14/21 22:45 • (DUP) R3704335-2 09/14/21 22:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	>13	>13	1	0.000		1

Sample Narrative:

OS: 22 at 8.88C

DUP: 22 at 8.85C

Laboratory Control Sample (LCS)

(LCS) R3704335-1 09/14/21 22:45

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

Sample Narrative:

LCS: 10.03 at 22.6C

L1401907-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1401907-06 09/16/21 10:00 • (DUP) R3705136-2 09/16/21 10:00

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.48	8.46	1	0.236		1

Sample Narrative:

OS: 8.48 at 20.8C

DUP: 8.46 at 20.9C

L1401907-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1401907-09 09/16/21 10:00 • (DUP) R3705136-3 09/16/21 10:00

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.64	7.68	1	0.522		1

Sample Narrative:

OS: 7.64 at 20.9C

DUP: 7.68 at 21C

Laboratory Control Sample (LCS)

(LCS) R3705136-1 09/16/21 10:00

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

Sample Narrative:

LCS: 10.04 at 20.7C

Method Blank (MB)

(MB) R3703294-1 09/12/21 16:00

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

Sample Narrative:

BLANK: at 25C

Laboratory Control Sample (LCS)

(LCS) R3703294-2 09/12/21 16:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	895	99.6	85.0-115	

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R3704283-1 09/14/21 18:00

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

Sample Narrative:
BLANK: at 25C

L1401867-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1401867-10 09/14/21 18:00 • (DUP) R3704283-3 09/14/21 18:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	550	568	1	3.22		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1401870-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1401870-08 09/14/21 18:00 • (DUP) R3704283-4 09/14/21 18:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	723	697	1	3.66		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3704283-2 09/14/21 18:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	890	99.0	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3703539-1 09/13/21 09:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3703539-2 09/13/21 09:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.501	100	80.0-120	

L1401670-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401670-01 09/13/21 09:42 • (MS) R3703539-3 09/13/21 09:45 • (MSD) R3703539-4 09/13/21 09:47

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 %
Mercury	0.500	0.0795	0.587	0.608	101	106	1	75.0-125			3.56	20

Method Blank (MB)

(MB) R3705460-1 09/16/21 20:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
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) R3705460-2 09/16/21 20:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	105	105	80.0-120	
Cadmium	100	98.2	98.2	80.0-120	
Chromium	100	101	101	80.0-120	
Copper	100	99.3	99.3	80.0-120	
Lead	100	100	100	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	100	100	80.0-120	
Silver	20.0	17.7	88.7	80.0-120	
Zinc	100	99.3	99.3	80.0-120	

L1401698-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401698-01 09/16/21 20:16 • (MS) R3705460-5 09/16/21 20:23 • (MSD) R3705460-6 09/16/21 20:25

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 %
Barium	10.0	45.4	54.7	54.2	93.5	88.0	.1	75.0-125			1.01	20
Cadmium	10.0	0.181	9.64	9.54	94.5	93.6	.1	75.0-125			0.965	20
Chromium	10.0	2.22	11.5	11.3	92.7	91.1	.1	75.0-125			1.42	20
Copper	10.0	29.4	39.4	38.7	100	92.7	.1	75.0-125			1.87	20
Lead	10.0	1.98	11.3	11.2	93.4	92.2	.1	75.0-125			1.04	20
Nickel	10.0	2.46	12.3	12.1	98.2	96.8	.1	75.0-125			1.17	20
Selenium	10.0	0.805	11.2	11.0	104	102	.1	75.0-125			1.44	20
Silver	2.00	0.439	2.31	2.27	93.4	91.4	.1	75.0-125			1.74	20
Zinc	10.0	235	242	238	67.1	27.3	.1	75.0-125	E V	E V	1.66	20

Method Blank (MB)

(MB) R3705465-1 09/17/21 01:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
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) R3705465-2 09/17/21 01:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	97.8	97.8	80.0-120	
Cadmium	100	93.1	93.1	80.0-120	
Chromium	100	95.1	95.1	80.0-120	
Copper	100	96.0	96.0	80.0-120	
Lead	100	94.1	94.1	80.0-120	
Nickel	100	95.9	95.9	80.0-120	
Selenium	100	93.7	93.7	80.0-120	
Silver	20.0	16.8	84.2	80.0-120	
Zinc	100	92.6	92.6	80.0-120	

L1401807-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401807-05 09/17/21 01:12 • (MS) R3705465-5 09/17/21 01:20 • (MSD) R3705465-6 09/17/21 01:23

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 %
Barium	99.7	101	204	205	103	104	1	75.0-125			0.717	20
Cadmium	99.7	0.318	98.6	105	98.3	104	1	75.0-125			5.86	20
Chromium	99.7	47.8	147	152	99.2	104	1	75.0-125			3.13	20
Copper	99.7	32.9	138	141	105	109	1	75.0-125			2.78	20
Lead	99.7	6.48	106	111	99.2	105	1	75.0-125			5.26	20
Nickel	99.7	47.9	152	156	105	109	1	75.0-125			2.60	20
Selenium	99.7	U	99.6	106	99.6	106	1	75.0-125			5.96	20
Silver	20.0	U	17.8	18.9	88.9	94.4	1	75.0-125			5.94	20
Zinc	99.7	62.2	160	160	97.6	97.4	1	75.0-125			0.106	20

Method Blank (MB)

(MB) R3704879-1 09/15/21 20:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3704879-2 09/15/21 20:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	86.6	86.6	80.0-120	

L1401126-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401126-01 09/15/21 20:55 • (MS) R3704879-5 09/15/21 21:06 • (MSD) R3704879-6 09/15/21 21:09

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	2.63	87.5	92.1	84.8	89.5	5	75.0-125			5.19	20

Method Blank (MB)

(MB) R3705254-2 09/16/21 01:17

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)	*109*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3705254-1 09/15/21 23:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.35	97.3	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*97.1*	*77.0-120*	

Method Blank (MB)

(MB) R3704687-2 09/14/21 10:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*100*			*75.0-131*
(S) 4-Bromofluorobenzene	*110*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3704687-1 09/14/21 09:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.126	101	70.0-123	
Ethylbenzene	0.125	0.121	96.8	74.0-126	
Toluene	0.125	0.121	96.8	75.0-121	
Xylenes, Total	0.375	0.375	100	72.0-127	
(S) Toluene-d8			*100*	*75.0-131*	
(S) 4-Bromofluorobenzene			*108*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*120*	*70.0-130*	

L1401835-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401835-01 09/14/21 20:04 • (MS) R3704687-3 09/14/21 20:23 • (MSD) R3704687-4 09/14/21 20:42

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 %
Benzene	13.4	0.129	10.8	16.8	79.6	124	107	10.0-149		J3	43.5	37
Ethylbenzene	13.4	0.555	9.76	16.3	68.7	117	107	10.0-160		J3	50.2	38
Toluene	13.4	1.34	9.90	15.7	63.9	107	107	10.0-156		J3	45.3	38
Xylenes, Total	40.2	1.32	30.9	48.9	73.6	118	107	10.0-160		J3	45.1	38
(S) Toluene-d8					*97.6*	*96.5*		*75.0-131*				
(S) 4-Bromofluorobenzene					*105*	*105*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*121*	*122*		*70.0-130*				

Sample Narrative:

OS: Nontarget compounds are too large to run at a lower dilution.

Method Blank (MB)

(MB) R3704793-2 09/15/21 11:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*102*			*75.0-131*
(S) 4-Bromofluorobenzene	*107*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3704793-1 09/15/21 10:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.120	96.0	70.0-123	
Ethylbenzene	0.125	0.111	88.8	74.0-126	
Toluene	0.125	0.114	91.2	75.0-121	
Xylenes, Total	0.375	0.351	93.6	72.0-127	
(S) Toluene-d8			*100*	*75.0-131*	
(S) 4-Bromofluorobenzene			*108*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*123*	*70.0-130*	

L1401867-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401867-08 09/15/21 16:08 • (MS) R3704793-3 09/15/21 18:21 • (MSD) R3704793-4 09/15/21 18:40

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 %
Benzene	0.125	U	0.0182	0.0248	14.6	19.8	1	10.0-149			30.7	37
Ethylbenzene	0.125	U	0.0148	0.0193	11.8	15.4	1	10.0-160			26.4	38
Toluene	0.125	U	0.0188	0.0232	15.0	18.6	1	10.0-156			21.0	38
Xylenes, Total	0.375	0.00203	0.0558	0.0746	14.3	19.4	1	10.0-160			28.8	38
(S) Toluene-d8					*98.9*	*99.5*		*75.0-131*				
(S) 4-Bromofluorobenzene					*105*	*104*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*117*	*118*		*70.0-130*				

Method Blank (MB)

(MB) R3705560-3 09/15/21 10:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*85.1*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*96.9*			*70.0-130*

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

(LCS) R3705560-1 09/15/21 09:54 • (LCSD) R3705560-2 09/15/21 10:13

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	0.119	0.120	95.2	96.0	70.0-123			0.837	20
Ethylbenzene	0.125	0.111	0.108	88.8	86.4	74.0-126			2.74	20
Toluene	0.125	0.113	0.112	90.4	89.6	75.0-121			0.889	20
Xylenes, Total	0.375	0.328	0.328	87.5	87.5	72.0-127			0.000	20
(S) Toluene-d8				*95.2*	*93.2*	*75.0-131*				
(S) 4-Bromofluorobenzene				*99.9*	*100*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*103*	*101*	*70.0-130*				

Method Blank (MB)

(MB) R3704361-1 09/14/21 11:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*52.6*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3704361-2 09/14/21 11:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	30.4	60.8	50.0-150	
(S) o-Terphenyl			*50.6*	*18.0-148*	

L1401867-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401867-09 09/14/21 15:59 • (MS) R3704361-3 09/14/21 16:12 • (MSD) R3704361-4 09/14/21 16:26

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 %
TPH (GC/FID) High Fraction	47.3	68.8	79.4	109	22.4	84.1	1	50.0-150	J6	J3	31.4	20
(S) o-Terphenyl					*34.4*	*34.0*		*18.0-148*				

Method Blank (MB)

(MB) R3705015-2 09/15/21 08:28

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	*82.6*			*14.0-149*
(S) 2-Fluorobiphenyl	*89.3*			*34.0-125*
(S) p-Terphenyl-d14	*111*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3705015-1 09/15/21 08:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0718	89.8	50.0-126	
Acenaphthene	0.0800	0.0680	85.0	50.0-120	
Acenaphthylene	0.0800	0.0753	94.1	50.0-120	
Benzo(a)anthracene	0.0800	0.0708	88.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0616	77.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0614	76.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0626	78.3	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0651	81.4	49.0-125	
Chrysene	0.0800	0.0702	87.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0613	76.6	47.0-125	
Fluoranthene	0.0800	0.0727	90.9	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3705015-1 09/15/21 08:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0697	87.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0620	77.5	46.0-125	
Naphthalene	0.0800	0.0675	84.4	50.0-120	
Phenanthrene	0.0800	0.0686	85.8	47.0-120	
Pyrene	0.0800	0.0715	89.4	43.0-123	
1-Methylnaphthalene	0.0800	0.0688	86.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0653	81.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0680	85.0	50.0-120	
(S) Nitrobenzene-d5			*84.1*	*14.0-149*	
(S) 2-Fluorobiphenyl			*91.6*	*34.0-125*	
(S) p-Terphenyl-d14			*108*	*23.0-120*	

L1401867-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401867-06 09/15/21 09:48 • (MS) R3705015-3 09/15/21 10:08 • (MSD) R3705015-4 09/15/21 10:28

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	0.0800	U	0.0541	0.0456	67.6	57.0	1	10.0-145			17.1	30
Acenaphthene	0.0800	U	0.0533	0.0437	66.6	54.6	1	14.0-127			19.8	27
Acenaphthylene	0.0800	U	0.0571	0.0480	71.4	60.0	1	21.0-124			17.3	25
Benzo(a)anthracene	0.0800	U	0.0547	0.0472	68.4	59.0	1	10.0-139			14.7	30
Benzo(a)pyrene	0.0800	U	0.0516	0.0456	64.5	57.0	1	10.0-141			12.3	31
Benzo(b)fluoranthene	0.0800	U	0.0485	0.0418	60.6	52.3	1	10.0-140			14.8	36
Benzo(g,h,i)perylene	0.0800	U	0.0504	0.0454	63.0	56.8	1	10.0-140			10.4	33
Benzo(k)fluoranthene	0.0800	U	0.0516	0.0461	64.5	57.6	1	10.0-137			11.3	31
Chrysene	0.0800	U	0.0564	0.0506	70.5	63.3	1	10.0-145			10.8	30
Dibenz(a,h)anthracene	0.0800	U	0.0483	0.0436	60.4	54.5	1	10.0-132			10.2	31
Fluoranthene	0.0800	U	0.0563	0.0463	70.4	57.9	1	10.0-153			19.5	33
Fluorene	0.0800	U	0.0534	0.0446	66.8	55.8	1	11.0-130			18.0	29
Indeno(1,2,3-cd)pyrene	0.0800	U	0.0485	0.0423	60.6	52.9	1	10.0-137			13.7	32
Naphthalene	0.0800	U	0.0535	0.0455	66.9	56.9	1	10.0-135			16.2	27
Phenanthrene	0.0800	U	0.0544	0.0445	68.0	55.6	1	10.0-144			20.0	31
Pyrene	0.0800	U	0.0569	0.0476	71.1	59.5	1	10.0-148			17.8	35
1-Methylnaphthalene	0.0800	U	0.0544	0.0449	68.0	56.1	1	10.0-142			19.1	28
2-Methylnaphthalene	0.0800	U	0.0517	0.0422	64.6	52.7	1	10.0-137			20.2	28
2-Chloronaphthalene	0.0800	U	0.0542	0.0436	67.8	54.5	1	29.0-120			21.7	24
(S) Nitrobenzene-d5					*71.2*	*73.7*		*14.0-149*				
(S) 2-Fluorobiphenyl					*78.1*	*81.5*		*34.0-125*				
(S) p-Terphenyl-d14					*94.1*	*96.8*		*23.0-120*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

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
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36 Historical	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B36 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR,pH, Arsenic	Lab Sample # / Comments:
20210908 - B36 (PH01@12")	SL	G	9/8/2021	1400				2	G	X	X	X	X	X	L1401867 -01
20210908 - B36 (PH02@8")	SL	G	9/8/2021	1410				2	G	X	X	X	X	X	-02
20210908 - B36 (PH03@12")	SL	G	9/8/2021	1420				2	G	X	X	X	X	X	-03
20210908 - B36 (PH04@7")	SL	G	9/8/2021	1430				2	G	X	X	X	X	X	-04
20210908 - B36 (PH05@22")	SL	G	9/8/2021	1440				2	G	X	X	X	X	X	-05
20210908 - B36 (PH06@9")	SL	G	9/8/2021	1450				2	G	X	X	X	X	X	-06
20210908 - B36 (PH07@24")	SL	G	9/8/2021	1505				2	G	X	X	X	X	X	-07
20210908 - B36 (PH08@12")	SL	G	9/8/2021	1515				2	G	X	X	X	X	X	-08
20210908 - B36 (PH09@16")	SL	G	9/8/2021	1525				2	G	X	X	X	X	X	-09
20210908 - B36 (PH10@10")	SL	G	9/8/2021	1535				2	G	X	X	X	X	X	-10

Lab Profile/Line:

Lab Sample Receipt Checklist:	
Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

TC= 26

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 5016 1232 3087

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: A2
Cooler 1 Temp Upon Receipt: 1.3 oC
Cooler 1 Therm Corr. Factor: +.1 oC
Cooler 1 Corrected Temp: 1.4 oC
Comments:

~~Relinquished by/Company: (Signature)~~	Date/Time: 9-9-21/1100	Received by/Company: (Signature)	Date/Time: 9/9
Relinquished by/Company: (Signature)	Date/Time: 9/9/1400	Received by/Company: (Signature)	Date/Time: 9/10/21 945
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

A110

Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 2

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36 Historical	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B36 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR,pH, Arsenic
20210908 - B36 (PH11@8")	SL	G	9/8/2021	1545				2	G	X	X	X	X	X
20210908 - B36 (PH12@8")	SL	G	9/8/2021	1555				4	G	X	X	X	X	X

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:			
Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:
L1401867
-11
-12

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: A2
Cooler 1 Temp Upon Receipt: 1.3 oC
Cooler 1 Therm Corr. Factor: +.1 oC
Cooler 1 Corrected Temp: 1.4 oC
Comments:

Relinquished by/Company: (Signature) AS	Date/Time: 9-9-21/1100	Received by/Company: (Signature)	Date/Time: 9/9	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 9/9/1400	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	PM: PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

ANALYTICAL REPORT

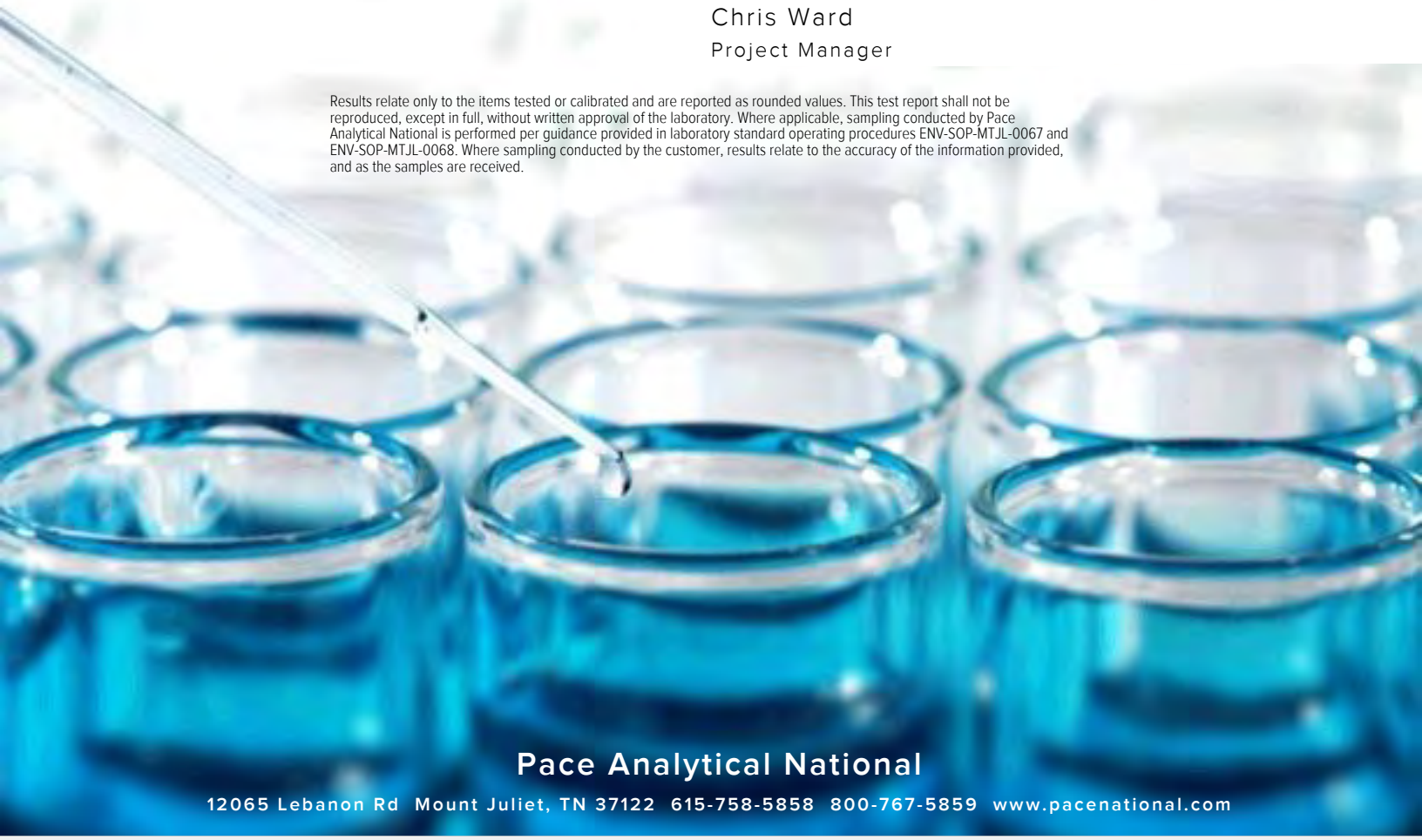
October 21, 2021

Caerus Oil and Gas

Sample Delivery Group:	L1416107
Samples Received:	10/09/2021
Project Number:	
Description:	B36 496 Historical; PH 05, 11, & 12
Site:	B36 496
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20211007-B36-496-PH12(SEWALL@9") L1416107-01 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:20 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 09:55	10/18/21 09:55	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 12:49	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:26	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	1	10/16/21 19:26	10/18/21 13:08	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 15:56	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 18:48	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 05:21	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 14:44	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 16:54	LEA	Mt. Juliet, TN

20211007-B36-496-PH12(SWWALL@9") L1416107-02 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:25 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 09:57	10/18/21 09:57	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 12:54	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1757968	1	10/16/21 10:00	10/16/21 12:01	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:29	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	5	10/16/21 19:26	10/18/21 13:11	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:00	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 19:12	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 05:40	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 16:33	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 17:11	LEA	Mt. Juliet, TN

20211007-B36-496-PH12(NWALL@9") L1416107-03 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:30 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:00	10/18/21 10:00	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 12:59	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:38	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	1	10/16/21 19:26	10/18/21 13:13	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:10	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 19:35	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 05:59	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 14:58	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 17:29	LEA	Mt. Juliet, TN

20211007-B36-496-PH12(BASE@19") L1416107-04 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:35 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:03	10/18/21 10:03	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:04	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758065	1	10/16/21 08:00	10/16/21 09:54	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:42	EL	Mt. Juliet, TN

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

20211007-B36-496-PH12(BASE@19") L1416107-04 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:35 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	5	10/16/21 19:26	10/18/21 13:16	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:13	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 19:59	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 06:18	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 15:25	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 17:47	LEA	Mt. Juliet, TN

20211007-B36-496-PH11(SEWALL@8") L1416107-05 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:40 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:05	10/18/21 10:05	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:10	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:45	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	1	10/16/21 19:26	10/18/21 13:19	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:17	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 20:23	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 06:37	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 17:41	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 18:05	LEA	Mt. Juliet, TN

20211007-B36-496-PH11(SWWALL@8") L1416107-06 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:45 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:13	10/18/21 10:13	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:25	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:48	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	1	10/16/21 19:26	10/18/21 13:21	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:20	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 20:46	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 06:56	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 14:17	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 18:23	LEA	Mt. Juliet, TN

20211007-B36-496-PH11(NWALL@8") L1416107-07 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:50 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:16	10/18/21 10:16	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:30	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:51	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	1	10/16/21 19:26	10/18/21 13:29	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:24	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 21:10	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 07:15	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 15:11	TJD	Mt. Juliet, TN

20211007-B36-496-PH11(NWALL@8") L1416107-07 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:50 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 18:40	LEA	Mt. Juliet, TN

20211007-B36-496-PH11(BASE@16") L1416107-08 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 11:55 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:19	10/18/21 10:19	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:36	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758065	1	10/16/21 08:00	10/16/21 09:54	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:55	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	1	10/16/21 19:26	10/18/21 13:32	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:27	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 21:34	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 07:34	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	1	10/17/21 04:32	10/18/21 14:31	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 18:58	LEA	Mt. Juliet, TN

20211007-B36-496-PH05(NWWALL@12") L1416107-09 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 12:00 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:22	10/18/21 10:22	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:46	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 14:58	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	5	10/15/21 13:39	10/18/21 12:23	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	5	10/16/21 19:26	10/18/21 13:35	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:30	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 21:57	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 07:53	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	20	10/17/21 04:32	10/18/21 17:54	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 20:26	LEA	Mt. Juliet, TN

20211007-B36-496-PH05(NEWALL@12") L1416107-10 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 12:05 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:24	10/18/21 10:24	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:51	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 15:01	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	5	10/15/21 13:39	10/18/21 12:26	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	5	10/16/21 19:26	10/18/21 13:38	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:34	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 22:21	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 08:12	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	20	10/17/21 04:32	10/18/21 18:08	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 21:01	LEA	Mt. Juliet, TN

SAMPLE SUMMARY

20211007-B36-496-PH05(SWALL@12") L1416107-11 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 12:10 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:27	10/18/21 10:27	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1757947	1	10/15/21 18:38	10/18/21 13:56	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757487	1	10/17/21 04:30	10/17/21 17:12	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 15:04	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	5	10/15/21 13:39	10/18/21 12:29	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	5	10/16/21 19:26	10/18/21 13:40	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:37	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 22:45	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 08:31	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	20	10/17/21 04:32	10/18/21 18:21	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 20:44	LEA	Mt. Juliet, TN

20211007-B36-496-PH05(BASE@24") L1416107-12 Solid

Collected by: Andrew Smith | Collected date/time: 10/07/21 12:15 | Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757937	1	10/18/21 10:30	10/18/21 10:30	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1758621	1	10/17/21 18:00	10/18/21 14:12	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758016	1	10/15/21 13:00	10/16/21 15:00	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757497	1	10/17/21 15:32	10/17/21 18:36	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	1	10/15/21 13:39	10/16/21 15:07	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1757831	5	10/15/21 13:39	10/18/21 12:31	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1757950	5	10/16/21 19:26	10/18/21 13:43	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757828	5	10/15/21 13:43	10/16/21 16:41	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1758220	1	10/14/21 16:24	10/17/21 23:09	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1758061	1	10/14/21 16:24	10/16/21 08:51	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1758457	20	10/17/21 04:32	10/18/21 18:35	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1758738	1	10/18/21 09:09	10/18/21 21:19	LEA	Mt. Juliet, TN

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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	14.6		1	10/18/2021 09:55	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.261	J	0.255	1.00	1	10/18/2021 12:49	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.92	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:
L1416107-01 WG1758016: 8.92 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1270		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:
L1416107-01 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	340		0.0852	0.500	1	10/16/2021 14:26	WG1757831
Cadmium	0.395	J	0.0471	0.500	1	10/16/2021 14:26	WG1757831
Copper	20.3		0.400	2.00	1	10/16/2021 14:26	WG1757831
Lead	15.6		0.208	0.500	1	10/16/2021 14:26	WG1757831
Nickel	23.9		0.132	2.00	1	10/16/2021 14:26	WG1757831
Selenium	1.17	J	0.764	2.00	1	10/16/2021 14:26	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:26	WG1757831
Zinc	45.6		0.832	5.00	1	10/16/2021 14:26	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.149	J	0.0167	0.200	1	10/18/2021 13:08	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.29		0.100	1.00	5	10/16/2021 15:56	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0224	J	0.0217	0.100	1	10/17/2021 18:48	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.8*			*77.0-120*		*10/17/2021 18:48*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 05:21	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 05:21	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 05:21	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 05:21	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 05:21	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 05:21	WG1758061
(S) Toluene-d8	*104*			*75.0-131*		*10/16/2021 05:21*	WG1758061
(S) 4-Bromofluorobenzene	*92.4*			*67.0-138*		*10/16/2021 05:21*	WG1758061
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*10/16/2021 05:21*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.45	J	1.61	4.00	1	10/18/2021 14:44	WG1758457
C28-C36 Motor Oil Range	4.45	B	0.274	4.00	1	10/18/2021 14:44	WG1758457
(S) o-Terphenyl	*41.7*			*18.0-148*		*10/18/2021 14:44*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 16:54	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 16:54	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 16:54	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 16:54	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 16:54	WG1758738
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/18/2021 16:54	WG1758738
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/18/2021 16:54	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 16:54	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 16:54	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 16:54	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 16:54	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 16:54	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 16:54	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 16:54	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 16:54	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 16:54	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 16:54	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 16:54	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 16:54	WG1758738
(S) p-Terphenyl-d14	*90.7*			*23.0-120*		*10/18/2021 16:54*	WG1758738
(S) Nitrobenzene-d5	*53.4*			*14.0-149*		*10/18/2021 16:54*	WG1758738
(S) 2-Fluorobiphenyl	*75.3*			*34.0-125*		*10/18/2021 16:54*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	19.6		1	10/18/2021 09:57	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 12:54	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.95	T8	1	10/16/2021 12:01	WG1757968

Sample Narrative:
L1416107-02 WG1757968: 8.95 at 20.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1190		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:
L1416107-02 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	303		0.0852	0.500	1	10/16/2021 14:29	WG1757831
Cadmium	0.495	J	0.0471	0.500	1	10/16/2021 14:29	WG1757831
Copper	33.1		0.400	2.00	1	10/16/2021 14:29	WG1757831
Lead	25.1		0.208	0.500	1	10/16/2021 14:29	WG1757831
Nickel	41.3		0.132	2.00	1	10/16/2021 14:29	WG1757831
Selenium	2.34		0.764	2.00	1	10/16/2021 14:29	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:29	WG1757831
Zinc	48.6		0.832	5.00	1	10/16/2021 14:29	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.215	J	0.0835	1.00	5	10/18/2021 13:11	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.79		0.100	1.00	5	10/16/2021 16:00	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0233	J	0.0217	0.100	1	10/17/2021 19:12	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.9*			*77.0-120*		*10/17/2021 19:12*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 05:40	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 05:40	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 05:40	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 05:40	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 05:40	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 05:40	WG1758061
(S) Toluene-d8	*103*			*75.0-131*		*10/16/2021 05:40*	WG1758061
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*		*10/16/2021 05:40*	WG1758061
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*10/16/2021 05:40*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.00		1.61	4.00	1	10/18/2021 16:33	WG1758457
C28-C36 Motor Oil Range	13.4		0.274	4.00	1	10/18/2021 16:33	WG1758457
(S) o-Terphenyl	*47.8*			*18.0-148*		*10/18/2021 16:33*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 17:11	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 17:11	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 17:11	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 17:11	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 17:11	WG1758738
Benzo(b)fluoranthene	0.00230	J	0.00153	0.00600	1	10/18/2021 17:11	WG1758738
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/18/2021 17:11	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 17:11	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 17:11	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 17:11	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 17:11	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 17:11	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 17:11	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 17:11	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 17:11	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 17:11	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 17:11	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 17:11	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 17:11	WG1758738
(S) p-Terphenyl-d14	*93.6*			*23.0-120*		*10/18/2021 17:11*	WG1758738
(S) Nitrobenzene-d5	*57.5*			*14.0-149*		*10/18/2021 17:11*	WG1758738
(S) 2-Fluorobiphenyl	*77.0*			*34.0-125*		*10/18/2021 17:11*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	12.1		1	10/18/2021 10:00	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 12:59	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.75	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-03 WG1758016: 8.75 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	818		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-03 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	927		0.0852	0.500	1	10/16/2021 14:38	WG1757831
Cadmium	0.243	J	0.0471	0.500	1	10/16/2021 14:38	WG1757831
Copper	14.8		0.400	2.00	1	10/16/2021 14:38	WG1757831
Lead	11.7		0.208	0.500	1	10/16/2021 14:38	WG1757831
Nickel	26.1		0.132	2.00	1	10/16/2021 14:38	WG1757831
Selenium	2.10		0.764	2.00	1	10/16/2021 14:38	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:38	WG1757831
Zinc	41.7		0.832	5.00	1	10/16/2021 14:38	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.139	J	0.0167	0.200	1	10/18/2021 13:13	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.15		0.100	1.00	5	10/16/2021 16:10	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	10/17/2021 19:35	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*77.0-120*		*10/17/2021 19:35*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 05:59	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 05:59	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 05:59	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 05:59	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 05:59	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 05:59	WG1758061
(S) Toluene-d8	*104*			*75.0-131*		*10/16/2021 05:59*	WG1758061
(S) 4-Bromofluorobenzene	*94.6*			*67.0-138*		*10/16/2021 05:59*	WG1758061
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*10/16/2021 05:59*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.47		1.61	4.00	1	10/18/2021 14:58	WG1758457
C28-C36 Motor Oil Range	14.2		0.274	4.00	1	10/18/2021 14:58	WG1758457
(S) o-Terphenyl	*39.9*			*18.0-148*		*10/18/2021 14:58*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 17:29	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 17:29	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 17:29	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 17:29	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 17:29	WG1758738
Benzo(b)fluoranthene	0.00429	J	0.00153	0.00600	1	10/18/2021 17:29	WG1758738
Benzo(g,h,i)perylene	0.00311	J	0.00177	0.00600	1	10/18/2021 17:29	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 17:29	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 17:29	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 17:29	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 17:29	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 17:29	WG1758738
Indeno(1,2,3-cd)pyrene	0.00192	J	0.00181	0.00600	1	10/18/2021 17:29	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 17:29	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 17:29	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 17:29	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 17:29	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 17:29	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 17:29	WG1758738
(S) p-Terphenyl-d14	*92.4*			*23.0-120*		*10/18/2021 17:29*	WG1758738
(S) Nitrobenzene-d5	*57.6*			*14.0-149*		*10/18/2021 17:29*	WG1758738
(S) 2-Fluorobiphenyl	*75.7*			*34.0-125*		*10/18/2021 17:29*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	18.3		1	10/18/2021 10:03	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.390	J	0.255	1.00	1	10/18/2021 13:04	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.04	T8	1	10/16/2021 09:54	WG1758065

Sample Narrative:
L1416107-04 WG1758065: 9.04 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1320		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:
L1416107-04 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	601		0.0852	0.500	1	10/16/2021 14:42	WG1757831
Cadmium	0.408	J	0.0471	0.500	1	10/16/2021 14:42	WG1757831
Copper	18.9		0.400	2.00	1	10/16/2021 14:42	WG1757831
Lead	14.0		0.208	0.500	1	10/16/2021 14:42	WG1757831
Nickel	24.2		0.132	2.00	1	10/16/2021 14:42	WG1757831
Selenium	1.85	J	0.764	2.00	1	10/16/2021 14:42	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:42	WG1757831
Zinc	46.0		0.832	5.00	1	10/16/2021 14:42	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.158	J	0.0835	1.00	5	10/18/2021 13:16	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.49		0.100	1.00	5	10/16/2021 16:13	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0282	J	0.0217	0.100	1	10/17/2021 19:59	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.6*			*77.0-120*		*10/17/2021 19:59*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 06:18	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 06:18	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 06:18	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 06:18	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 06:18	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 06:18	WG1758061
(S) Toluene-d8	*104*			*75.0-131*		*10/16/2021 06:18*	WG1758061
(S) 4-Bromofluorobenzene	*93.6*			*67.0-138*		*10/16/2021 06:18*	WG1758061
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*10/16/2021 06:18*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	7.10		1.61	4.00	1	10/18/2021 15:25	WG1758457
C28-C36 Motor Oil Range	10.6		0.274	4.00	1	10/18/2021 15:25	WG1758457
(S) o-Terphenyl	*45.0*			*18.0-148*		*10/18/2021 15:25*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 17:47	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 17:47	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 17:47	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 17:47	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 17:47	WG1758738
Benzo(b)fluoranthene	0.00222	J	0.00153	0.00600	1	10/18/2021 17:47	WG1758738
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/18/2021 17:47	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 17:47	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 17:47	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 17:47	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 17:47	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 17:47	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 17:47	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 17:47	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 17:47	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 17:47	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 17:47	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 17:47	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 17:47	WG1758738
(S) p-Terphenyl-d14	*96.4*			*23.0-120*		*10/18/2021 17:47*	WG1758738
(S) Nitrobenzene-d5	*60.5*			*14.0-149*		*10/18/2021 17:47*	WG1758738
(S) 2-Fluorobiphenyl	*79.8*			*34.0-125*		*10/18/2021 17:47*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.55		1	10/18/2021 10:05	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:10	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.63	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-05 WG1758016: 8.63 at 20.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	267		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-05 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	579		0.0852	0.500	1	10/16/2021 14:45	WG1757831
Cadmium	0.374	J	0.0471	0.500	1	10/16/2021 14:45	WG1757831
Copper	16.6		0.400	2.00	1	10/16/2021 14:45	WG1757831
Lead	12.8		0.208	0.500	1	10/16/2021 14:45	WG1757831
Nickel	23.2		0.132	2.00	1	10/16/2021 14:45	WG1757831
Selenium	1.34	J	0.764	2.00	1	10/16/2021 14:45	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:45	WG1757831
Zinc	43.3		0.832	5.00	1	10/16/2021 14:45	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0817	J	0.0167	0.200	1	10/18/2021 13:19	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.60		0.100	1.00	5	10/16/2021 16:17	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0322	J	0.0217	0.100	1	10/17/2021 20:23	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*77.0-120*		*10/17/2021 20:23*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 06:37	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 06:37	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 06:37	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 06:37	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 06:37	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 06:37	WG1758061
(S) Toluene-d8	*103*			*75.0-131*		*10/16/2021 06:37*	WG1758061
(S) 4-Bromofluorobenzene	*91.5*			*67.0-138*		*10/16/2021 06:37*	WG1758061
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*10/16/2021 06:37*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	25.0		1.61	4.00	1	10/18/2021 17:41	WG1758457
C28-C36 Motor Oil Range	34.0		0.274	4.00	1	10/18/2021 17:41	WG1758457
(S) o-Terphenyl	*49.2*			*18.0-148*		*10/18/2021 17:41*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 18:05	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 18:05	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 18:05	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 18:05	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 18:05	WG1758738
Benzo(b)fluoranthene	0.00215	J	0.00153	0.00600	1	10/18/2021 18:05	WG1758738
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/18/2021 18:05	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 18:05	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 18:05	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 18:05	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 18:05	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 18:05	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 18:05	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 18:05	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 18:05	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 18:05	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 18:05	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 18:05	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 18:05	WG1758738
(S) p-Terphenyl-d14	*86.7*			*23.0-120*		*10/18/2021 18:05*	WG1758738
(S) Nitrobenzene-d5	*55.0*			*14.0-149*		*10/18/2021 18:05*	WG1758738
(S) 2-Fluorobiphenyl	*76.1*			*34.0-125*		*10/18/2021 18:05*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.21		1	10/18/2021 10:13	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:25	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.52	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-06 WG1758016: 8.52 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	188		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-06 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	1510		0.0852	0.500	1	10/16/2021 14:48	WG1757831
Cadmium	0.205	J	0.0471	0.500	1	10/16/2021 14:48	WG1757831
Copper	14.5		0.400	2.00	1	10/16/2021 14:48	WG1757831
Lead	14.9		0.208	0.500	1	10/16/2021 14:48	WG1757831
Nickel	23.5		0.132	2.00	1	10/16/2021 14:48	WG1757831
Selenium	2.39		0.764	2.00	1	10/16/2021 14:48	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:48	WG1757831
Zinc	44.9		0.832	5.00	1	10/16/2021 14:48	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0860	J	0.0167	0.200	1	10/18/2021 13:21	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.14		0.100	1.00	5	10/16/2021 16:20	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0279	J	0.0217	0.100	1	10/17/2021 20:46	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.8*			*77.0-120*		*10/17/2021 20:46*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 06:56	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 06:56	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 06:56	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 06:56	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 06:56	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 06:56	WG1758061
(S) Toluene-d8	*103*			*75.0-131*		*10/16/2021 06:56*	WG1758061
(S) 4-Bromofluorobenzene	*92.1*			*67.0-138*		*10/16/2021 06:56*	WG1758061
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*10/16/2021 06:56*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.21	J	1.61	4.00	1	10/18/2021 14:17	WG1758457
C28-C36 Motor Oil Range	1.77	B J	0.274	4.00	1	10/18/2021 14:17	WG1758457
(S) o-Terphenyl	*42.1*			*18.0-148*		*10/18/2021 14:17*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 18:23	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 18:23	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 18:23	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 18:23	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 18:23	WG1758738
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/18/2021 18:23	WG1758738
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/18/2021 18:23	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 18:23	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 18:23	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 18:23	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 18:23	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 18:23	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 18:23	WG1758738
Naphthalene	0.00484	J	0.00408	0.0200	1	10/18/2021 18:23	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 18:23	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 18:23	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 18:23	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 18:23	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 18:23	WG1758738
(S) p-Terphenyl-d14	*94.3*			*23.0-120*		*10/18/2021 18:23*	WG1758738
(S) Nitrobenzene-d5	*57.4*			*14.0-149*		*10/18/2021 18:23*	WG1758738
(S) 2-Fluorobiphenyl	*77.6*			*34.0-125*		*10/18/2021 18:23*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.73		1	10/18/2021 10:16	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:30	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.63	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-07 WG1758016: 8.63 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	229		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-07 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	633		0.0852	0.500	1	10/16/2021 14:51	WG1757831
Cadmium	0.308	J	0.0471	0.500	1	10/16/2021 14:51	WG1757831
Copper	16.2		0.400	2.00	1	10/16/2021 14:51	WG1757831
Lead	12.6		0.208	0.500	1	10/16/2021 14:51	WG1757831
Nickel	20.6		0.132	2.00	1	10/16/2021 14:51	WG1757831
Selenium	2.87		0.764	2.00	1	10/16/2021 14:51	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:51	WG1757831
Zinc	40.8		0.832	5.00	1	10/16/2021 14:51	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.107	J	0.0167	0.200	1	10/18/2021 13:29	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.57		0.100	1.00	5	10/16/2021 16:24	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0323	J	0.0217	0.100	1	10/17/2021 21:10	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*77.0-120*		*10/17/2021 21:10*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 07:15	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 07:15	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 07:15	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 07:15	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 07:15	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 07:15	WG1758061
(S) Toluene-d8	*104*			*75.0-131*		*10/16/2021 07:15*	WG1758061
(S) 4-Bromofluorobenzene	*93.2*			*67.0-138*		*10/16/2021 07:15*	WG1758061
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*10/16/2021 07:15*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	23.5		1.61	4.00	1	10/18/2021 15:11	WG1758457
C28-C36 Motor Oil Range	26.0		0.274	4.00	1	10/18/2021 15:11	WG1758457
(S) o-Terphenyl	*39.8*			*18.0-148*		*10/18/2021 15:11*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 18:40	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 18:40	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 18:40	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 18:40	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 18:40	WG1758738
Benzo(b)fluoranthene	0.00344	J	0.00153	0.00600	1	10/18/2021 18:40	WG1758738
Benzo(g,h,i)perylene	0.00239	J	0.00177	0.00600	1	10/18/2021 18:40	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 18:40	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 18:40	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 18:40	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 18:40	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 18:40	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 18:40	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 18:40	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 18:40	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 18:40	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 18:40	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 18:40	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 18:40	WG1758738
(S) p-Terphenyl-d14	*104*			*23.0-120*		*10/18/2021 18:40*	WG1758738
(S) Nitrobenzene-d5	*56.6*			*14.0-149*		*10/18/2021 18:40*	WG1758738
(S) 2-Fluorobiphenyl	*80.6*			*34.0-125*		*10/18/2021 18:40*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.17		1	10/18/2021 10:19	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:36	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.60	T8	1	10/16/2021 09:54	WG1758065

Sample Narrative:

L1416107-08 WG1758065: 8.6 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	189		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-08 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	277		0.0852	0.500	1	10/16/2021 14:55	WG1757831
Cadmium	0.427	J	0.0471	0.500	1	10/16/2021 14:55	WG1757831
Copper	14.0		0.400	2.00	1	10/16/2021 14:55	WG1757831
Lead	13.3		0.208	0.500	1	10/16/2021 14:55	WG1757831
Nickel	23.7		0.132	2.00	1	10/16/2021 14:55	WG1757831
Selenium	2.08		0.764	2.00	1	10/16/2021 14:55	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:55	WG1757831
Zinc	41.0		0.832	5.00	1	10/16/2021 14:55	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0737	J	0.0167	0.200	1	10/18/2021 13:32	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.85		0.100	1.00	5	10/16/2021 16:27	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0326	J	0.0217	0.100	1	10/17/2021 21:34	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*77.0-120*		*10/17/2021 21:34*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/16/2021 07:34	WG1758061
Toluene	U		0.00130	0.00500	1	10/16/2021 07:34	WG1758061
Ethylbenzene	U		0.000737	0.00250	1	10/16/2021 07:34	WG1758061
Xylenes, Total	U		0.000880	0.00650	1	10/16/2021 07:34	WG1758061
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/16/2021 07:34	WG1758061
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/16/2021 07:34	WG1758061
(S) Toluene-d8	*104*			*75.0-131*		*10/16/2021 07:34*	WG1758061
(S) 4-Bromofluorobenzene	*96.3*			*67.0-138*		*10/16/2021 07:34*	WG1758061
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*10/16/2021 07:34*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2.86	J	1.61	4.00	1	10/18/2021 14:31	WG1758457
C28-C36 Motor Oil Range	3.72	B J	0.274	4.00	1	10/18/2021 14:31	WG1758457
(S) o-Terphenyl	*40.3*			*18.0-148*		*10/18/2021 14:31*	WG1758457

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 18:58	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 18:58	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 18:58	WG1758738
Benzo(a)anthracene	U		0.00173	0.00600	1	10/18/2021 18:58	WG1758738
Benzo(a)pyrene	U		0.00179	0.00600	1	10/18/2021 18:58	WG1758738
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/18/2021 18:58	WG1758738
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/18/2021 18:58	WG1758738
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/18/2021 18:58	WG1758738
Chrysene	U		0.00232	0.00600	1	10/18/2021 18:58	WG1758738
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/18/2021 18:58	WG1758738
Fluoranthene	U		0.00227	0.00600	1	10/18/2021 18:58	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 18:58	WG1758738
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/18/2021 18:58	WG1758738
Naphthalene	U		0.00408	0.0200	1	10/18/2021 18:58	WG1758738
Phenanthrene	U		0.00231	0.00600	1	10/18/2021 18:58	WG1758738
Pyrene	U		0.00200	0.00600	1	10/18/2021 18:58	WG1758738
1-Methylnaphthalene	U		0.00449	0.0200	1	10/18/2021 18:58	WG1758738
2-Methylnaphthalene	U		0.00427	0.0200	1	10/18/2021 18:58	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 18:58	WG1758738
(S) p-Terphenyl-d14	*88.4*			*23.0-120*		*10/18/2021 18:58*	WG1758738
(S) Nitrobenzene-d5	*54.3*			*14.0-149*		*10/18/2021 18:58*	WG1758738
(S) 2-Fluorobiphenyl	*73.0*			*34.0-125*		*10/18/2021 18:58*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.29		1	10/18/2021 10:22	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:46	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.96	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-09 WG1758016: 8.96 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	334		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-09 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	4640		0.426	2.50	5	10/18/2021 12:23	WG1757831
Cadmium	U		0.0471	0.500	1	10/16/2021 14:58	WG1757831
Copper	17.1		0.400	2.00	1	10/16/2021 14:58	WG1757831
Lead	11.1		0.208	0.500	1	10/16/2021 14:58	WG1757831
Nickel	19.9		0.132	2.00	1	10/16/2021 14:58	WG1757831
Selenium	1.36	J	0.764	2.00	1	10/16/2021 14:58	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 14:58	WG1757831
Zinc	39.8		0.832	5.00	1	10/16/2021 14:58	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.03		0.0835	1.00	5	10/18/2021 13:35	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.28		0.100	1.00	5	10/16/2021 16:30	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.117		0.0217	0.100	1	10/17/2021 21:57	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*96.6*			*77.0-120*		*10/17/2021 21:57*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00103		0.000467	0.00100	1	10/16/2021 07:53	WG1758061
Toluene	0.0113		0.00130	0.00500	1	10/16/2021 07:53	WG1758061
Ethylbenzene	0.00225	J	0.000737	0.00250	1	10/16/2021 07:53	WG1758061
Xylenes, Total	0.0316		0.000880	0.00650	1	10/16/2021 07:53	WG1758061
1,2,4-Trimethylbenzene	0.00220	J	0.00158	0.00500	1	10/16/2021 07:53	WG1758061
1,3,5-Trimethylbenzene	0.00463	J	0.00200	0.00500	1	10/16/2021 07:53	WG1758061
(S) Toluene-d8	*105*			*75.0-131*		*10/16/2021 07:53*	WG1758061
(S) 4-Bromofluorobenzene	*95.2*			*67.0-138*		*10/16/2021 07:53*	WG1758061
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*10/16/2021 07:53*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	67.2	J	32.2	80.0	20	10/18/2021 17:54	WG1758457
C28-C36 Motor Oil Range	172		5.48	80.0	20	10/18/2021 17:54	WG1758457
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*10/18/2021 17:54*	WG1758457

Sample Narrative:

L1416107-09 WG1758457: Cannot run at lower dilution due to viscosity of extract

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 20:26	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 20:26	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 20:26	WG1758738
Benzo(a)anthracene	0.0243		0.00173	0.00600	1	10/18/2021 20:26	WG1758738
Benzo(a)pyrene	0.0406		0.00179	0.00600	1	10/18/2021 20:26	WG1758738
Benzo(b)fluoranthene	0.112		0.00153	0.00600	1	10/18/2021 20:26	WG1758738
Benzo(g,h,i)perylene	0.0582		0.00177	0.00600	1	10/18/2021 20:26	WG1758738
Benzo(k)fluoranthene	0.0250		0.00215	0.00600	1	10/18/2021 20:26	WG1758738
Chrysene	0.0268		0.00232	0.00600	1	10/18/2021 20:26	WG1758738
Dibenz(a,h)anthracene	0.0209		0.00172	0.00600	1	10/18/2021 20:26	WG1758738
Fluoranthene	0.0222		0.00227	0.00600	1	10/18/2021 20:26	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 20:26	WG1758738
Indeno(1,2,3-cd)pyrene	0.0446		0.00181	0.00600	1	10/18/2021 20:26	WG1758738
Naphthalene	0.0203		0.00408	0.0200	1	10/18/2021 20:26	WG1758738
Phenanthrene	0.0258		0.00231	0.00600	1	10/18/2021 20:26	WG1758738
Pyrene	0.0123		0.00200	0.00600	1	10/18/2021 20:26	WG1758738
1-Methylnaphthalene	0.0305		0.00449	0.0200	1	10/18/2021 20:26	WG1758738
2-Methylnaphthalene	0.0424		0.00427	0.0200	1	10/18/2021 20:26	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 20:26	WG1758738
(S) p-Terphenyl-d14	*83.2*			*23.0-120*		*10/18/2021 20:26*	WG1758738
(S) Nitrobenzene-d5	*51.6*			*14.0-149*		*10/18/2021 20:26*	WG1758738
(S) 2-Fluorobiphenyl	*70.3*			*34.0-125*		*10/18/2021 20:26*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.82		1	10/18/2021 10:24	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:51	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.82	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-10 WG1758016: 8.82 at 20.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	284		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-10 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	6770		0.426	2.50	5	10/18/2021 12:26	WG1757831
Cadmium	U		0.0471	0.500	1	10/16/2021 15:01	WG1757831
Copper	17.2		0.400	2.00	1	10/16/2021 15:01	WG1757831
Lead	13.1		0.208	0.500	1	10/16/2021 15:01	WG1757831
Nickel	17.2		0.132	2.00	1	10/16/2021 15:01	WG1757831
Selenium	2.23		0.764	2.00	1	10/16/2021 15:01	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 15:01	WG1757831
Zinc	37.8		0.832	5.00	1	10/16/2021 15:01	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.785	J	0.0835	1.00	5	10/18/2021 13:38	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.59		0.100	1.00	5	10/16/2021 16:34	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0990	J	0.0217	0.100	1	10/17/2021 22:21	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*98.2*			*77.0-120*		*10/17/2021 22:21*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000775	J	0.000467	0.00100	1	10/16/2021 08:12	WG1758061
Toluene	0.0128		0.00130	0.00500	1	10/16/2021 08:12	WG1758061
Ethylbenzene	0.00183	J	0.000737	0.00250	1	10/16/2021 08:12	WG1758061
Xylenes, Total	0.0267		0.000880	0.00650	1	10/16/2021 08:12	WG1758061
1,2,4-Trimethylbenzene	0.00188	J	0.00158	0.00500	1	10/16/2021 08:12	WG1758061
1,3,5-Trimethylbenzene	0.00290	J	0.00200	0.00500	1	10/16/2021 08:12	WG1758061
(S) Toluene-d8	*103*			*75.0-131*		*10/16/2021 08:12*	WG1758061
(S) 4-Bromofluorobenzene	*91.3*			*67.0-138*		*10/16/2021 08:12*	WG1758061
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*10/16/2021 08:12*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	53.1	J	32.2	80.0	20	10/18/2021 18:08	WG1758457
C28-C36 Motor Oil Range	153	B	5.48	80.0	20	10/18/2021 18:08	WG1758457
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*10/18/2021 18:08*	WG1758457

Sample Narrative:

L1416107-10 WG1758457: Cannot run at lower dilution due to viscosity of extract

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00378	J	0.00230	0.00600	1	10/18/2021 21:01	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 21:01	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 21:01	WG1758738
Benzo(a)anthracene	0.0407		0.00173	0.00600	1	10/18/2021 21:01	WG1758738
Benzo(a)pyrene	0.0647		0.00179	0.00600	1	10/18/2021 21:01	WG1758738
Benzo(b)fluoranthene	0.174		0.00153	0.00600	1	10/18/2021 21:01	WG1758738
Benzo(g,h,i)perylene	0.0942		0.00177	0.00600	1	10/18/2021 21:01	WG1758738
Benzo(k)fluoranthene	0.0337		0.00215	0.00600	1	10/18/2021 21:01	WG1758738
Chrysene	0.0430		0.00232	0.00600	1	10/18/2021 21:01	WG1758738
Dibenz(a,h)anthracene	0.0342		0.00172	0.00600	1	10/18/2021 21:01	WG1758738
Fluoranthene	0.0398		0.00227	0.00600	1	10/18/2021 21:01	WG1758738
Fluorene	0.00311	J	0.00205	0.00600	1	10/18/2021 21:01	WG1758738
Indeno(1,2,3-cd)pyrene	0.0696		0.00181	0.00600	1	10/18/2021 21:01	WG1758738
Naphthalene	0.0225		0.00408	0.0200	1	10/18/2021 21:01	WG1758738
Phenanthrene	0.0386		0.00231	0.00600	1	10/18/2021 21:01	WG1758738
Pyrene	0.0235		0.00200	0.00600	1	10/18/2021 21:01	WG1758738
1-Methylnaphthalene	0.0327		0.00449	0.0200	1	10/18/2021 21:01	WG1758738
2-Methylnaphthalene	0.0481		0.00427	0.0200	1	10/18/2021 21:01	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 21:01	WG1758738
(S) p-Terphenyl-d14	*86.2*			*23.0-120*		*10/18/2021 21:01*	WG1758738
(S) Nitrobenzene-d5	*54.0*			*14.0-149*		*10/18/2021 21:01*	WG1758738
(S) 2-Fluorobiphenyl	*71.6*			*34.0-125*		*10/18/2021 21:01*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.26		1	10/18/2021 10:27	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 13:56	WG1757947

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.70	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-11 WG1758016: 8.7 at 20.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	315		10.0	1	10/17/2021 17:12	WG1757487

Sample Narrative:

L1416107-11 WG1757487: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	4520		0.426	2.50	5	10/18/2021 12:29	WG1757831
Cadmium	U		0.0471	0.500	1	10/16/2021 15:04	WG1757831
Copper	15.3		0.400	2.00	1	10/16/2021 15:04	WG1757831
Lead	10.0		0.208	0.500	1	10/16/2021 15:04	WG1757831
Nickel	16.9		0.132	2.00	1	10/16/2021 15:04	WG1757831
Selenium	1.76	J	0.764	2.00	1	10/16/2021 15:04	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 15:04	WG1757831
Zinc	34.1		0.832	5.00	1	10/16/2021 15:04	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.08		0.0835	1.00	5	10/18/2021 13:40	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.70		0.100	1.00	5	10/16/2021 16:37	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0997	J	0.0217	0.100	1	10/17/2021 22:45	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*97.8*			*77.0-120*		*10/17/2021 22:45*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000842	J	0.000467	0.00100	1	10/16/2021 08:31	WG1758061
Toluene	0.00780		0.00130	0.00500	1	10/16/2021 08:31	WG1758061
Ethylbenzene	0.00200	J	0.000737	0.00250	1	10/16/2021 08:31	WG1758061
Xylenes, Total	0.0200		0.000880	0.00650	1	10/16/2021 08:31	WG1758061
1,2,4-Trimethylbenzene	0.00171	J	0.00158	0.00500	1	10/16/2021 08:31	WG1758061
1,3,5-Trimethylbenzene	0.00406	J	0.00200	0.00500	1	10/16/2021 08:31	WG1758061
(S) Toluene-d8	*103*			*75.0-131*		*10/16/2021 08:31*	WG1758061
(S) 4-Bromofluorobenzene	*94.1*			*67.0-138*		*10/16/2021 08:31*	WG1758061
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*10/16/2021 08:31*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	51.1	J	32.2	80.0	20	10/18/2021 18:21	WG1758457
C28-C36 Motor Oil Range	148	B	5.48	80.0	20	10/18/2021 18:21	WG1758457
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*10/18/2021 18:21*	WG1758457

Sample Narrative:

L1416107-11 WG1758457: Cannot run at lower dilution due to viscosity of extract

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/18/2021 20:44	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 20:44	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 20:44	WG1758738
Benzo(a)anthracene	0.0209		0.00173	0.00600	1	10/18/2021 20:44	WG1758738
Benzo(a)pyrene	0.0314		0.00179	0.00600	1	10/18/2021 20:44	WG1758738
Benzo(b)fluoranthene	0.0970		0.00153	0.00600	1	10/18/2021 20:44	WG1758738
Benzo(g,h,i)perylene	0.0507		0.00177	0.00600	1	10/18/2021 20:44	WG1758738
Benzo(k)fluoranthene	0.0190		0.00215	0.00600	1	10/18/2021 20:44	WG1758738
Chrysene	0.0227		0.00232	0.00600	1	10/18/2021 20:44	WG1758738
Dibenz(a,h)anthracene	0.0185		0.00172	0.00600	1	10/18/2021 20:44	WG1758738
Fluoranthene	0.0193		0.00227	0.00600	1	10/18/2021 20:44	WG1758738
Fluorene	U		0.00205	0.00600	1	10/18/2021 20:44	WG1758738
Indeno(1,2,3-cd)pyrene	0.0393		0.00181	0.00600	1	10/18/2021 20:44	WG1758738
Naphthalene	0.0140	J	0.00408	0.0200	1	10/18/2021 20:44	WG1758738
Phenanthrene	0.0195		0.00231	0.00600	1	10/18/2021 20:44	WG1758738
Pyrene	0.0112		0.00200	0.00600	1	10/18/2021 20:44	WG1758738
1-Methylnaphthalene	0.0219		0.00449	0.0200	1	10/18/2021 20:44	WG1758738
2-Methylnaphthalene	0.0303		0.00427	0.0200	1	10/18/2021 20:44	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 20:44	WG1758738
(S) p-Terphenyl-d14	*74.0*			*23.0-120*		*10/18/2021 20:44*	WG1758738
(S) Nitrobenzene-d5	*48.1*			*14.0-149*		*10/18/2021 20:44*	WG1758738
(S) 2-Fluorobiphenyl	*62.6*			*34.0-125*		*10/18/2021 20:44*	WG1758738

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.68		1	10/18/2021 10:30	WG1757937

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/18/2021 14:12	WG1758621

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.78	T8	1	10/16/2021 15:00	WG1758016

Sample Narrative:

L1416107-12 WG1758016: 8.78 at 20.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	266		10.0	1	10/17/2021 18:36	WG1757497

Sample Narrative:

L1416107-12 WG1757497: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	4200		0.426	2.50	5	10/18/2021 12:31	WG1757831
Cadmium	U		0.0471	0.500	1	10/16/2021 15:07	WG1757831
Copper	18.7		0.400	2.00	1	10/16/2021 15:07	WG1757831
Lead	12.8		0.208	0.500	1	10/16/2021 15:07	WG1757831
Nickel	18.4		0.132	2.00	1	10/16/2021 15:07	WG1757831
Selenium	1.41	J	0.764	2.00	1	10/16/2021 15:07	WG1757831
Silver	U		0.127	1.00	1	10/16/2021 15:07	WG1757831
Zinc	34.6		0.832	5.00	1	10/16/2021 15:07	WG1757831

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.803	J	0.0835	1.00	5	10/18/2021 13:43	WG1757950

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.60		0.100	1.00	5	10/16/2021 16:41	WG1757828

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.111		0.0217	0.100	1	10/17/2021 23:09	WG1758220
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*77.0-120*		*10/17/2021 23:09*	WG1758220

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00138		0.000467	0.00100	1	10/16/2021 08:51	WG1758061
Toluene	0.0132		0.00130	0.00500	1	10/16/2021 08:51	WG1758061
Ethylbenzene	0.00200	J	0.000737	0.00250	1	10/16/2021 08:51	WG1758061
Xylenes, Total	0.0245		0.000880	0.00650	1	10/16/2021 08:51	WG1758061
1,2,4-Trimethylbenzene	0.00185	J	0.00158	0.00500	1	10/16/2021 08:51	WG1758061
1,3,5-Trimethylbenzene	0.00235	J	0.00200	0.00500	1	10/16/2021 08:51	WG1758061
(S) Toluene-d8	*104*			*75.0-131*		*10/16/2021 08:51*	WG1758061
(S) 4-Bromofluorobenzene	*93.3*			*67.0-138*		*10/16/2021 08:51*	WG1758061
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*10/16/2021 08:51*	WG1758061

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	32.8	J	32.2	80.0	20	10/18/2021 18:35	WG1758457
C28-C36 Motor Oil Range	98.5	B	5.48	80.0	20	10/18/2021 18:35	WG1758457
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*10/18/2021 18:35*	WG1758457

Sample Narrative:

L1416107-12 WG1758457: Cannot run at lower dilution due to viscosity of extract

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00331	J	0.00230	0.00600	1	10/18/2021 21:19	WG1758738
Acenaphthene	U		0.00209	0.00600	1	10/18/2021 21:19	WG1758738
Acenaphthylene	U		0.00216	0.00600	1	10/18/2021 21:19	WG1758738
Benzo(a)anthracene	0.0317		0.00173	0.00600	1	10/18/2021 21:19	WG1758738
Benzo(a)pyrene	0.0514		0.00179	0.00600	1	10/18/2021 21:19	WG1758738
Benzo(b)fluoranthene	0.131		0.00153	0.00600	1	10/18/2021 21:19	WG1758738
Benzo(g,h,i)perylene	0.0716		0.00177	0.00600	1	10/18/2021 21:19	WG1758738
Benzo(k)fluoranthene	0.0276		0.00215	0.00600	1	10/18/2021 21:19	WG1758738
Chrysene	0.0396		0.00232	0.00600	1	10/18/2021 21:19	WG1758738
Dibenz(a,h)anthracene	0.0266		0.00172	0.00600	1	10/18/2021 21:19	WG1758738
Fluoranthene	0.0350		0.00227	0.00600	1	10/18/2021 21:19	WG1758738
Fluorene	0.00446	J	0.00205	0.00600	1	10/18/2021 21:19	WG1758738
Indeno(1,2,3-cd)pyrene	0.0560		0.00181	0.00600	1	10/18/2021 21:19	WG1758738
Naphthalene	0.0643		0.00408	0.0200	1	10/18/2021 21:19	WG1758738
Phenanthrene	0.0538		0.00231	0.00600	1	10/18/2021 21:19	WG1758738
Pyrene	0.0217		0.00200	0.00600	1	10/18/2021 21:19	WG1758738
1-Methylnaphthalene	0.109		0.00449	0.0200	1	10/18/2021 21:19	WG1758738
2-Methylnaphthalene	0.145		0.00427	0.0200	1	10/18/2021 21:19	WG1758738
2-Chloronaphthalene	U		0.00466	0.0200	1	10/18/2021 21:19	WG1758738
(S) p-Terphenyl-d14	*76.8*			*23.0-120*		*10/18/2021 21:19*	WG1758738
(S) Nitrobenzene-d5	*49.5*			*14.0-149*		*10/18/2021 21:19*	WG1758738
(S) 2-Fluorobiphenyl	*65.4*			*34.0-125*		*10/18/2021 21:19*	WG1758738

QUALITY CONTROL SUMMARY

L1416107-01,02,03,04,05,06,07,08,09,10,11

Method Blank (MB)

(MB) R3718019-1 10/18/21 11:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1416107-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1416107-08 10/18/21 13:36 • (DUP) R3718019-7 10/18/21 13:41

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

L1416010-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1416010-01 10/18/21 18:41 • (DUP) R3718019-8 10/18/21 18:47

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.305	0.384	1	22.7	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3718019-2 10/18/21 11:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.68	96.8	80.0-120	

L1416095-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416095-01 10/18/21 12:17 • (MS) R3718019-3 10/18/21 12:26 • (MSD) R3718019-4 10/18/21 12:33

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 %
Hexavalent Chromium	20.0	U	15.8	15.4	78.9	77.0	1	75.0-125			2.47	20

L1416095-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1416095-01 10/18/21 12:17 • (MS) R3718019-5 10/18/21 12:38

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	648	U	590	91.0	50	75.0-125	

Method Blank (MB)

(MB) R3718020-1 10/18/21 14:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1416123-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416123-02 10/18/21 14:33 • (DUP) R3718020-3 10/18/21 14:38

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

L1416125-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1416125-03 10/18/21 15:39 • (DUP) R3718020-4 10/18/21 15:44

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

Laboratory Control Sample (LCS)

(LCS) R3718020-2 10/18/21 14:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.3	103	80.0-120	

L1416125-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416125-04 10/18/21 16:05 • (MS) R3718020-5 10/18/21 16:10 • (MSD) R3718020-6 10/18/21 16:16

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 %
Hexavalent Chromium	20.0	U	11.8	15.2	59.1	76.1	1	75.0-125	J6	J3	25.1	20

L1416125-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1416125-04 10/18/21 16:05 • (MS) R3718020-7 10/18/21 16:21

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	665	U	1570	237	50	75.0-125	J5

L1415463-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1415463-03 10/16/21 12:01 • (DUP) R3717315-2 10/16/21 12:01

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	12.8	12.8	1	0.156		1

Sample Narrative:

OS: 12.79 at 25C

DUP: 12.77 at 25C

L1415853-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1415853-04 10/16/21 12:01 • (DUP) R3717315-3 10/16/21 12:01

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	6.65	6.67	1	0.300		1

Sample Narrative:

OS: 6.65 at 21.7C

DUP: 6.67 at 21.1C

Laboratory Control Sample (LCS)

(LCS) R3717315-1 10/16/21 12:01

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

Sample Narrative:

LCS: 10.03 at 19.9C

L1416945-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1416945-01 10/16/21 15:00 • (DUP) R3717343-2 10/16/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.53	8.54	1	0.117		1

Sample Narrative:

OS: 8.53 at 19.6C

DUP: 8.54 at 20.5C

L1416961-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416961-02 10/16/21 15:00 • (DUP) R3717343-3 10/16/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.04	8.01	1	0.374		1

Sample Narrative:

OS: 8.04 at 19.7C

DUP: 8.01 at 19.9C

Laboratory Control Sample (LCS)

(LCS) R3717343-1 10/16/21 15:00

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

Sample Narrative:

LCS: 10.04 at 20.2C

L1415618-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1415618-04 10/16/21 09:54 • (DUP) R3717299-2 10/16/21 09:54

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.65	8.65	1	0.000		1

Sample Narrative:

OS: 8.65 at 20C

DUP: 8.65 at 20.1C

L1416500-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416500-02 10/16/21 09:54 • (DUP) R3717299-3 10/16/21 09:54

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.74	8.71	1	0.344		1

Sample Narrative:

OS: 8.74 at 19.5C

DUP: 8.71 at 19.8C

Laboratory Control Sample (LCS)

(LCS) R3717299-1 10/16/21 09:54

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

Sample Narrative:

LCS: 10.05 at 20.4C

Method Blank (MB)

(MB) R3717554-1 10/17/21 17:12

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

Sample Narrative:
BLANK: at 25C

L1416107-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1416107-01 10/17/21 17:12 • (DUP) R3717554-3 10/17/21 17:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1270	1270	1	0.394		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1416107-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1416107-10 10/17/21 17:12 • (DUP) R3717554-4 10/17/21 17:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	284	286	1	0.737		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3717554-2 10/17/21 17:12

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	270	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3717562-1 10/17/21 18:36

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

Sample Narrative:
BLANK: at 25C

L1416123-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1416123-03 10/17/21 18:36 • (DUP) R3717562-3 10/17/21 18:36

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	313	315	1	0.637		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1416125-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416125-02 10/17/21 18:36 • (DUP) R3717562-4 10/17/21 18:36

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2090	1920	1	8.41		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3717562-2 10/17/21 18:36

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	276	103	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3717617-1 10/16/21 14:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	0.610		0.0852	0.500
Cadmium	U		0.0471	0.500
Copper	U		0.400	2.00
Lead	0.252	J	0.208	0.500
Nickel	0.159	J	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) R3717617-2 10/16/21 14:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	104	104	80.0-120	
Cadmium	100	100	100	80.0-120	
Copper	100	103	103	80.0-120	
Lead	100	97.2	97.2	80.0-120	
Nickel	100	100	100	80.0-120	
Selenium	100	102	102	80.0-120	
Silver	20.0	18.0	89.8	80.0-120	
Zinc	100	94.8	94.8	80.0-120	

L1416074-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416074-01 10/16/21 14:08 • (MS) R3717617-5 10/16/21 14:17 • (MSD) R3717617-6 10/16/21 14:20

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 %
Barium	100	603	545	753	0.000	150	1	75.0-125	V	J3 V	32.0	20
Cadmium	100	0.150	101	101	101	101	1	75.0-125			0.245	20
Copper	100	12.6	118	118	105	106	1	75.0-125			0.461	20
Lead	100	10.6	109	110	98.8	99.7	1	75.0-125			0.794	20
Nickel	100	12.4	117	118	105	106	1	75.0-125			1.05	20
Selenium	100	1.40	99.8	101	98.4	99.8	1	75.0-125			1.35	20
Silver	20.0	U	18.5	18.5	92.3	92.7	1	75.0-125			0.477	20
Zinc	100	37.7	130	131	92.8	93.3	1	75.0-125			0.407	20

Method Blank (MB)

(MB) R3717951-1 10/18/21 12:57

Analyte	MB Result mg/l	MB Qualifier	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) R3717951-2 10/18/21 13:00 • (LCSD) R3717951-3 10/18/21 13:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	0.996	1.01	99.6	101	80.0-120			0.891	20

Method Blank (MB)

(MB) R3717358-1 10/16/21 15:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3717358-2 10/16/21 15:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	97.8	97.8	80.0-120	

L1416074-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416074-01 10/16/21 15:36 • (MS) R3717358-5 10/16/21 15:46 • (MSD) R3717358-6 10/16/21 15:49

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	3.83	105	99.5	101	95.7	5	75.0-125			5.49	20

Method Blank (MB)

(MB) R3719586-2 10/17/21 16:39

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)	*100*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3719586-1 10/17/21 15:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.20	94.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*100*	*77.0-120*	

Method Blank (MB)

(MB) R3719530-2 10/16/21 02:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*92.1*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3719530-1 10/16/21 01:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.120	96.0	70.0-123	
Ethylbenzene	0.125	0.114	91.2	74.0-126	
Toluene	0.125	0.116	92.8	75.0-121	
1,2,4-Trimethylbenzene	0.125	0.116	92.8	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.120	96.0	73.0-127	
Xylenes, Total	0.375	0.345	92.0	72.0-127	
(S) Toluene-d8			*101*	*75.0-131*	
(S) 4-Bromofluorobenzene			*98.5*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*113*	*70.0-130*	

L1416107-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416107-12 10/16/21 08:51 • (MS) R3719530-3 10/16/21 09:10 • (MSD) R3719530-4 10/16/21 09:29

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 %
Benzene	0.125	0.00138	0.0952	0.0781	75.1	61.4	1	10.0-149			19.7	37
Ethylbenzene	0.125	0.00200	0.0988	0.0760	77.4	59.2	1	10.0-160			26.1	38
Toluene	0.125	0.0132	0.192	0.173	143	128	1	10.0-156			10.4	38
1,2,4-Trimethylbenzene	0.125	0.00185	0.0971	0.0759	76.2	59.2	1	10.0-160			24.5	36
1,3,5-Trimethylbenzene	0.125	0.00235	0.0990	0.0743	77.3	57.6	1	10.0-160			28.5	38
Xylenes, Total	0.375	0.0245	0.401	0.344	100	85.2	1	10.0-160			15.3	38
(S) Toluene-d8					*105*	*101*		*75.0-131*				
(S) 4-Bromofluorobenzene					*97.4*	*95.1*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*105*	*107*		*70.0-130*				

Method Blank (MB)

(MB) R3718051-1 10/18/21 13:23

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	0.825	J	0.274	4.00
(S) o-Terphenyl	*49.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3718051-2 10/18/21 13:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.2	74.4	50.0-150	
(S) o-Terphenyl			*58.3*	*18.0-148*	

L1416123-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416123-04 10/18/21 17:00 • (MS) R3718051-3 10/18/21 17:14 • (MSD) R3718051-4 10/18/21 17:27

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	48.5	14.0	58.8	46.5	92.4	67.0	1	50.0-150		J3	23.4	20
(S) o-Terphenyl					*33.1*	*31.7*		*18.0-148*				

Method Blank (MB)

(MB) R3718052-2 10/18/21 14:49

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	*60.9*			*14.0-149*
(S) 2-Fluorobiphenyl	*84.7*			*34.0-125*
(S) p-Terphenyl-d14	*109*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3718052-1 10/18/21 14:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0733	91.6	50.0-126	
Acenaphthene	0.0800	0.0681	85.1	50.0-120	
Acenaphthylene	0.0800	0.0736	92.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0746	93.3	45.0-120	
Benzo(a)pyrene	0.0800	0.0700	87.5	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0702	87.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0687	85.9	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0692	86.5	49.0-125	
Chrysene	0.0800	0.0738	92.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0716	89.5	47.0-125	
Fluoranthene	0.0800	0.0781	97.6	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3718052-1 10/18/21 14:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0730	91.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0718	89.8	46.0-125	
Naphthalene	0.0800	0.0683	85.4	50.0-120	
Phenanthrene	0.0800	0.0723	90.4	47.0-120	
Pyrene	0.0800	0.0667	83.4	43.0-123	
1-Methylnaphthalene	0.0800	0.0746	93.3	51.0-121	
2-Methylnaphthalene	0.0800	0.0710	88.8	50.0-120	
2-Chloronaphthalene	0.0800	0.0672	84.0	50.0-120	
(S) Nitrobenzene-d5			*64.4*	*14.0-149*	
(S) 2-Fluorobiphenyl			*91.4*	*34.0-125*	
(S) p-Terphenyl-d14			*112*	*23.0-120*	

L1416095-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416095-04 10/18/21 16:00 • (MS) R3718052-3 10/18/21 16:18 • (MSD) R3718052-4 10/18/21 16:36

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	0.0792	U	0.0604	0.0615	76.3	77.7	1	10.0-145			1.80	30
Acenaphthene	0.0792	U	0.0569	0.0595	71.8	75.1	1	14.0-127			4.47	27
Acenaphthylene	0.0792	U	0.0607	0.0639	76.6	80.7	1	21.0-124			5.14	25
Benzo(a)anthracene	0.0792	U	0.0599	0.0639	75.6	80.7	1	10.0-139			6.46	30
Benzo(a)pyrene	0.0792	U	0.0588	0.0620	74.2	78.3	1	10.0-141			5.30	31
Benzo(b)fluoranthene	0.0792	U	0.0566	0.0594	71.5	75.0	1	10.0-140			4.83	36
Benzo(g,h,i)perylene	0.0792	U	0.0571	0.0597	72.1	75.4	1	10.0-140			4.45	33
Benzo(k)fluoranthene	0.0792	U	0.0565	0.0590	71.3	74.5	1	10.0-137			4.33	31
Chrysene	0.0792	U	0.0595	0.0622	75.1	78.5	1	10.0-145			4.44	30
Dibenz(a,h)anthracene	0.0792	U	0.0608	0.0629	76.8	79.4	1	10.0-132			3.40	31
Fluoranthene	0.0792	U	0.0635	0.0667	80.2	84.2	1	10.0-153			4.92	33
Fluorene	0.0792	U	0.0624	0.0633	78.8	79.9	1	11.0-130			1.43	29
Indeno(1,2,3-cd)pyrene	0.0792	U	0.0601	0.0628	75.9	79.3	1	10.0-137			4.39	32
Naphthalene	0.0792	0.0149	0.0928	0.0998	98.4	107	1	10.0-135			7.27	27
Phenanthrene	0.0792	U	0.0587	0.0612	74.1	77.3	1	10.0-144			4.17	31
Pyrene	0.0792	U	0.0552	0.0576	69.7	72.7	1	10.0-148			4.26	35
1-Methylnaphthalene	0.0792	U	0.0659	0.0693	83.2	87.5	1	10.0-142			5.03	28
2-Methylnaphthalene	0.0792	0.00499	0.0690	0.0723	80.8	85.0	1	10.0-137			4.67	28
2-Chloronaphthalene	0.0792	U	0.0559	0.0591	70.6	74.6	1	29.0-120			5.57	24
(S) Nitrobenzene-d5					*73.2*	*61.6*		*14.0-149*				
(S) 2-Fluorobiphenyl					*83.5*	*85.1*		*34.0-125*				
(S) p-Terphenyl-d14					*101*	*100*		*23.0-120*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace 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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36 496 Historical; PH 05, 11, & 12	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID #: B36 496 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : Quote #: / DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR,pH, Arsenic	Lab Sample # / Comments:
PH12 (SEWALL@9")	SL	G	10/7/2021	1120				2	G	X	X	X	X	X	L1416107-01
PH12 (SWWALL@9")	SL	G	10/7/2021	1125				2	G	X	X	X	X	X	-02
PH12 (NWALL@9")	SL	G	10/7/2021	1130				2	G	X	X	X	X	X	-03
PH12 (BASE@19")	SL	G	10/7/2021	1135				2	G	X	X	X	X	X	-04
PH11 (SEWALL@8")	SL	G	10/7/2021	1140				2	G	X	X	X	X	X	-05
PH11 (SWWALL@8")	SL	G	10/7/2021	1145				2	G	X	X	X	X	X	-06
PH11 (NWALL@8")	SL	G	10/7/2021	1150				2	G	X	X	X	X	X	-07
PH11 (BASE@16")	SL	G	10/7/2021	1155				2	G	X	X	X	X	X	-08
PH05 (NWWALL@12")	SL	G	10/7/2021	1200				2	G	X	X	X	X	X	-09
PH05 (NEWALL@12")	SL	G	10/7/2021	1205				2	G	X	X	X	X	X	-10

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Please use prefix "20211007 - B36 - 496_*SAMPLE ID*" in front of all sample IDs, please.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#: A607

Cooler 1 Temp Upon Receipt: 7 oC

Cooler 1 Therm Corr. Factor: -0 oC

Cooler 1 Corrected Temp: 7 oC

Comments:

Relinquished by/Company: (Signature)	Date/Time: 10-8-21/1200	Received by/Company: (Signature) / Date/Time: 10/8 1430
Relinquished by/Company: (Signature)	Date/Time: 10/8 1700	Received by/Company: (Signature) / Date/Time: 10/9/21 930
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) / Date/Time:

B103

Template:

Prelogin:

PM:

PB:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s): YES / NO

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36 496 Historical; PH 05, 11, & 12	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B36 496 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Analyses: BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR,pH, Arsenic
PH05 (SWALL@12")	SL	G	10/7/2021	1210				2	G	X	X	X	X	X
PH05 (BASE@24")	SL	G	10/7/2021	1215				2	G	X	X	X	X	X

Lab Profile/Line: 21416107

-11

-12

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:
Please use prefix "20211007 - B36 - 496_*SAMPLE ID*" in front of all sample IDs, please.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: ABOT
Cooler 1 Temp Upon Receipt: -7 oC
Cooler 1 Therm Corr. Factor: 0 oC
Cooler 1 Corrected Temp: -7 oC
Comments:

	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature) AS	10-8-21/1200		10/8 1430
Relinquished by/Company: (Signature)	10/8 1700		10/9/21 930
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 2 of: 2

ANALYTICAL REPORT

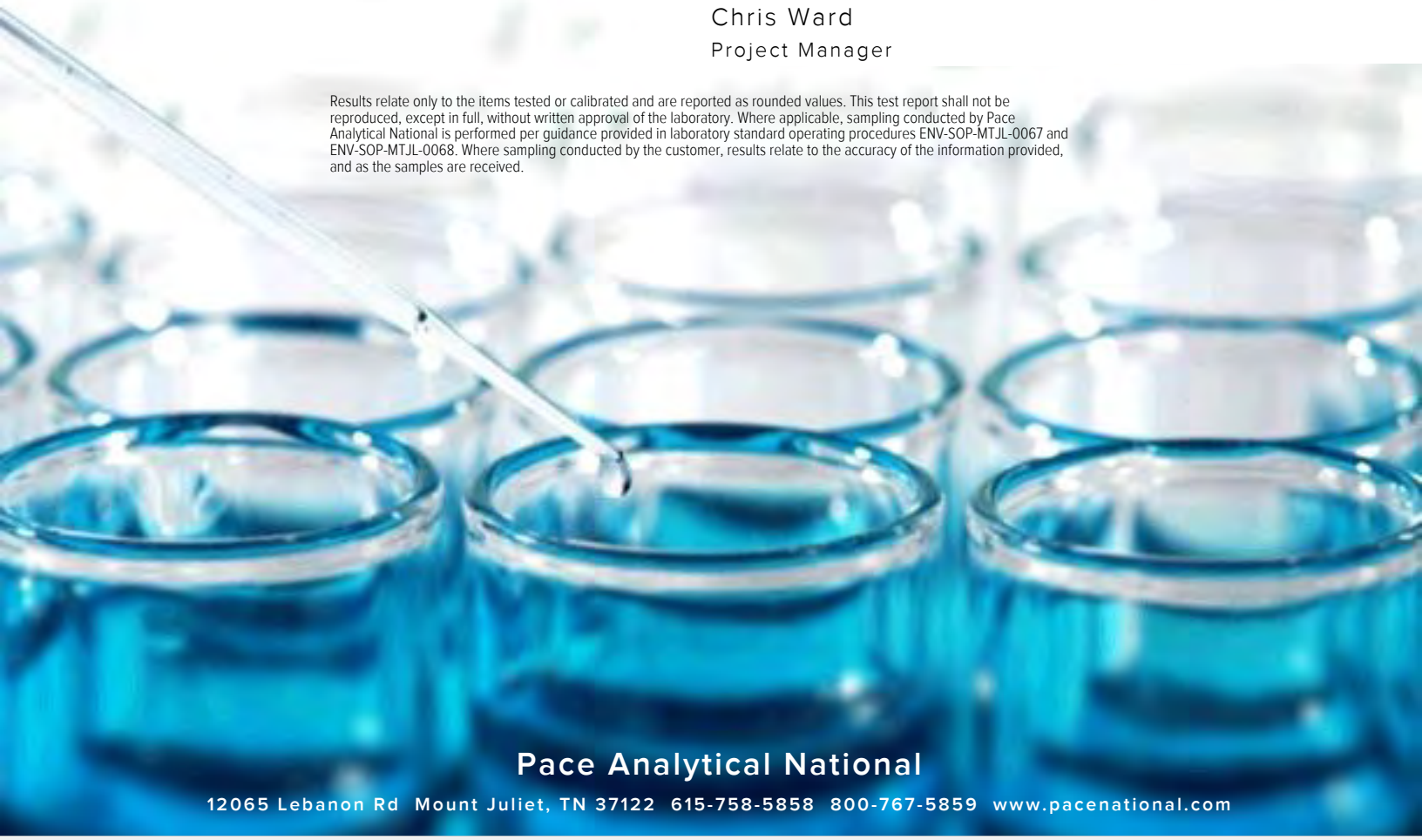
October 18, 2021

Caerus Oil and Gas

Sample Delivery Group:	L1416129
Samples Received:	10/09/2021
Project Number:	
Description:	B36 496 Historical
Site:	B36 496
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward
Project Manager



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

TABLE OF CONTENTS

SAMPLE SUMMARY

20211007-B36-496(BGS@1.5') L1416129-01 Solid

Collected by: Andrew Smith
Collected date/time: 10/07/21 09:45
Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757943	1	10/18/21 11:32	10/18/21 11:32	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1757689	1	10/15/21 15:00	10/16/21 17:08	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757499	1	10/17/21 13:59	10/17/21 17:58	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757857	5	10/16/21 00:26	10/16/21 18:37	JPD	Mt. Juliet, TN

20211007-B36-496(BGS_2@2') L1416129-02 Solid

Collected by: Andrew Smith
Collected date/time: 10/07/21 10:00
Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757943	1	10/18/21 11:34	10/18/21 11:34	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758065	1	10/16/21 08:00	10/16/21 09:54	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757499	1	10/17/21 13:59	10/17/21 17:58	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757857	5	10/16/21 00:26	10/16/21 18:43	JPD	Mt. Juliet, TN

20211007-B36-496(BGSW@3') L1416129-03 Solid

Collected by: Andrew Smith
Collected date/time: 10/07/21 13:25
Received date/time: 10/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1757943	1	10/18/21 11:42	10/18/21 11:42	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1758065	1	10/16/21 08:00	10/16/21 09:54	AW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1757499	1	10/17/21 13:59	10/17/21 17:58	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1757857	5	10/16/21 00:26	10/16/21 18:47	JPD	Mt. Juliet, TN

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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.122		1	10/18/2021 11:32	WG1757943

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.05	T8	1	10/16/2021 17:08	WG1757689

Sample Narrative:
L1416129-01 WG1757689: 8.05 at 19.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	148		10.0	1	10/17/2021 17:58	WG1757499

Sample Narrative:
L1416129-01 WG1757499: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.71		0.100	1.00	5	10/16/2021 18:37	WG1757857

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.201		1	10/18/2021 11:34	WG1757943

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.35	T8	1	10/16/2021 09:54	WG1758065

Sample Narrative:
L1416129-02 WG1758065: 7.35 at 19.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	151		10.0	1	10/17/2021 17:58	WG1757499

Sample Narrative:
L1416129-02 WG1757499: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.68		0.100	1.00	5	10/16/2021 18:43	WG1757857

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.147		1	10/18/2021 11:42	WG1757943

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.97	T8	1	10/16/2021 09:54	WG1758065

Sample Narrative:
L1416129-03 WG1758065: 7.97 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	192		10.0	1	10/17/2021 17:58	WG1757499

Sample Narrative:
L1416129-03 WG1757499: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.52		0.100	1.00	5	10/16/2021 18:47	WG1757857

QUALITY CONTROL SUMMARY

L1416129-01

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3717381-2 10/16/21 17:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		su		%		%
pH		6.46	1	0.309		1

Sample Narrative:

DUP: 6.46 at 20.4C

Laboratory Control Sample (LCS)

(LCS) R3717381-1 10/16/21 17:08

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

Sample Narrative:

LCS: 10.02 at 19.8C

L1415618-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1415618-04 10/16/21 09:54 • (DUP) R3717299-2 10/16/21 09:54

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.65	8.65	1	0.000		1

Sample Narrative:

OS: 8.65 at 20C

DUP: 8.65 at 20.1C

L1416500-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416500-02 10/16/21 09:54 • (DUP) R3717299-3 10/16/21 09:54

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.74	8.71	1	0.344		1

Sample Narrative:

OS: 8.74 at 19.5C

DUP: 8.71 at 19.8C

Laboratory Control Sample (LCS)

(LCS) R3717299-1 10/16/21 09:54

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

Sample Narrative:

LCS: 10.05 at 20.4C

QUALITY CONTROL SUMMARY

L1416129-01,02,03

Method Blank (MB)

(MB) R3717557-1 10/17/21 17:58

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

Sample Narrative:

BLANK: at 25C

L1416938-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1416938-03 10/17/21 17:58 • (DUP) R3717557-3 10/17/21 17:58

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1170	1180	1	0.595		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1416956-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416956-02 10/17/21 17:58 • (DUP) R3717557-4 10/17/21 17:58

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	3140	3210	1	2.20		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3717557-2 10/17/21 17:58

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

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R3717385-1 10/16/21 16:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3717385-2 10/16/21 16:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	87.8	87.8	80.0-120	

L1416099-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416099-03 10/16/21 16:58 • (MS) R3717385-5 10/16/21 17:08 • (MSD) R3717385-6 10/16/21 17:12

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	5.16	84.2	88.7	79.0	83.5	5	75.0-125			5.21	20

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.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36 496 Historical	State: CO / Garfield; County/City:; Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID #: B36 496; Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : Quote #: DW PWS ID #: DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day; Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day; Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	EC, SAR, pH	Arsenic	Lab Profile/Line: L1416129
20211007 - B36-496 (BGS@1.5')	SL	G	10/7/2021	0945				2	G	X	X	-01
20211007 - B36-496 (BGS_2@2')	SL	G	10/7/2021	1000				2	G	X	X	-02
20211007 - B36-496 (BGSW@3')	SL	G	10/7/2021	1325				2	G	X	X	-03

Lab Profile/Line:

Lab Sample Receipt Checklist:	
Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: Hoot
Cooler 1 Temp Upon Receipt: 7 oC
Cooler 1 Therm Corr. Factor: -1.0 oC
Cooler 1 Corrected Temp: 6 oC
Comments:

Relinquished by/Company: (Signature) AS	Date/Time: 10-8-21/1200	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 10/9/21 930
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

B104

Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

ANALYTICAL REPORT

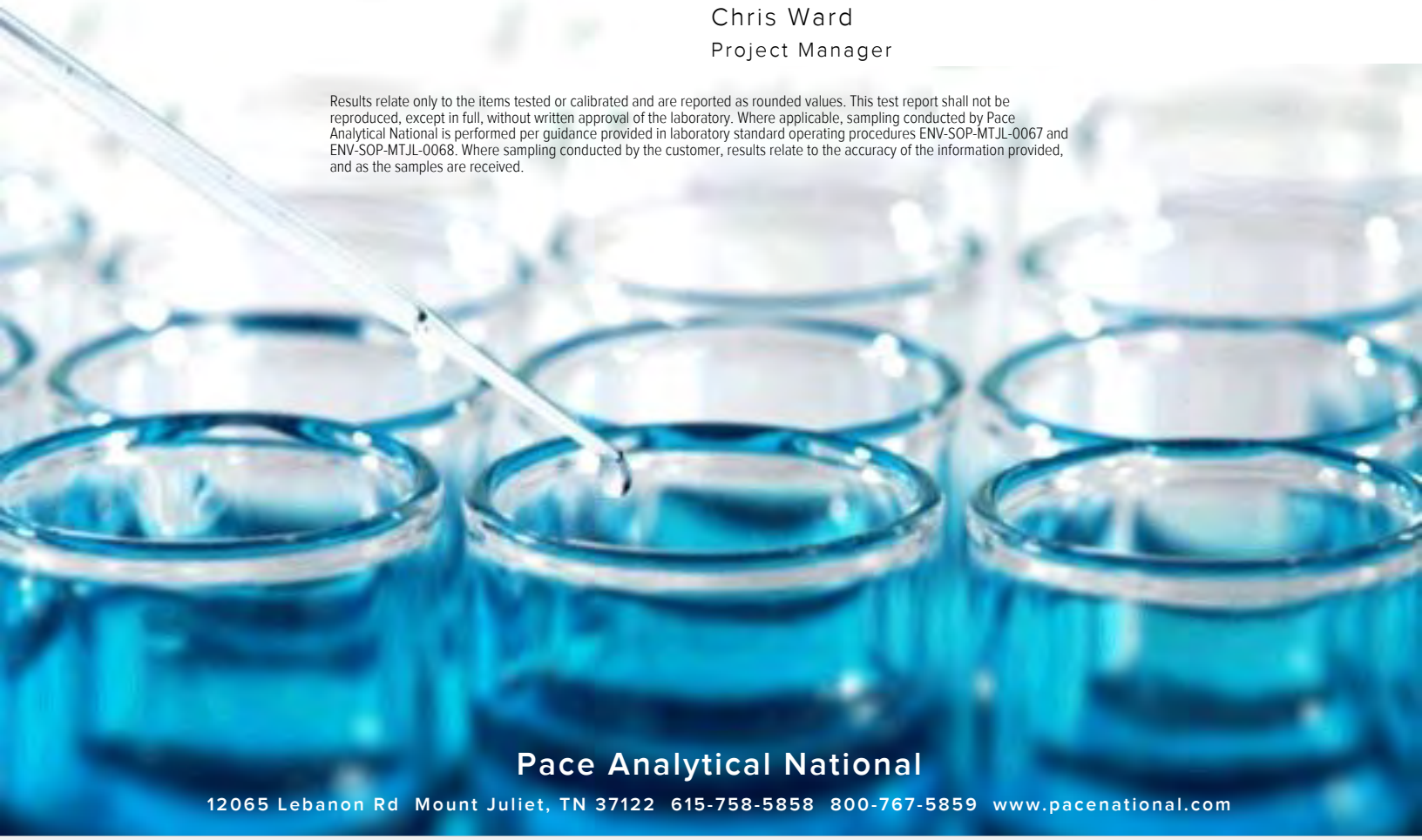
November 23, 2021

Caerus Oil and Gas

Sample Delivery Group:	L1430873
Samples Received:	11/12/2021
Project Number:	B36-496 HISTORICAL
Description:	PH05 & PH12
Site:	B36-496
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20211110-B36-496-PH12-BASE@5' L1430873-01 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:30 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 12:51	11/19/21 12:51	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1774909	1	11/16/21 12:00	11/16/21 12:00	PSN	Mt. Juliet, TN

20211110-B36-496-PH12-NWS@3' L1430873-02 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:45 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 12:54	11/19/21 12:54	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-WSW@3' L1430873-03 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:50 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 12:56	11/19/21 12:56	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-WSW2@3' L1430873-04 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:55 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 12:59	11/19/21 12:59	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-WSW3@3' L1430873-05 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:00 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:02	11/19/21 13:02	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-ESW@3' L1430873-06 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:10 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:04	11/19/21 13:04	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-ESW2@3' L1430873-07 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:15 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:07	11/19/21 13:07	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-ESW3@3' L1430873-08 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:20 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:10	11/19/21 13:10	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-ESW4@3' L1430873-09 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:25 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:12	11/19/21 13:12	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-SSW@3' L1430873-10 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:30 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:20	11/19/21 13:20	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-SSW2@3' L1430873-11 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:35 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:23	11/19/21 13:23	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-SSW3@3' L1430873-12 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:40 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:26	11/19/21 13:26	KMG	Mt. Juliet, TN

20211110-B36-496-PH12-SSW4@3' L1430873-13 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:45 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776052	1	11/19/21 13:28	11/19/21 13:28	KMG	Mt. Juliet, TN

20211110-B36-496-PH05-BASE@4' L1430873-14 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 11:00 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776014	1	11/19/21 15:16	11/19/21 15:16	KMG	Mt. Juliet, TN
Calculated Results	WG1775193	1	11/17/21 05:53	11/22/21 15:23	ARM	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1776932	1	11/20/21 14:30	11/22/21 15:23	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1774909	1	11/16/21 12:00	11/16/21 12:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1774823	1	11/17/21 05:18	11/17/21 10:59	PSN	Mt. Juliet, TN
Mercury by Method 7471A	WG1776020	1	11/18/21 12:32	11/19/21 09:16	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	1	11/17/21 05:53	11/18/21 16:45	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	5	11/17/21 05:53	11/19/21 11:58	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1776006	1	11/18/21 10:31	11/19/21 16:10	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1775181	5	11/17/21 05:51	11/17/21 22:50	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1777387	1	11/16/21 21:05	11/19/21 18:43	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1776129	1	11/16/21 21:05	11/17/21 23:51	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1775945	1	11/18/21 06:33	11/18/21 14:57	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1777082	1	11/19/21 10:05	11/19/21 21:33	AMG	Mt. Juliet, TN

20211110-B36-496-PH05-SSW@2.5 L1430873-15 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 11:10 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776014	1	11/19/21 15:18	11/19/21 15:18	KMG	Mt. Juliet, TN
Calculated Results	WG1775193	1	11/17/21 05:53	11/19/21 00:31	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1775639	1	11/17/21 09:00	11/19/21 00:31	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1774909	1	11/16/21 12:00	11/16/21 12:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1774823	1	11/17/21 05:18	11/17/21 10:59	PSN	Mt. Juliet, TN
Mercury by Method 7471A	WG1776020	1	11/18/21 12:32	11/19/21 09:18	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	1	11/17/21 05:53	11/18/21 16:48	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	5	11/17/21 05:53	11/19/21 12:01	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1776006	1	11/18/21 10:31	11/19/21 16:12	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1775181	5	11/17/21 05:51	11/17/21 22:53	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1777387	1	11/16/21 21:05	11/19/21 19:05	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1776129	1	11/16/21 21:05	11/18/21 00:10	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1775945	5	11/18/21 06:33	11/18/21 15:24	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1777082	1	11/19/21 10:05	11/19/21 20:58	AMG	Mt. Juliet, TN

20211110-B36-496-PH05-WSW@2.5 L1430873-16 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 11:20 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776014	1	11/19/21 15:21	11/19/21 15:21	KMG	Mt. Juliet, TN
Calculated Results	WG1775193	1	11/17/21 05:53	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1776932	1	11/20/21 14:30	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1774909	1	11/16/21 12:00	11/16/21 12:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1774823	1	11/17/21 05:18	11/17/21 10:59	PSN	Mt. Juliet, TN
Mercury by Method 7471A	WG1776020	1	11/18/21 12:32	11/19/21 09:21	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	1	11/17/21 05:53	11/18/21 16:51	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1776006	1	11/18/21 10:31	11/19/21 16:15	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1775181	5	11/17/21 05:51	11/17/21 23:06	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1777387	1	11/16/21 21:05	11/19/21 19:26	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1776129	1	11/16/21 21:05	11/18/21 00:30	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1775945	1	11/18/21 06:33	11/18/21 14:30	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1777082	1	11/19/21 10:05	11/19/21 18:53	AMG	Mt. Juliet, TN

20211110-B36-496-PH05-ESW@2.5 L1430873-17 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 11:30 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776014	1	11/19/21 15:24	11/19/21 15:24	KMG	Mt. Juliet, TN
Calculated Results	WG1775193	1	11/17/21 05:53	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1776932	1	11/20/21 14:30	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1774909	1	11/16/21 12:00	11/16/21 12:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1774823	1	11/17/21 05:18	11/17/21 10:59	PSN	Mt. Juliet, TN
Mercury by Method 7471A	WG1776020	1	11/18/21 12:32	11/19/21 09:23	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	1	11/17/21 05:53	11/18/21 16:54	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	5	11/17/21 05:53	11/19/21 12:03	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1776006	1	11/18/21 10:31	11/19/21 16:18	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1775181	5	11/17/21 05:51	11/17/21 23:09	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1776315	1	11/16/21 21:05	11/18/21 06:59	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1776129	1	11/16/21 21:05	11/18/21 00:49	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1775945	5	11/18/21 06:33	11/18/21 15:10	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1777082	1	11/19/21 10:05	11/19/21 22:44	AMG	Mt. Juliet, TN

SAMPLE SUMMARY

20211110-B36-496-PH05-NSW@2.5 L1430873-18 Solid

Collected by: Andrew Smith
Collected date/time: 11/10/21 11:45
Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776014	1	11/19/21 15:27	11/19/21 15:27	KMG	Mt. Juliet, TN
Calculated Results	WG1775193	1	11/17/21 05:53	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1776932	1	11/20/21 14:30	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1774909	1	11/16/21 12:00	11/16/21 12:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1774823	1	11/17/21 05:18	11/17/21 10:59	PSN	Mt. Juliet, TN
Mercury by Method 7471A	WG1776020	1	11/18/21 12:32	11/19/21 09:26	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	1	11/17/21 05:53	11/18/21 16:57	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	5	11/17/21 05:53	11/19/21 12:06	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1776006	1	11/18/21 10:31	11/19/21 16:20	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1775181	5	11/17/21 05:51	11/17/21 23:12	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1776315	1	11/16/21 21:05	11/18/21 07:21	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1776129	1	11/16/21 21:05	11/18/21 01:08	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1775945	1	11/18/21 06:33	11/18/21 14:43	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1777082	1	11/19/21 10:05	11/19/21 21:15	AMG	Mt. Juliet, TN

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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.96		1	11/19/2021 12:51	WG1776052

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.13	T8	1	11/16/2021 12:00	WG1774909

Sample Narrative:

L1430873-01 WG1774909: 8.13 at 20C

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.76		1	11/19/2021 12:54	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.83		1	11/19/2021 12:56	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.15		1	11/19/2021 12:59	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	7.52		1	11/19/2021 13:02	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	21.9		1	11/19/2021 13:04	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.2		1	11/19/2021 13:07	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	10.0		1	11/19/2021 13:10	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.00		1	11/19/2021 13:12	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.02		1	11/19/2021 13:20	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.88		1	11/19/2021 13:23	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.69		1	11/19/2021 13:26	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.08		1	11/19/2021 13:28	WG1776052

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.60		1	11/19/2021 15:16	WG1776014

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	36.0		0.133	1.00	1	11/22/2021 15:23	WG1775193

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/22/2021 15:23	WG1776932

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.81	T8	1	11/16/2021 12:00	WG1774909

Sample Narrative:

L1430873-14 WG1774909: 8.81 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	220		10.0	1	11/17/2021 10:59	WG1774823

Sample Narrative:

L1430873-14 WG1774823: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0263	J	0.0180	0.0400	1	11/19/2021 09:16	WG1776020

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	2340		0.426	2.50	5	11/19/2021 11:58	WG1775193
Cadmium	0.132	J	0.0471	0.500	1	11/18/2021 16:45	WG1775193
Chromium	36.0		0.133	1.00	1	11/18/2021 16:45	WG1775193
Copper	18.8		0.400	2.00	1	11/18/2021 16:45	WG1775193
Lead	15.5		0.208	0.500	1	11/18/2021 16:45	WG1775193
Nickel	20.8		0.132	2.00	1	11/18/2021 16:45	WG1775193
Selenium	U		0.764	2.00	1	11/18/2021 16:45	WG1775193
Silver	U		0.127	1.00	1	11/18/2021 16:45	WG1775193
Zinc	46.4		0.832	5.00	1	11/18/2021 16:45	WG1775193

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.451		0.0167	0.200	1	11/19/2021 16:10	WG1776006

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.57		0.100	1.00	5	11/17/2021 22:50	WG1775181

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0466	J	0.0217	0.100	1	11/19/2021 18:43	WG1777387
(S) a,a,a-Trifluorotoluene(FID)	*108*			*77.0-120*		*11/19/2021 18:43*	WG1777387

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/17/2021 23:51	WG1776129
Toluene	0.00210	J	0.00130	0.00500	1	11/17/2021 23:51	WG1776129
Ethylbenzene	U		0.000737	0.00250	1	11/17/2021 23:51	WG1776129
Total Xylenes	0.00247	J	0.000880	0.00650	1	11/17/2021 23:51	WG1776129
(S) Toluene-d8	*111*			*75.0-131*		*11/17/2021 23:51*	WG1776129
(S) 4-Bromofluorobenzene	*95.4*			*67.0-138*		*11/17/2021 23:51*	WG1776129
(S) 1,2-Dichloroethane-d4	*99.2*			*70.0-130*		*11/17/2021 23:51*	WG1776129

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	20.3		0.769	4.00	1	11/18/2021 14:57	WG1775945
(S) o-Terphenyl	*63.2*			*18.0-148*		*11/18/2021 14:57*	WG1775945

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/19/2021 21:33	WG1777082
Acenaphthene	U		0.00209	0.00600	1	11/19/2021 21:33	WG1777082
Acenaphthylene	U		0.00216	0.00600	1	11/19/2021 21:33	WG1777082
Benzo(a)anthracene	0.00663		0.00173	0.00600	1	11/19/2021 21:33	WG1777082
Benzo(a)pyrene	0.00874		0.00179	0.00600	1	11/19/2021 21:33	WG1777082
Benzo(b)fluoranthene	0.0302		0.00153	0.00600	1	11/19/2021 21:33	WG1777082
Benzo(g,h,i)perylene	0.0181		0.00177	0.00600	1	11/19/2021 21:33	WG1777082
Benzo(k)fluoranthene	0.00773		0.00215	0.00600	1	11/19/2021 21:33	WG1777082
Chrysene	0.00913		0.00232	0.00600	1	11/19/2021 21:33	WG1777082
Dibenz(a,h)anthracene	0.00613		0.00172	0.00600	1	11/19/2021 21:33	WG1777082
Fluoranthene	0.00673		0.00227	0.00600	1	11/19/2021 21:33	WG1777082
Fluorene	U		0.00205	0.00600	1	11/19/2021 21:33	WG1777082
Indeno(1,2,3-cd)pyrene	0.0130		0.00181	0.00600	1	11/19/2021 21:33	WG1777082
Naphthalene	0.00696	J	0.00408	0.0200	1	11/19/2021 21:33	WG1777082
Phenanthrene	0.00976		0.00231	0.00600	1	11/19/2021 21:33	WG1777082
Pyrene	0.00364	J	0.00200	0.00600	1	11/19/2021 21:33	WG1777082
1-Methylnaphthalene	0.00821	J	0.00449	0.0200	1	11/19/2021 21:33	WG1777082
2-Methylnaphthalene	0.0140	J	0.00427	0.0200	1	11/19/2021 21:33	WG1777082
2-Chloronaphthalene	U		0.00466	0.0200	1	11/19/2021 21:33	WG1777082
(S) p-Terphenyl-d14	*81.6*			*23.0-120*		*11/19/2021 21:33*	WG1777082
(S) Nitrobenzene-d5	*61.7*			*14.0-149*		*11/19/2021 21:33*	WG1777082
(S) 2-Fluorobiphenyl	*62.7*			*34.0-125*		*11/19/2021 21:33*	WG1777082

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.88		1	11/19/2021 15:18	WG1776014

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	32.8		0.133	1.00	1	11/19/2021 00:31	WG1775193

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	0.760	J	0.640	2.00	1	11/19/2021 00:31	WG1775639

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.70	T8	1	11/16/2021 12:00	WG1774909

Sample Narrative:

L1430873-15 WG1774909: 8.7 at 19.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	208		10.0	1	11/17/2021 10:59	WG1774823

Sample Narrative:

L1430873-15 WG1774823: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0271	J	0.0180	0.0400	1	11/19/2021 09:18	WG1776020

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	3770		0.426	2.50	5	11/19/2021 12:01	WG1775193
Cadmium	0.0777	J	0.0471	0.500	1	11/18/2021 16:48	WG1775193
Chromium	33.6		0.133	1.00	1	11/18/2021 16:48	WG1775193
Copper	17.4		0.400	2.00	1	11/18/2021 16:48	WG1775193
Lead	14.0		0.208	0.500	1	11/18/2021 16:48	WG1775193
Nickel	20.6		0.132	2.00	1	11/18/2021 16:48	WG1775193
Selenium	1.74	J	0.764	2.00	1	11/18/2021 16:48	WG1775193
Silver	U		0.127	1.00	1	11/18/2021 16:48	WG1775193
Zinc	43.1		0.832	5.00	1	11/18/2021 16:48	WG1775193

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.06		0.0167	0.200	1	11/19/2021 16:12	WG1776006

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.15		0.100	1.00	5	11/17/2021 22:53	WG1775181

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0868	J	0.0217	0.100	1	11/19/2021 19:05	WG1777387
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*11/19/2021 19:05*	WG1777387

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/18/2021 00:10	WG1776129
Toluene	0.00318	J	0.00130	0.00500	1	11/18/2021 00:10	WG1776129
Ethylbenzene	U		0.000737	0.00250	1	11/18/2021 00:10	WG1776129
Total Xylenes	0.00523	J	0.000880	0.00650	1	11/18/2021 00:10	WG1776129
(S) Toluene-d8	*110*			*75.0-131*		*11/18/2021 00:10*	WG1776129
(S) 4-Bromofluorobenzene	*95.0*			*67.0-138*		*11/18/2021 00:10*	WG1776129
(S) 1,2-Dichloroethane-d4	*95.4*			*70.0-130*		*11/18/2021 00:10*	WG1776129

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	22.0		3.85	20.0	5	11/18/2021 15:24	WG1775945
(S) o-Terphenyl	*70.5*			*18.0-148*		*11/18/2021 15:24*	WG1775945

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/19/2021 20:58	WG1777082
Acenaphthene	0.00358	J	0.00209	0.00600	1	11/19/2021 20:58	WG1777082
Acenaphthylene	U		0.00216	0.00600	1	11/19/2021 20:58	WG1777082
Benzo(a)anthracene	0.0166		0.00173	0.00600	1	11/19/2021 20:58	WG1777082
Benzo(a)pyrene	0.0254		0.00179	0.00600	1	11/19/2021 20:58	WG1777082
Benzo(b)fluoranthene	0.0755		0.00153	0.00600	1	11/19/2021 20:58	WG1777082
Benzo(g,h,i)perylene	0.0423		0.00177	0.00600	1	11/19/2021 20:58	WG1777082
Benzo(k)fluoranthene	0.0160		0.00215	0.00600	1	11/19/2021 20:58	WG1777082
Chrysene	0.0190		0.00232	0.00600	1	11/19/2021 20:58	WG1777082
Dibenz(a,h)anthracene	0.0147		0.00172	0.00600	1	11/19/2021 20:58	WG1777082
Fluoranthene	0.0147		0.00227	0.00600	1	11/19/2021 20:58	WG1777082
Fluorene	0.00378	J	0.00205	0.00600	1	11/19/2021 20:58	WG1777082
Indeno(1,2,3-cd)pyrene	0.0337		0.00181	0.00600	1	11/19/2021 20:58	WG1777082
Naphthalene	0.0988		0.00408	0.0200	1	11/19/2021 20:58	WG1777082
Phenanthrene	0.0588		0.00231	0.00600	1	11/19/2021 20:58	WG1777082
Pyrene	0.0103		0.00200	0.00600	1	11/19/2021 20:58	WG1777082
1-Methylnaphthalene	0.176		0.00449	0.0200	1	11/19/2021 20:58	WG1777082
2-Methylnaphthalene	0.221		0.00427	0.0200	1	11/19/2021 20:58	WG1777082
2-Chloronaphthalene	U		0.00466	0.0200	1	11/19/2021 20:58	WG1777082
(S) p-Terphenyl-d14	*76.6*			*23.0-120*		*11/19/2021 20:58*	WG1777082
(S) Nitrobenzene-d5	*63.4*			*14.0-149*		*11/19/2021 20:58*	WG1777082
(S) 2-Fluorobiphenyl	*60.8*			*34.0-125*		*11/19/2021 20:58*	WG1777082

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.17		1	11/19/2021 15:21	WG1776014

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	27.6		0.133	1.00	1	11/22/2021 15:24	WG1775193

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/22/2021 15:24	WG1776932

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.81	T8	1	11/16/2021 12:00	WG1774909

Sample Narrative:

L1430873-16 WG1774909: 8.81 at 19.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	181		10.0	1	11/17/2021 10:59	WG1774823

Sample Narrative:

L1430873-16 WG1774823: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0294	J	0.0180	0.0400	1	11/19/2021 09:21	WG1776020

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	879		0.0852	0.500	1	11/18/2021 16:51	WG1775193
Cadmium	0.288	J	0.0471	0.500	1	11/18/2021 16:51	WG1775193
Chromium	27.6		0.133	1.00	1	11/18/2021 16:51	WG1775193
Copper	16.9		0.400	2.00	1	11/18/2021 16:51	WG1775193
Lead	11.9		0.208	0.500	1	11/18/2021 16:51	WG1775193
Nickel	20.2		0.132	2.00	1	11/18/2021 16:51	WG1775193
Selenium	1.09	J	0.764	2.00	1	11/18/2021 16:51	WG1775193
Silver	U		0.127	1.00	1	11/18/2021 16:51	WG1775193
Zinc	37.0		0.832	5.00	1	11/18/2021 16:51	WG1775193

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.368		0.0167	0.200	1	11/19/2021 16:15	WG1776006

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.96		0.100	1.00	5	11/17/2021 23:06	WG1775181

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0287	J	0.0217	0.100	1	11/19/2021 19:26	WG1777387
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*		*11/19/2021 19:26*	WG1777387

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/18/2021 00:30	WG1776129
Toluene	U		0.00130	0.00500	1	11/18/2021 00:30	WG1776129
Ethylbenzene	U		0.000737	0.00250	1	11/18/2021 00:30	WG1776129
Total Xylenes	U		0.000880	0.00650	1	11/18/2021 00:30	WG1776129
(S) Toluene-d8	*108*			*75.0-131*		*11/18/2021 00:30*	WG1776129
(S) 4-Bromofluorobenzene	*92.4*			*67.0-138*		*11/18/2021 00:30*	WG1776129
(S) 1,2-Dichloroethane-d4	*97.4*			*70.0-130*		*11/18/2021 00:30*	WG1776129

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.03		0.769	4.00	1	11/18/2021 14:30	WG1775945
(S) o-Terphenyl	*63.5*			*18.0-148*		*11/18/2021 14:30*	WG1775945

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/19/2021 18:53	WG1777082
Acenaphthene	U		0.00209	0.00600	1	11/19/2021 18:53	WG1777082
Acenaphthylene	U		0.00216	0.00600	1	11/19/2021 18:53	WG1777082
Benzo(a)anthracene	0.00295	J	0.00173	0.00600	1	11/19/2021 18:53	WG1777082
Benzo(a)pyrene	0.00432	J	0.00179	0.00600	1	11/19/2021 18:53	WG1777082
Benzo(b)fluoranthene	0.0139		0.00153	0.00600	1	11/19/2021 18:53	WG1777082
Benzo(g,h,i)perylene	0.00967		0.00177	0.00600	1	11/19/2021 18:53	WG1777082
Benzo(k)fluoranthene	0.00370	J	0.00215	0.00600	1	11/19/2021 18:53	WG1777082
Chrysene	0.00375	J	0.00232	0.00600	1	11/19/2021 18:53	WG1777082
Dibenz(a,h)anthracene	0.00285	J	0.00172	0.00600	1	11/19/2021 18:53	WG1777082
Fluoranthene	0.00361	J	0.00227	0.00600	1	11/19/2021 18:53	WG1777082
Fluorene	U		0.00205	0.00600	1	11/19/2021 18:53	WG1777082
Indeno(1,2,3-cd)pyrene	0.00670		0.00181	0.00600	1	11/19/2021 18:53	WG1777082
Naphthalene	U		0.00408	0.0200	1	11/19/2021 18:53	WG1777082
Phenanthrene	0.00382	J	0.00231	0.00600	1	11/19/2021 18:53	WG1777082
Pyrene	0.00223	J	0.00200	0.00600	1	11/19/2021 18:53	WG1777082
1-Methylnaphthalene	U		0.00449	0.0200	1	11/19/2021 18:53	WG1777082
2-Methylnaphthalene	0.00461	J	0.00427	0.0200	1	11/19/2021 18:53	WG1777082
2-Chloronaphthalene	U		0.00466	0.0200	1	11/19/2021 18:53	WG1777082
(S) p-Terphenyl-d14	*101*			*23.0-120*		*11/19/2021 18:53*	WG1777082
(S) Nitrobenzene-d5	*78.6*			*14.0-149*		*11/19/2021 18:53*	WG1777082
(S) 2-Fluorobiphenyl	*77.9*			*34.0-125*		*11/19/2021 18:53*	WG1777082

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.08		1	11/19/2021 15:24	WG1776014

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	29.3		0.133	1.00	1	11/22/2021 15:24	WG1775193

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/22/2021 15:24	WG1776932

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.63	T8	1	11/16/2021 12:00	WG1774909

Sample Narrative:

L1430873-17 WG1774909: 8.63 at 19.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	274		10.0	1	11/17/2021 10:59	WG1774823

Sample Narrative:

L1430873-17 WG1774823: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0250	J	0.0180	0.0400	1	11/19/2021 09:23	WG1776020

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	4340		0.426	2.50	5	11/19/2021 12:03	WG1775193
Cadmium	U		0.0471	0.500	1	11/18/2021 16:54	WG1775193
Chromium	29.3		0.133	1.00	1	11/18/2021 16:54	WG1775193
Copper	17.6		0.400	2.00	1	11/18/2021 16:54	WG1775193
Lead	13.7		0.208	0.500	1	11/18/2021 16:54	WG1775193
Nickel	20.7		0.132	2.00	1	11/18/2021 16:54	WG1775193
Selenium	U		0.764	2.00	1	11/18/2021 16:54	WG1775193
Silver	U		0.127	1.00	1	11/18/2021 16:54	WG1775193
Zinc	42.9		0.832	5.00	1	11/18/2021 16:54	WG1775193

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.39		0.0167	0.200	1	11/19/2021 16:18	WG1776006

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.24		0.100	1.00	5	11/17/2021 23:09	WG1775181

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0462	B J	0.0217	0.100	1	11/18/2021 06:59	WG1776315
(S) a,a,a-Trifluorotoluene(FID)	*85.4*			*77.0-120*		*11/18/2021 06:59*	WG1776315

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/18/2021 00:49	WG1776129
Toluene	0.00340	J	0.00130	0.00500	1	11/18/2021 00:49	WG1776129
Ethylbenzene	U		0.000737	0.00250	1	11/18/2021 00:49	WG1776129
Total Xylenes	0.0104		0.000880	0.00650	1	11/18/2021 00:49	WG1776129
(S) Toluene-d8	*107*			*75.0-131*		*11/18/2021 00:49*	WG1776129
(S) 4-Bromofluorobenzene	*94.3*			*67.0-138*		*11/18/2021 00:49*	WG1776129
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*11/18/2021 00:49*	WG1776129

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	31.8		3.85	20.0	5	11/18/2021 15:10	WG1775945
(S) o-Terphenyl	*67.9*			*18.0-148*		*11/18/2021 15:10*	WG1775945

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00561	J	0.00230	0.00600	1	11/19/2021 22:44	WG1777082
Acenaphthene	U		0.00209	0.00600	1	11/19/2021 22:44	WG1777082
Acenaphthylene	U		0.00216	0.00600	1	11/19/2021 22:44	WG1777082
Benzo(a)anthracene	0.0588		0.00173	0.00600	1	11/19/2021 22:44	WG1777082
Benzo(a)pyrene	0.129		0.00179	0.00600	1	11/19/2021 22:44	WG1777082
Benzo(b)fluoranthene	0.319		0.00153	0.00600	1	11/19/2021 22:44	WG1777082
Benzo(g,h,i)perylene	0.178		0.00177	0.00600	1	11/19/2021 22:44	WG1777082
Benzo(k)fluoranthene	0.0751		0.00215	0.00600	1	11/19/2021 22:44	WG1777082
Chrysene	0.0679		0.00232	0.00600	1	11/19/2021 22:44	WG1777082
Dibenz(a,h)anthracene	0.0650		0.00172	0.00600	1	11/19/2021 22:44	WG1777082
Fluoranthene	0.0390		0.00227	0.00600	1	11/19/2021 22:44	WG1777082
Fluorene	0.00228	J	0.00205	0.00600	1	11/19/2021 22:44	WG1777082
Indeno(1,2,3-cd)pyrene	0.167		0.00181	0.00600	1	11/19/2021 22:44	WG1777082
Naphthalene	0.0172	J	0.00408	0.0200	1	11/19/2021 22:44	WG1777082
Phenanthrene	0.0366		0.00231	0.00600	1	11/19/2021 22:44	WG1777082
Pyrene	0.0210		0.00200	0.00600	1	11/19/2021 22:44	WG1777082
1-Methylnaphthalene	0.0261		0.00449	0.0200	1	11/19/2021 22:44	WG1777082
2-Methylnaphthalene	0.0357		0.00427	0.0200	1	11/19/2021 22:44	WG1777082
2-Chloronaphthalene	U		0.00466	0.0200	1	11/19/2021 22:44	WG1777082
(S) p-Terphenyl-d14	*82.5*			*23.0-120*		*11/19/2021 22:44*	WG1777082
(S) Nitrobenzene-d5	*63.2*			*14.0-149*		*11/19/2021 22:44*	WG1777082
(S) 2-Fluorobiphenyl	*65.2*			*34.0-125*		*11/19/2021 22:44*	WG1777082

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.58		1	11/19/2021 15:27	WG1776014

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	29.8		0.133	1.00	1	11/22/2021 15:24	WG1775193

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/22/2021 15:24	WG1776932

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.54	T8	1	11/16/2021 12:00	WG1774909

Sample Narrative:

L1430873-18 WG1774909: 8.54 at 19C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	213		10.0	1	11/17/2021 10:59	WG1774823

Sample Narrative:

L1430873-18 WG1774823: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0335	J	0.0180	0.0400	1	11/19/2021 09:26	WG1776020

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	2830		0.426	2.50	5	11/19/2021 12:06	WG1775193
Cadmium	0.0669	J	0.0471	0.500	1	11/18/2021 16:57	WG1775193
Chromium	29.8		0.133	1.00	1	11/18/2021 16:57	WG1775193
Copper	17.6		0.400	2.00	1	11/18/2021 16:57	WG1775193
Lead	13.3		0.208	0.500	1	11/18/2021 16:57	WG1775193
Nickel	19.4		0.132	2.00	1	11/18/2021 16:57	WG1775193
Selenium	U		0.764	2.00	1	11/18/2021 16:57	WG1775193
Silver	U		0.127	1.00	1	11/18/2021 16:57	WG1775193
Zinc	42.5		0.832	5.00	1	11/18/2021 16:57	WG1775193

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.01		0.0167	0.200	1	11/19/2021 16:20	WG1776006

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.09		0.100	1.00	5	11/17/2021 23:12	WG1775181

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0511	B J	0.0217	0.100	1	11/18/2021 07:21	WG1776315
(S) a,a,a-Trifluorotoluene(FID)	*83.3*			*77.0-120*		*11/18/2021 07:21*	WG1776315

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/18/2021 01:08	WG1776129
Toluene	0.00158	J	0.00130	0.00500	1	11/18/2021 01:08	WG1776129
Ethylbenzene	U		0.000737	0.00250	1	11/18/2021 01:08	WG1776129
Total Xylenes	0.00235	J	0.000880	0.00650	1	11/18/2021 01:08	WG1776129
(S) Toluene-d8	*109*			*75.0-131*		*11/18/2021 01:08*	WG1776129
(S) 4-Bromofluorobenzene	*95.6*			*67.0-138*		*11/18/2021 01:08*	WG1776129
(S) 1,2-Dichloroethane-d4	*96.5*			*70.0-130*		*11/18/2021 01:08*	WG1776129

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	30.6		0.769	4.00	1	11/18/2021 14:43	WG1775945
(S) o-Terphenyl	*63.6*			*18.0-148*		*11/18/2021 14:43*	WG1775945

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00281	J	0.00230	0.00600	1	11/19/2021 21:15	WG1777082
Acenaphthene	0.00371	J	0.00209	0.00600	1	11/19/2021 21:15	WG1777082
Acenaphthylene	U		0.00216	0.00600	1	11/19/2021 21:15	WG1777082
Benzo(a)anthracene	0.0165		0.00173	0.00600	1	11/19/2021 21:15	WG1777082
Benzo(a)pyrene	0.0201		0.00179	0.00600	1	11/19/2021 21:15	WG1777082
Benzo(b)fluoranthene	0.0705		0.00153	0.00600	1	11/19/2021 21:15	WG1777082
Benzo(g,h,i)perylene	0.0337		0.00177	0.00600	1	11/19/2021 21:15	WG1777082
Benzo(k)fluoranthene	0.0138		0.00215	0.00600	1	11/19/2021 21:15	WG1777082
Chrysene	0.0229		0.00232	0.00600	1	11/19/2021 21:15	WG1777082
Dibenz(a,h)anthracene	0.0118		0.00172	0.00600	1	11/19/2021 21:15	WG1777082
Fluoranthene	0.0207		0.00227	0.00600	1	11/19/2021 21:15	WG1777082
Fluorene	0.00357	J	0.00205	0.00600	1	11/19/2021 21:15	WG1777082
Indeno(1,2,3-cd)pyrene	0.0258		0.00181	0.00600	1	11/19/2021 21:15	WG1777082
Naphthalene	0.0149	J	0.00408	0.0200	1	11/19/2021 21:15	WG1777082
Phenanthrene	0.0257		0.00231	0.00600	1	11/19/2021 21:15	WG1777082
Pyrene	0.0112		0.00200	0.00600	1	11/19/2021 21:15	WG1777082
1-Methylnaphthalene	0.0206		0.00449	0.0200	1	11/19/2021 21:15	WG1777082
2-Methylnaphthalene	0.0306		0.00427	0.0200	1	11/19/2021 21:15	WG1777082
2-Chloronaphthalene	U		0.00466	0.0200	1	11/19/2021 21:15	WG1777082
(S) p-Terphenyl-d14	*93.5*			*23.0-120*		*11/19/2021 21:15*	WG1777082
(S) Nitrobenzene-d5	*78.3*			*14.0-149*		*11/19/2021 21:15*	WG1777082
(S) 2-Fluorobiphenyl	*73.3*			*34.0-125*		*11/19/2021 21:15*	WG1777082

Method Blank (MB)

(MB) R3731395-1 11/19/21 00:11

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

L1430396-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1430396-21 11/19/21 00:15 • (DUP) R3731395-3 11/19/21 00:16

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	0.833	0.882	1	5.68	J	20

L1430396-30 Original Sample (OS) • Duplicate (DUP)

(OS) L1430396-30 11/19/21 00:23 • (DUP) R3731395-4 11/19/21 00:23

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

Laboratory Control Sample (LCS)

(LCS) R3731395-2 11/19/21 00:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	22.6	94.2	80.0-120	

L1430396-37 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1430396-37 11/19/21 00:28 • (MS) R3731395-5 11/19/21 00:29 • (MSD) R3731395-6 11/19/21 00:30

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 %
Chromium,Hexavalent	20.0	U	2.73	3.23	13.6	16.1	1	75.0-125	J6	J6	16.8	20

L1430396-37 Original Sample (OS) • Matrix Spike (MS)

(OS) L1430396-37 11/19/21 00:28 • (MS) R3731395-7 11/19/21 00:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	651	U	460	70.7	50	75.0-125	J6

Method Blank (MB)

(MB) R3732475-1 11/22/21 15:21

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

L1430873-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1430873-14 11/22/21 15:23 • (DUP) R3732475-7 11/22/21 15:23

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

L1431798-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1431798-03 11/22/21 15:26 • (DUP) R3732475-8 11/22/21 15:26

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

Laboratory Control Sample (LCS)

(LCS) R3732475-2 11/22/21 15:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	23.0	95.9	80.0-120	

L1423071-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1423071-02 11/22/21 15:21 • (MS) R3732475-3 11/22/21 15:21 • (MSD) R3732475-4 11/22/21 15:21

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 %
Chromium,Hexavalent	20.0	U	13.1	16.3	65.3	81.5	1	75.0-125	J6	J3	22.1	20

L1423071-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1423071-02 11/22/21 15:21 • (MS) R3732475-5 11/22/21 15:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	646	U	756	117	50	75.0-125	

L1430873-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1430873-01 11/16/21 12:00 • (DUP) R3730036-2 11/16/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.13	8.11	1	0.246		1

Sample Narrative:

OS: 8.13 at 20C

DUP: 8.11 at 19.2C

L1431021-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1431021-02 11/16/21 12:00 • (DUP) R3730036-3 11/16/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.66	7.67	1	0.130		1

Sample Narrative:

OS: 7.66 at 19.3C

DUP: 7.67 at 19.2C

Laboratory Control Sample (LCS)

(LCS) R3730036-1 11/16/21 12:00

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

Sample Narrative:

LCS: 10.01 at 19.7C

Method Blank (MB)

(MB) R3730514-1 11/17/21 10:59

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

Sample Narrative:
BLANK: at 25C

L1429487-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1429487-06 11/17/21 10:59 • (DUP) R3730514-3 11/17/21 10:59

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	134	157	1	15.5		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1430873-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1430873-16 11/17/21 10:59 • (DUP) R3730514-4 11/17/21 10:59

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	181	181	1	0.221		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3730514-2 11/17/21 10:59

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	268	100	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3731675-1 11/19/21 08:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3731675-2 11/19/21 08:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.473	94.7	80.0-120	

L1430610-87 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1430610-87 11/19/21 08:40 • (MS) R3731675-3 11/19/21 08:43 • (MSD) R3731675-4 11/19/21 08:45

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 %
Mercury	0.500	U	0.451	0.458	90.2	91.6	1	75.0-125			1.58	20

Method Blank (MB)

(MB) R3731480-1 11/18/21 16:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
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) R3731480-2 11/18/21 16:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	96.7	96.7	80.0-120	
Cadmium	100	103	103	80.0-120	
Chromium	100	102	102	80.0-120	
Copper	100	105	105	80.0-120	
Lead	100	101	101	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	95.6	95.6	80.0-120	
Silver	20.0	19.4	97.2	80.0-120	
Zinc	100	97.6	97.6	80.0-120	

L1429487-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1429487-01 11/18/21 16:09 • (MS) R3731480-5 11/18/21 16:17 • (MSD) R3731480-6 11/18/21 16:20

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 %
Barium	100	10400	10600	10700	214	345	1	75.0-125	E V	E V	1.23	20
Cadmium	100	U	107	106	107	106	1	75.0-125			0.877	20
Chromium	100	14.6	116	115	102	101	1	75.0-125			1.02	20
Copper	100	214	296	296	81.6	82.2	1	75.0-125			0.209	20
Lead	100	3.99	110	109	106	105	1	75.0-125			1.15	20
Nickel	100	7.96	118	118	110	110	1	75.0-125			0.0653	20
Selenium	100	U	104	103	104	103	1	75.0-125			1.31	20
Silver	20.0	U	20.5	20.3	103	101	1	75.0-125			1.19	20
Zinc	100	49.0	148	144	99.3	95.3	1	75.0-125			2.71	20

Method Blank (MB)

(MB) R3731849-1 11/19/21 16:02

Analyte	MB Result mg/l	MB Qualifier	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) R3731849-2 11/19/21 16:05 • (LCSD) R3731849-3 11/19/21 16:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	0.978	0.967	97.8	96.7	80.0-120			1.11	20

Method Blank (MB)

(MB) R3730853-1 11/17/21 21:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3730853-2 11/17/21 21:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	96.6	96.6	80.0-120	

L1429487-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1429487-01 11/17/21 21:52 • (MS) R3730853-4 11/17/21 22:01 • (MSD) R3730853-5 11/17/21 22:04

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	2.48	99.8	101	97.3	99.0	5	75.0-125			1.63	20

Method Blank (MB)

(MB) R3731673-2 11/18/21 05:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0273	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*87.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3731673-1 11/18/21 04:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.43	80.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*98.1*	*77.0-120*	

Method Blank (MB)

(MB) R3731882-3 11/19/21 18:21

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)

(LCS) R3731882-2 11/19/21 17:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.09	92.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.0*	*77.0-120*	

Method Blank (MB)

(MB) R3731645-3 11/17/21 22:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*107*			*75.0-131*
(S) 4-Bromofluorobenzene	*95.4*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*

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

(LCS) R3731645-1 11/17/21 21:12 • (LCSD) R3731645-2 11/17/21 21:31

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	0.124	0.127	99.2	102	70.0-123			2.39	20
Ethylbenzene	0.125	0.106	0.113	84.8	90.4	74.0-126			6.39	20
Toluene	0.125	0.119	0.124	95.2	99.2	75.0-121			4.12	20
Xylenes, Total	0.375	0.329	0.341	87.7	90.9	72.0-127			3.58	20
(S) Toluene-d8				*103*	*107*	*75.0-131*				
(S) 4-Bromofluorobenzene				*91.9*	*89.6*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*105*	*106*	*70.0-130*				

Method Blank (MB)

(MB) R3731122-1 11/18/21 09:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*78.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3731122-2 11/18/21 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	37.1	74.2	50.0-150	
(S) o-Terphenyl			*92.0*	*18.0-148*	

L1428812-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1428812-01 11/18/21 15:37 • (MS) R3731122-3 11/18/21 15:51 • (MSD) R3731122-4 11/18/21 16:04

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 %
TPH (GC/FID) High Fraction	49.2	158	188	183	61.0	50.6	10	50.0-150			2.70	20
(S) o-Terphenyl					*114*	*109*		*18.0-148*				

Method Blank (MB)

(MB) R3732215-2 11/19/21 17:07

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	*79.7*			*14.0-149*
(S) 2-Fluorobiphenyl	*80.7*			*34.0-125*
(S) p-Terphenyl-d14	*107*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3732215-1 11/19/21 16:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0690	86.3	50.0-126	
Acenaphthene	0.0800	0.0704	88.0	50.0-120	
Acenaphthylene	0.0800	0.0734	91.8	50.0-120	
Benzo(a)anthracene	0.0800	0.0651	81.4	45.0-120	
Benzo(a)pyrene	0.0800	0.0512	64.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0631	78.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0614	76.8	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0627	78.4	49.0-125	
Chrysene	0.0800	0.0653	81.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0659	82.4	47.0-125	
Fluoranthene	0.0800	0.0674	84.3	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3732215-1 11/19/21 16:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0652	81.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0665	83.1	46.0-125	
Naphthalene	0.0800	0.0627	78.4	50.0-120	
Phenanthrene	0.0800	0.0656	82.0	47.0-120	
Pyrene	0.0800	0.0655	81.9	43.0-123	
1-Methylnaphthalene	0.0800	0.0672	84.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0637	79.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0633	79.1	50.0-120	
(S) Nitrobenzene-d5			*90.8*	*14.0-149*	
(S) 2-Fluorobiphenyl			*89.9*	*34.0-125*	
(S) p-Terphenyl-d14			*115*	*23.0-120*	

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

(OS) • (MS) R3732215-3 11/19/21 22:09 • (MSD) R3732215-4 11/19/21 22:26

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 %
Anthracene	0.0776		0.0603	0.0564	77.7	72.7	1	10.0-145			6.68	30
Acenaphthene	0.0776		0.0626	0.0621	80.7	80.0	1	14.0-127			0.802	27
Acenaphthylene	0.0776		0.0624	0.0663	80.4	85.4	1	21.0-124			6.06	25
Benzo(a)anthracene	0.0776		0.135	0.129	38.7	30.9	1	10.0-139			4.55	30
Benzo(a)pyrene	0.0776		0.158	0.144	0.000	0.000	1	10.0-141	J6	J6	9.27	31
Benzo(b)fluoranthene	0.0776		0.0998	0.0917	38.4	28.0	1	10.0-140			8.46	36
Benzo(g,h,i)perylene	0.0776		0.129	0.113	20.6	0.000	1	10.0-140		J6	13.2	33
Benzo(k)fluoranthene	0.0776		0.0634	0.0599	63.3	58.8	1	10.0-137			5.68	31
Chrysene	0.0776		0.117	0.125	0.000	0.000	1	10.0-145	J6	J6	6.61	30
Dibenz(a,h)anthracene	0.0776		0.0784	0.0730	55.7	48.7	1	10.0-132			7.13	31
Fluoranthene	0.0776		0.0852	0.0851	52.4	52.3	1	10.0-153			0.117	33
Fluorene	0.0776		0.0668	0.0647	86.1	83.4	1	11.0-130			3.19	29
Indeno(1,2,3-cd)pyrene	0.0776		0.0747	0.0693	67.1	60.2	1	10.0-137			7.50	32
Naphthalene	0.0776		0.110	0.0929	123	101	1	10.0-135			16.9	27
Phenanthrene	0.0776		0.110	0.0916	69.1	45.4	1	10.0-144			18.3	31
Pyrene	0.0776		0.262	0.277	0.000	0.000	1	10.0-148	V	V	5.57	35
1-Methylnaphthalene	0.0776		0.0778	0.0717	50.9	43.0	1	10.0-142			8.16	28
2-Methylnaphthalene	0.0776		0.0577	0.0568	74.4	73.2	1	10.0-137			1.57	28
2-Chloronaphthalene	0.0776		0.0531	0.0532	68.4	68.6	1	29.0-120			0.188	24
(S) Nitrobenzene-d5					*148*	*125*		*14.0-149*				
(S) 2-Fluorobiphenyl					*72.7*	*70.8*		*34.0-125*				
(S) p-Terphenyl-d14					*100*	*99.3*		*23.0-120*				

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

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36-496 Historical; PH05 & PH12	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B36-496 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR, pH, Arsenic	pH Only	SAR Only				Lab Sample # / Comments:
																				L1430873
20211110-B36-496-PH12-BASE@5'	SL	G	11/10/2021	0930				2	G						X	X				-01
20211110-B36-496-PH12-NSW@3'	SL	G	11/10/2021	0945				2	G							X				-02
20211110-B36-496-PH12-WSW@3'	SL	G	11/10/2021	0950				2	G							X				-03
20211110-B36-496-PH12-WSW2@3'	SL	G	11/10/2021	0955				2	G							X				-04
20211110-B36-496-PH12-WSW3@3'	SL	G	11/10/2021	1000				2	G							X				-05
20211110-B36-496-PH12-ESW@3'	SL	G	11/10/2021	1010				2	G							X				-06
20211110-B36-496-PH12-ESW2@3'	SL	G	11/10/2021	1015				2	G							X				-07
20211110-B36-496-PH12-ESW3@3'	SL	G	11/10/2021	1020				2	G							X				-08
20211110-B36-496-PH12-ESW4@3'	SL	G	11/10/2021	1025				2	G							X				-09
20211110-B36-496-PH12-SSW@3'	SL	G	11/10/2021	1030				2	G							X				-10

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact: Y N NA
Custody Signatures Present: Y N NA
Collector Signature Present: Y N NA
Bottles Intact: Y N NA
Correct Bottles: Y N NA
Sufficient Volume: Y N NA
Samples Received on Ice: Y N NA
VOA - Headspace Acceptable: Y N NA
USDA Regulated Soils: Y N NA
Samples in Holding Time: Y N NA
Residual Chlorine Present: Y N NA
Cl Strips: _____
Sample pH Acceptable: Y N NA
pH Strips: _____
Sulfide Present: Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Please hold all extra material for additional 910-1 analysis.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AS	11-11-21/1100		11/11 1200
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	11/12/21 1500		11/12/21 0845
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

K085

Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36-496 Historical; PH05 & PH12	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B36-496 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR,pH, Arsenic	pH Only	SAR Only				Lab Sample # / Comments
20211110-B36-496-PH12-SSW2@3'	SL	G	11/10/2021	1035				2	G							X				L1430873 -11
20211110-B36-496-PH12-SSW3@3'	SL	G	11/10/2021	1040				2	G							X				-12
20211110-B36-496-PH12-SSW4@3'	SL	G	11/10/2021	1045				2	G							X				-13
20211110-B36-496-PH05-BASE@4'	SL	G	11/10/2021	1100				2	G	X	X	X	X	X						-14
20211110-B36-496-PH05-SSW@2.5	SL	G	11/10/2021	1110				2	G	X	X	X	X	X						-15
20211110-B36-496-PH05-WSW@2.5	SL	G	11/10/2021	1120				2	G	X	X	X	X	X						-16
20211110-B36-496-PH05-ESW@2.5	SL	G	11/10/2021	1130				2	G	X	X	X	X	X						-17
20211110-B36-496-PH05-NSW@2.5	SL	G	11/10/2021	1145				2	G	X	X	X	X	X						-18

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:	
Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Please hold all extra material for additional 910-1 analysis.

Type of Ice Used: Wet Blue Dry None	SHORT HOLDS PRESENT (<72 hours): Y N N/A
Packing Material Used:	Lab Tracking #:
Radchem sample(s) screened (<500 cpm): Y N NA	Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#: _____

Cooler 1 Temp Upon Receipt: __oC

Cooler 1 Therm Corr. Factor: __oC

Cooler 1 Corrected Temp: __oC

Comments:

2.7+0.2=2.7 ATBM

Relinquished by/Company: (Signature) AS	Date/Time: 11-11-21/1100	Received by/Company: (Signature)	Date/Time: 11/11 1200
Relinquished by/Company: (Signature)	Date/Time: 11/11/21 1500	Received by/Company: (Signature)	Date/Time: 11/12/21 0845
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:

Acctnum:

Template:

Prelogin:

PM:

PB:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 2 of: 2

ANALYTICAL REPORT

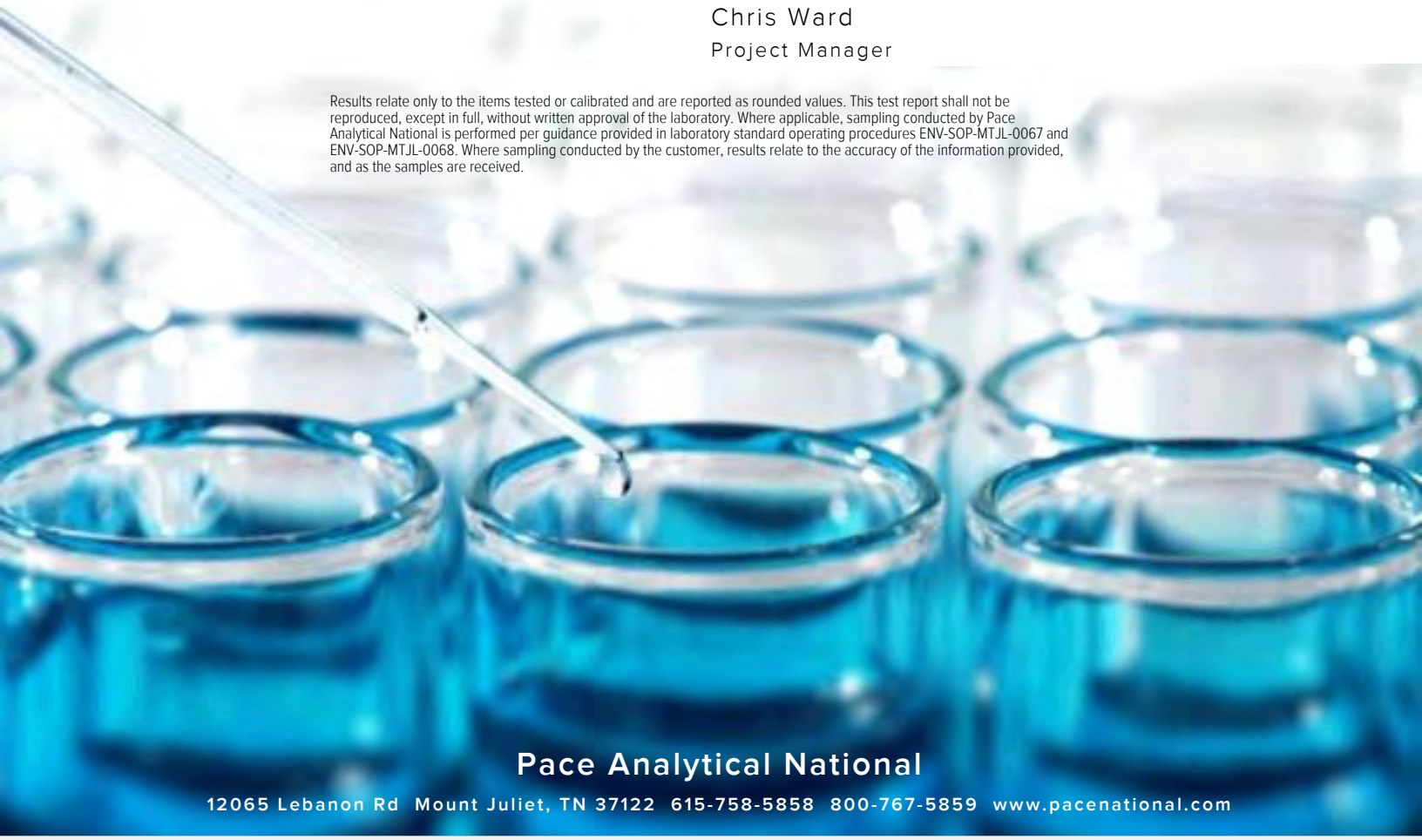
November 23, 2021

Caerus Oil and Gas

Sample Delivery Group:	L1430890
Samples Received:	11/12/2021
Project Number:	B36-496 HISTORICAL
Description:	PH05
Site:	B36-496
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20211110-B36-496-PH05-WC L1430890-01 Solid

Collected by: Andrew Smith
Collected date/time: 11/10/21 12:00
Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1776046	1	11/19/21 12:43	11/19/21 12:43	CCE	Mt. Juliet, TN
Calculated Results	WG1775193	1	11/17/21 05:53	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1776932	1	11/20/21 14:30	11/22/21 15:24	ARM	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1775260	1	11/16/21 15:00	11/16/21 15:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1775517	1	11/17/21 12:17	11/18/21 04:28	ARD	Mt. Juliet, TN
Mercury by Method 7471A	WG1776395	1	11/18/21 12:39	11/19/21 11:18	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	1	11/17/21 05:53	11/18/21 17:00	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1775193	10	11/17/21 05:53	11/19/21 12:14	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1776043	1	11/18/21 13:41	11/19/21 13:40	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1775181	5	11/17/21 05:51	11/17/21 23:16	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1777721	1	11/20/21 09:30	11/20/21 12:33	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1776129	1	11/16/21 21:05	11/18/21 01:27	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1777341	10	11/18/21 23:02	11/19/21 20:38	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1777082	1	11/19/21 10:05	11/19/21 23:02	AMG	Mt. Juliet, TN

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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.48		1	11/19/2021 12:43	WG1776046

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	19.9		0.133	1.00	1	11/22/2021 15:24	WG1775193

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/22/2021 15:24	WG1776932

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.70	T8	1	11/16/2021 15:00	WG1775260

Sample Narrative:

L1430890-01 WG1775260: 8.7 at 20.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	439		10.0	1	11/18/2021 04:28	WG1775517

Sample Narrative:

L1430890-01 WG1775517: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0198	J	0.0180	0.0400	1	11/19/2021 11:18	WG1776395

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	11000		0.852	5.00	10	11/19/2021 12:14	WG1775193
Cadmium	U		0.0471	0.500	1	11/18/2021 17:00	WG1775193
Chromium	19.9		0.133	1.00	1	11/18/2021 17:00	WG1775193
Copper	17.3		0.400	2.00	1	11/18/2021 17:00	WG1775193
Lead	9.46		0.208	0.500	1	11/18/2021 17:00	WG1775193
Nickel	13.4		0.132	2.00	1	11/18/2021 17:00	WG1775193
Selenium	U		0.764	2.00	1	11/18/2021 17:00	WG1775193
Silver	U		0.127	1.00	1	11/18/2021 17:00	WG1775193
Zinc	36.1		0.832	5.00	1	11/18/2021 17:00	WG1775193

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.27		0.0167	0.200	1	11/19/2021 13:40	WG1776043

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.41		0.100	1.00	5	11/17/2021 23:16	WG1775181

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.132		0.0217	0.100	1	11/20/2021 12:33	WG1777721
(S) a,a,a-Trifluorotoluene(FID)	*94.1*			*77.0-120*		*11/20/2021 12:33*	WG1777721

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000675	J	0.000467	0.00100	1	11/18/2021 01:27	WG1776129
Toluene	0.00428	J	0.00130	0.00500	1	11/18/2021 01:27	WG1776129
Ethylbenzene	0.000975	J	0.000737	0.00250	1	11/18/2021 01:27	WG1776129
Total Xylenes	0.00420	J	0.000880	0.00650	1	11/18/2021 01:27	WG1776129
(S) Toluene-d8	*109*			*75.0-131*		*11/18/2021 01:27*	WG1776129
(S) 4-Bromofluorobenzene	*95.8*			*67.0-138*		*11/18/2021 01:27*	WG1776129
(S) 1,2-Dichloroethane-d4	*99.8*			*70.0-130*		*11/18/2021 01:27*	WG1776129

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	81.6		7.69	40.0	10	11/19/2021 20:38	WG1777341
(S) o-Terphenyl	*61.6*			*18.0-148*		*11/19/2021 20:38*	WG1777341

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00683		0.00230	0.00600	1	11/19/2021 23:02	WG1777082
Acenaphthene	U		0.00209	0.00600	1	11/19/2021 23:02	WG1777082
Acenaphthylene	U		0.00216	0.00600	1	11/19/2021 23:02	WG1777082
Benzo(a)anthracene	0.0545		0.00173	0.00600	1	11/19/2021 23:02	WG1777082
Benzo(a)pyrene	0.0696		0.00179	0.00600	1	11/19/2021 23:02	WG1777082
Benzo(b)fluoranthene	0.245		0.00153	0.00600	1	11/19/2021 23:02	WG1777082
Benzo(g,h,i)perylene	0.0914		0.00177	0.00600	1	11/19/2021 23:02	WG1777082
Benzo(k)fluoranthene	0.0493		0.00215	0.00600	1	11/19/2021 23:02	WG1777082
Chrysene	0.0776		0.00232	0.00600	1	11/19/2021 23:02	WG1777082
Dibenz(a,h)anthracene	0.0362		0.00172	0.00600	1	11/19/2021 23:02	WG1777082
Fluoranthene	0.0723		0.00227	0.00600	1	11/19/2021 23:02	WG1777082
Fluorene	0.00658		0.00205	0.00600	1	11/19/2021 23:02	WG1777082
Indeno(1,2,3-cd)pyrene	0.0846		0.00181	0.00600	1	11/19/2021 23:02	WG1777082
Naphthalene	0.0547		0.00408	0.0200	1	11/19/2021 23:02	WG1777082
Phenanthrene	0.0742		0.00231	0.00600	1	11/19/2021 23:02	WG1777082
Pyrene	0.0504		0.00200	0.00600	1	11/19/2021 23:02	WG1777082
1-Methylnaphthalene	0.0805		0.00449	0.0200	1	11/19/2021 23:02	WG1777082
2-Methylnaphthalene	0.116		0.00427	0.0200	1	11/19/2021 23:02	WG1777082
2-Chloronaphthalene	U		0.00466	0.0200	1	11/19/2021 23:02	WG1777082
(S) p-Terphenyl-d14	*89.9*			*23.0-120*		*11/19/2021 23:02*	WG1777082
(S) Nitrobenzene-d5	*77.0*			*14.0-149*		*11/19/2021 23:02*	WG1777082
(S) 2-Fluorobiphenyl	*70.2*			*34.0-125*		*11/19/2021 23:02*	WG1777082

Method Blank (MB)

(MB) R3732475-1 11/22/21 15:21

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

L1430873-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1430873-14 11/22/21 15:23 • (DUP) R3732475-7 11/22/21 15:23

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

L1431798-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1431798-03 11/22/21 15:26 • (DUP) R3732475-8 11/22/21 15:26

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

Laboratory Control Sample (LCS)

(LCS) R3732475-2 11/22/21 15:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	23.0	95.9	80.0-120	

L1423071-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1423071-02 11/22/21 15:21 • (MS) R3732475-3 11/22/21 15:21 • (MSD) R3732475-4 11/22/21 15:21

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 %
Chromium,Hexavalent	20.0	U	13.1	16.3	65.3	81.5	1	75.0-125	J6	J3	22.1	20

L1423071-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1423071-02 11/22/21 15:21 • (MS) R3732475-5 11/22/21 15:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	646	U	756	117	50	75.0-125	

L1430892-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1430892-01 11/16/21 15:00 • (DUP) R3730195-2 11/16/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.32	8.36	1	0.480		1

Sample Narrative:

OS: 8.32 at 20.5C

DUP: 8.36 at 20.4C

L1431024-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1431024-11 11/16/21 15:00 • (DUP) R3730195-3 11/16/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.96	9.94	1	0.201		1

Sample Narrative:

OS: 9.96 at 19.7C

DUP: 9.94 at 19.6C

Laboratory Control Sample (LCS)

(LCS) R3730195-1 11/16/21 15:00

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

Sample Narrative:

LCS: 10.01 at 18.9C

Method Blank (MB)

(MB) R3730887-1 11/18/21 04:28

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

Sample Narrative:
BLANK: at 25C

L1430885-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1430885-03 11/18/21 04:28 • (DUP) R3730887-3 11/18/21 04:28

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1230	1230	1	0.0812		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1431022-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1431022-02 11/18/21 04:28 • (DUP) R3730887-4 11/18/21 04:28

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	504	493	1	2.21		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3730887-2 11/18/21 04:28

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	280	105	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3731679-1 11/19/21 11:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3731679-2 11/19/21 11:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.467	93.4	80.0-120	

L1431971-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1431971-05 11/19/21 11:10 • (MS) R3731679-3 11/19/21 11:13 • (MSD) R3731679-4 11/19/21 11:16

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 %
Mercury	0.500	0.0192	0.459	0.458	88.0	87.8	1	75.0-125			0.255	20

Method Blank (MB)

(MB) R3731480-1 11/18/21 16:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
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) R3731480-2 11/18/21 16:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	96.7	96.7	80.0-120	
Cadmium	100	103	103	80.0-120	
Chromium	100	102	102	80.0-120	
Copper	100	105	105	80.0-120	
Lead	100	101	101	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	95.6	95.6	80.0-120	
Silver	20.0	19.4	97.2	80.0-120	
Zinc	100	97.6	97.6	80.0-120	

L1429487-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1429487-01 11/18/21 16:09 • (MS) R3731480-5 11/18/21 16:17 • (MSD) R3731480-6 11/18/21 16:20

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 %
Barium	100	10400	10600	10700	214	345	1	75.0-125	E V	E V	1.23	20
Cadmium	100	U	107	106	107	106	1	75.0-125			0.877	20
Chromium	100	14.6	116	115	102	101	1	75.0-125			1.02	20
Copper	100	214	296	296	81.6	82.2	1	75.0-125			0.209	20
Lead	100	3.99	110	109	106	105	1	75.0-125			1.15	20
Nickel	100	7.96	118	118	110	110	1	75.0-125			0.0653	20
Selenium	100	U	104	103	104	103	1	75.0-125			1.31	20
Silver	20.0	U	20.5	20.3	103	101	1	75.0-125			1.19	20
Zinc	100	49.0	148	144	99.3	95.3	1	75.0-125			2.71	20

Method Blank (MB)

(MB) R3731791-1 11/19/21 13:32

Analyte	MB Result mg/l	MB Qualifier	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) R3731791-2 11/19/21 13:35 • (LCSD) R3731791-3 11/19/21 13:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	0.961	0.947	96.1	94.7	80.0-120			1.38	20

Method Blank (MB)

(MB) R3730853-1 11/17/21 21:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3730853-2 11/17/21 21:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	96.6	96.6	80.0-120	

L1429487-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1429487-01 11/17/21 21:52 • (MS) R3730853-4 11/17/21 22:01 • (MSD) R3730853-5 11/17/21 22:04

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	2.48	99.8	101	97.3	99.0	5	75.0-125			1.63	20

Method Blank (MB)

(MB) R3732033-2 11/20/21 11:15

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)	*103*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3732033-1 11/20/21 10:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.52	100	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*108*	*77.0-120*	

Method Blank (MB)

(MB) R3731645-3 11/17/21 22:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*107*			*75.0-131*
(S) 4-Bromofluorobenzene	*95.4*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*

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

(LCS) R3731645-1 11/17/21 21:12 • (LCSD) R3731645-2 11/17/21 21:31

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	0.124	0.127	99.2	102	70.0-123			2.39	20
Ethylbenzene	0.125	0.106	0.113	84.8	90.4	74.0-126			6.39	20
Toluene	0.125	0.119	0.124	95.2	99.2	75.0-121			4.12	20
Xylenes, Total	0.375	0.329	0.341	87.7	90.9	72.0-127			3.58	20
(S) Toluene-d8				*103*	*107*	*75.0-131*				
(S) 4-Bromofluorobenzene				*91.9*	*89.6*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*105*	*106*	*70.0-130*				

Method Blank (MB)

(MB) R3731980-1 11/19/21 16:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*55.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3731980-2 11/19/21 16:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	35.3	70.6	50.0-150	
(S) o-Terphenyl			*86.2*	*18.0-148*	

Method Blank (MB)

(MB) R3732215-2 11/19/21 17:07

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	*79.7*			*14.0-149*
(S) 2-Fluorobiphenyl	*80.7*			*34.0-125*
(S) p-Terphenyl-d14	*107*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3732215-1 11/19/21 16:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0690	86.3	50.0-126	
Acenaphthene	0.0800	0.0704	88.0	50.0-120	
Acenaphthylene	0.0800	0.0734	91.8	50.0-120	
Benzo(a)anthracene	0.0800	0.0651	81.4	45.0-120	
Benzo(a)pyrene	0.0800	0.0512	64.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0631	78.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0614	76.8	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0627	78.4	49.0-125	
Chrysene	0.0800	0.0653	81.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0659	82.4	47.0-125	
Fluoranthene	0.0800	0.0674	84.3	49.0-129	

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

Laboratory Control Sample (LCS)

(LCS) R3732215-1 11/19/21 16:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0652	81.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0665	83.1	46.0-125	
Naphthalene	0.0800	0.0627	78.4	50.0-120	
Phenanthrene	0.0800	0.0656	82.0	47.0-120	
Pyrene	0.0800	0.0655	81.9	43.0-123	
1-Methylnaphthalene	0.0800	0.0672	84.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0637	79.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0633	79.1	50.0-120	
(S) Nitrobenzene-d5			*90.8*	*14.0-149*	
(S) 2-Fluorobiphenyl			*89.9*	*34.0-125*	
(S) p-Terphenyl-d14			*115*	*23.0-120*	

L1429390-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1429390-01 11/19/21 21:51 • (MS) R3732215-3 11/19/21 22:09 • (MSD) R3732215-4 11/19/21 22:26

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	U	0.0603	0.0564	77.7	72.7	1	10.0-145			6.68	30
Acenaphthene	0.0776	U	0.0626	0.0621	80.7	80.0	1	14.0-127			0.802	27
Acenaphthylene	0.0776	U	0.0624	0.0663	80.4	85.4	1	21.0-124			6.06	25
Benzo(a)anthracene	0.0776	0.105	0.135	0.129	38.7	30.9	1	10.0-139			4.55	30
Benzo(a)pyrene	0.0776	0.169	0.158	0.144	0.000	0.000	1	10.0-141	J6	J6	9.27	31
Benzo(b)fluoranthene	0.0776	0.0700	0.0998	0.0917	38.4	28.0	1	10.0-140			8.46	36
Benzo(g,h,i)perylene	0.0776	0.113	0.129	0.113	20.6	0.000	1	10.0-140		J6	13.2	33
Benzo(k)fluoranthene	0.0776	0.0143	0.0634	0.0599	63.3	58.8	1	10.0-137			5.68	31
Chrysene	0.0776	0.148	0.117	0.125	0.000	0.000	1	10.0-145	J6	J6	6.61	30
Dibenz(a,h)anthracene	0.0776	0.0352	0.0784	0.0730	55.7	48.7	1	10.0-132			7.13	31
Fluoranthene	0.0776	0.0445	0.0852	0.0851	52.4	52.3	1	10.0-153			0.117	33
Fluorene	0.0776	U	0.0668	0.0647	86.1	83.4	1	11.0-130			3.19	29
Indeno(1,2,3-cd)pyrene	0.0776	0.0226	0.0747	0.0693	67.1	60.2	1	10.0-137			7.50	32
Naphthalene	0.0776	0.0149	0.110	0.0929	123	101	1	10.0-135			16.9	27
Phenanthrene	0.0776	0.0564	0.110	0.0916	69.1	45.4	1	10.0-144			18.3	31
Pyrene	0.0776	0.361	0.262	0.277	0.000	0.000	1	10.0-148	V	V	5.57	35
1-Methylnaphthalene	0.0776	0.0383	0.0778	0.0717	50.9	43.0	1	10.0-142			8.16	28
2-Methylnaphthalene	0.0776	U	0.0577	0.0568	74.4	73.2	1	10.0-137			1.57	28
2-Chloronaphthalene	0.0776	U	0.0531	0.0532	68.4	68.6	1	29.0-120			0.188	24
(S) Nitrobenzene-d5					*148*	*125*		*14.0-149*				
(S) 2-Fluorobiphenyl					*72.7*	*70.8*		*34.0-125*				
(S) p-Terphenyl-d14					*100*	*99.3*		*23.0-120*				

L1429390-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1429390-01 11/19/21 21:51 • (MS) R3732215-3 11/19/21 22:09 • (MSD) R3732215-4 11/19/21 22:26

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 %

Sample Narrative:

OS: Surrogate failure due to matrix interference

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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	LAO000356
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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36-496 Historical; PH05 ~~PH02~~ AS	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Phone: / Email:	Site/Facility ID #: B36-496	Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #:	DW PWS ID #: / DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day	Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR,pH, Arsenic
20211110-B36-496-PH05-WC	SL	G	11/10/2021	1200				2	G	X	X	X	X	X

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:			
Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:
L1430890
-01

Customer Remarks / Special Conditions / Possible Hazards:
Please hold all extra material for additional 910-1 analysis.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: __oC
Comments:
2.7+0=2.7 A-B

Relinquished by/Company: (Signature) AS	Date/Time: 11-11-21/1100	Received by/Company: (Signature)	Date/Time: 11/11 12	K084
Relinquished by/Company: (Signature)	Date/Time: 11/11 1500	Received by/Company: (Signature)	Date/Time: 11/12/21 0845	Acctnum: / Template: / Prelogin: / PM: / PB:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ___ of: ___

ANALYTICAL REPORT

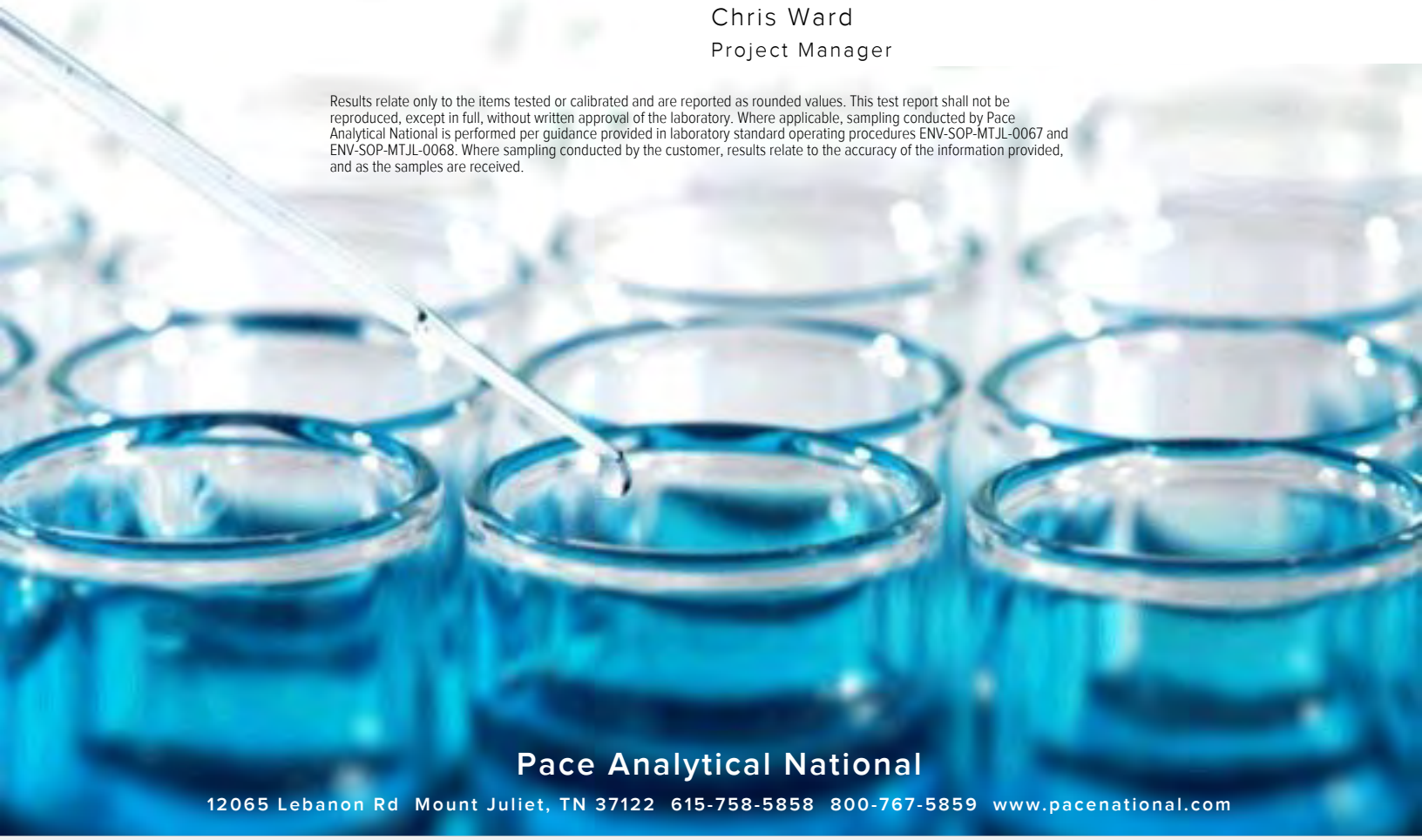
December 06, 2021

Caerus Oil and Gas

Sample Delivery Group:	L1434701
Samples Received:	11/12/2021
Project Number:	B36-496 HISTORICAL
Description:	PH05 & PH12
Site:	B36-496
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward
Project Manager



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

TABLE OF CONTENTS

20211110-B36-496-PH12-BASE@5' L1434701-01 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:30 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1781453	1	11/30/21 10:45	12/04/21 10:43	RAF	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1782265	1	12/01/21 10:32	12/04/21 10:43	RAF	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780983	1	11/30/21 03:04	11/30/21 07:09	ARD	Mt. Juliet, TN
Mercury by Method 7471A	WG1782193	1	12/01/21 08:27	12/02/21 09:33	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 23:02	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1780174	1	11/30/21 14:51	12/01/21 18:10	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 21:59	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779918	1	11/24/21 08:13	11/24/21 21:20	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1779625	1	11/24/21 08:13	11/24/21 11:46	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1779516	1	11/24/21 10:15	11/25/21 01:37	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1779526	1	11/24/21 09:13	11/24/21 19:28	SHG	Mt. Juliet, TN

20211110-B36-496-PH12-NWS@3' L1434701-02 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:45 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1781453	1	11/30/21 10:45	11/30/21 23:10	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1780826	1	11/30/21 13:24	11/30/21 13:42	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1782370	1	12/01/21 15:00	12/01/21 15:31	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780983	1	11/30/21 03:04	11/30/21 07:09	ARD	Mt. Juliet, TN
Mercury by Method 7471A	WG1782193	1	12/01/21 08:27	12/02/21 09:35	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 23:10	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1780174	1	11/30/21 14:51	12/01/21 18:13	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 22:02	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1780750	25	11/24/21 08:13	11/29/21 02:56	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780827	1	11/24/21 08:13	11/29/21 15:39	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1779516	1	11/24/21 10:15	11/25/21 02:41	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1779526	1	11/24/21 09:13	11/24/21 19:48	SHG	Mt. Juliet, TN

20211110-B36-496-PH12-WSW@3' L1434701-03 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 09:50 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1781453	1	11/30/21 10:45	11/30/21 23:13	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1780826	1	11/29/21 17:00	11/30/21 13:42	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1782370	1	12/01/21 15:00	12/01/21 15:31	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780983	1	11/30/21 03:04	11/30/21 07:09	ARD	Mt. Juliet, TN
Mercury by Method 7471A	WG1782193	1	12/01/21 08:27	12/02/21 09:37	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 23:13	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1780174	1	11/30/21 14:51	12/01/21 18:16	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 22:06	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779918	1	11/24/21 08:13	11/24/21 21:42	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1779625	1	11/24/21 08:13	11/24/21 12:06	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1779516	1	11/24/21 10:15	11/25/21 02:03	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1779526	1	11/24/21 09:13	11/24/21 20:08	SHG	Mt. Juliet, TN

20211110-B36-496-PH12-ESW2@3' L1434701-04 Solid

Collected by: Andrew Smith | Collected date/time: 11/10/21 10:15 | Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1781453	1	11/30/21 10:45	11/30/21 23:15	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1780826	1	11/29/21 17:00	11/30/21 13:43	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1782370	1	12/01/21 15:00	12/01/21 15:31	PSN	Mt. Juliet, TN

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

20211110-B36-496-PH12-ESW2@3' L1434701-04 Solid

Collected by: Andrew Smith
Collected date/time: 11/10/21 10:15
Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9050AMod	WG1780983	1	11/30/21 03:04	11/30/21 07:09	ARD	Mt. Juliet, TN
Mercury by Method 7471A	WG1782193	1	12/01/21 08:27	12/02/21 09:39	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 23:15	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1780174	1	11/30/21 14:51	12/01/21 18:19	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 22:17	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779918	1	11/24/21 08:13	11/24/21 22:04	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1779625	1	11/24/21 08:13	11/24/21 12:25	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1779516	1	11/24/21 10:15	11/25/21 02:15	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1779526	1	11/24/21 09:13	11/24/21 20:28	SHG	Mt. Juliet, TN

20211110-B36-496-PH12-SSW@3' L1434701-05 Solid

Collected by: Andrew Smith
Collected date/time: 11/10/21 10:30
Received date/time: 11/12/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1781453	1	11/30/21 10:45	11/30/21 23:18	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1780826	1	11/29/21 17:00	11/30/21 13:43	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1782370	1	12/01/21 15:00	12/01/21 15:31	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780983	1	11/30/21 03:04	11/30/21 07:09	ARD	Mt. Juliet, TN
Mercury by Method 7471A	WG1782193	1	12/01/21 08:27	12/02/21 09:41	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 23:18	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1780174	1	11/30/21 14:51	12/01/21 18:22	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 22:20	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779918	1	11/24/21 08:13	11/24/21 22:26	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1779625	1	11/24/21 08:13	11/24/21 12:44	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1779516	1	11/24/21 10:15	11/25/21 02:28	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1779526	1	11/24/21 09:13	11/24/21 20:48	SHG	Mt. Juliet, TN

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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	33.3		0.133	1.00	1	12/04/2021 10:43	WG1781453

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	12/04/2021 10:43	WG1782265

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	764		10.0	1	11/30/2021 07:09	WG1780983

Sample Narrative:

L1434701-01 WG1780983: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0309	J	0.0180	0.0400	1	12/02/2021 09:33	WG1782193

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	345		0.0852	0.500	1	11/30/2021 23:02	WG1781453
Cadmium	0.363	J	0.0471	0.500	1	11/30/2021 23:02	WG1781453
Chromium	33.3		0.133	1.00	1	11/30/2021 23:02	WG1781453
Copper	13.7		0.400	2.00	1	11/30/2021 23:02	WG1781453
Lead	14.4		0.208	0.500	1	11/30/2021 23:02	WG1781453
Nickel	20.6		0.132	2.00	1	11/30/2021 23:02	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 23:02	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 23:02	WG1781453
Zinc	39.1		0.832	5.00	1	11/30/2021 23:02	WG1781453

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.407		0.0167	0.200	1	12/01/2021 18:10	WG1780174

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.39		0.100	1.00	5	11/30/2021 21:59	WG1781452

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0305	B J	0.0217	0.100	1	11/24/2021 21:20	WG1779918
(S) a,a,a-Trifluorotoluene(FID)	*89.7*			*77.0-120*		*11/24/2021 21:20*	WG1779918

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 11:46	WG1779625
Toluene	U		0.00130	0.00500	1	11/24/2021 11:46	WG1779625
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 11:46	WG1779625
Total Xylenes	U		0.000880	0.00650	1	11/24/2021 11:46	WG1779625
(S) Toluene-d8	*104*			*75.0-131*		*11/24/2021 11:46*	WG1779625
(S) 4-Bromofluorobenzene	*107*			*67.0-138*		*11/24/2021 11:46*	WG1779625
(S) 1,2-Dichloroethane-d4	*81.4*			*70.0-130*		*11/24/2021 11:46*	WG1779625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	12.5		0.769	4.00	1	11/25/2021 01:37	WG1779516
(S) o-Terphenyl	*51.5*			*18.0-148*		*11/25/2021 01:37*	WG1779516

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/24/2021 19:28	WG1779526
Acenaphthene	U		0.00209	0.00600	1	11/24/2021 19:28	WG1779526
Acenaphthylene	U		0.00216	0.00600	1	11/24/2021 19:28	WG1779526
Benzo(a)anthracene	U		0.00173	0.00600	1	11/24/2021 19:28	WG1779526
Benzo(a)pyrene	U		0.00179	0.00600	1	11/24/2021 19:28	WG1779526
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/24/2021 19:28	WG1779526
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/24/2021 19:28	WG1779526
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/24/2021 19:28	WG1779526
Chrysene	U		0.00232	0.00600	1	11/24/2021 19:28	WG1779526
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/24/2021 19:28	WG1779526
Fluoranthene	U		0.00227	0.00600	1	11/24/2021 19:28	WG1779526
Fluorene	U		0.00205	0.00600	1	11/24/2021 19:28	WG1779526
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/24/2021 19:28	WG1779526
Naphthalene	U		0.00408	0.0200	1	11/24/2021 19:28	WG1779526
Phenanthrene	U		0.00231	0.00600	1	11/24/2021 19:28	WG1779526
Pyrene	U		0.00200	0.00600	1	11/24/2021 19:28	WG1779526
1-Methylnaphthalene	U		0.00449	0.0200	1	11/24/2021 19:28	WG1779526
2-Methylnaphthalene	U		0.00427	0.0200	1	11/24/2021 19:28	WG1779526
2-Chloronaphthalene	U		0.00466	0.0200	1	11/24/2021 19:28	WG1779526
(S) p-Terphenyl-d14	*89.0*			*23.0-120*		*11/24/2021 19:28*	WG1779526
(S) Nitrobenzene-d5	*53.5*			*14.0-149*		*11/24/2021 19:28*	WG1779526
(S) 2-Fluorobiphenyl	*72.4*			*34.0-125*		*11/24/2021 19:28*	WG1779526

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	29.9		0.133	1.00	1	11/30/2021 23:10	WG1781453

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/30/2021 13:42	WG1780826

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.45	T8	1	12/01/2021 15:31	WG1782370

Sample Narrative:

L1434701-02 WG1782370: 8.45 at 19.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	783		10.0	1	11/30/2021 07:09	WG1780983

Sample Narrative:

L1434701-02 WG1780983: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0339	J	0.0180	0.0400	1	12/02/2021 09:35	WG1782193

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	974		0.0852	0.500	1	11/30/2021 23:10	WG1781453
Cadmium	0.309	J	0.0471	0.500	1	11/30/2021 23:10	WG1781453
Chromium	29.9		0.133	1.00	1	11/30/2021 23:10	WG1781453
Copper	40.9		0.400	2.00	1	11/30/2021 23:10	WG1781453
Lead	20.5		0.208	0.500	1	11/30/2021 23:10	WG1781453
Nickel	22.5		0.132	2.00	1	11/30/2021 23:10	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 23:10	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 23:10	WG1781453
Zinc	42.1		0.832	5.00	1	11/30/2021 23:10	WG1781453

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.146	J	0.0167	0.200	1	12/01/2021 18:13	WG1780174

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.53		0.100	1.00	5	11/30/2021 22:02	WG1781452

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.36	J	0.543	2.50	25	11/29/2021 02:56	WG1780750
(S) a,a,a-Trifluorotoluene(FID)	*92.8*			*77.0-120*		*11/29/2021 02:56*	WG1780750

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000675	J T8	0.000467	0.00100	1	11/29/2021 15:39	WG1780827
Toluene	0.00347	J T8	0.00130	0.00500	1	11/29/2021 15:39	WG1780827
Ethylbenzene	0.00185	J T8	0.000737	0.00250	1	11/29/2021 15:39	WG1780827
Total Xylenes	0.00862		0.000880	0.00650	1	11/29/2021 15:39	WG1780827
(S) Toluene-d8	*101*			*75.0-131*		*11/29/2021 15:39*	WG1780827
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*11/29/2021 15:39*	WG1780827
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*11/29/2021 15:39*	WG1780827

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	58.2		0.769	4.00	1	11/25/2021 02:41	WG1779516
(S) o-Terphenyl	*48.0*			*18.0-148*		*11/25/2021 02:41*	WG1779516

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/24/2021 19:48	WG1779526
Acenaphthene	U		0.00209	0.00600	1	11/24/2021 19:48	WG1779526
Acenaphthylene	U		0.00216	0.00600	1	11/24/2021 19:48	WG1779526
Benzo(a)anthracene	U		0.00173	0.00600	1	11/24/2021 19:48	WG1779526
Benzo(a)pyrene	U		0.00179	0.00600	1	11/24/2021 19:48	WG1779526
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/24/2021 19:48	WG1779526
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/24/2021 19:48	WG1779526
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/24/2021 19:48	WG1779526
Chrysene	U		0.00232	0.00600	1	11/24/2021 19:48	WG1779526
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/24/2021 19:48	WG1779526
Fluoranthene	U		0.00227	0.00600	1	11/24/2021 19:48	WG1779526
Fluorene	U		0.00205	0.00600	1	11/24/2021 19:48	WG1779526
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/24/2021 19:48	WG1779526
Naphthalene	U		0.00408	0.0200	1	11/24/2021 19:48	WG1779526
Phenanthrene	U		0.00231	0.00600	1	11/24/2021 19:48	WG1779526
Pyrene	U		0.00200	0.00600	1	11/24/2021 19:48	WG1779526
1-Methylnaphthalene	U		0.00449	0.0200	1	11/24/2021 19:48	WG1779526
2-Methylnaphthalene	U		0.00427	0.0200	1	11/24/2021 19:48	WG1779526
2-Chloronaphthalene	U		0.00466	0.0200	1	11/24/2021 19:48	WG1779526
(S) p-Terphenyl-d14	*105*			*23.0-120*		*11/24/2021 19:48*	WG1779526
(S) Nitrobenzene-d5	*63.1*			*14.0-149*		*11/24/2021 19:48*	WG1779526
(S) 2-Fluorobiphenyl	*78.1*			*34.0-125*		*11/24/2021 19:48*	WG1779526

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	27.9		0.133	1.00	1	11/30/2021 23:13	WG1781453

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/30/2021 13:42	WG1780826

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.52	T8	1	12/01/2021 15:31	WG1782370

Sample Narrative:

L1434701-03 WG1782370: 8.52 at 19.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	712		10.0	1	11/30/2021 07:09	WG1780983

Sample Narrative:

L1434701-03 WG1780983: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0404		0.0180	0.0400	1	12/02/2021 09:37	WG1782193

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	499		0.0852	0.500	1	11/30/2021 23:13	WG1781453
Cadmium	0.378	J	0.0471	0.500	1	11/30/2021 23:13	WG1781453
Chromium	27.9		0.133	1.00	1	11/30/2021 23:13	WG1781453
Copper	15.8		0.400	2.00	1	11/30/2021 23:13	WG1781453
Lead	16.6		0.208	0.500	1	11/30/2021 23:13	WG1781453
Nickel	21.8		0.132	2.00	1	11/30/2021 23:13	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 23:13	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 23:13	WG1781453
Zinc	35.3		0.832	5.00	1	11/30/2021 23:13	WG1781453

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.130	J	0.0167	0.200	1	12/01/2021 18:16	WG1780174

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.57		0.100	1.00	5	11/30/2021 22:06	WG1781452

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0293	B J	0.0217	0.100	1	11/24/2021 21:42	WG1779918
(S) a,a,a-Trifluorotoluene(FID)	*87.3*			*77.0-120*		*11/24/2021 21:42*	WG1779918

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 12:06	WG1779625
Toluene	U		0.00130	0.00500	1	11/24/2021 12:06	WG1779625
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 12:06	WG1779625
Total Xylenes	U		0.000880	0.00650	1	11/24/2021 12:06	WG1779625
(S) Toluene-d8	*104*			*75.0-131*		*11/24/2021 12:06*	WG1779625
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*11/24/2021 12:06*	WG1779625
(S) 1,2-Dichloroethane-d4	*77.4*			*70.0-130*		*11/24/2021 12:06*	WG1779625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	9.31		0.769	4.00	1	11/25/2021 02:03	WG1779516
(S) o-Terphenyl	*56.2*			*18.0-148*		*11/25/2021 02:03*	WG1779516

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/24/2021 20:08	WG1779526
Acenaphthene	U		0.00209	0.00600	1	11/24/2021 20:08	WG1779526
Acenaphthylene	U		0.00216	0.00600	1	11/24/2021 20:08	WG1779526
Benzo(a)anthracene	U		0.00173	0.00600	1	11/24/2021 20:08	WG1779526
Benzo(a)pyrene	U		0.00179	0.00600	1	11/24/2021 20:08	WG1779526
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/24/2021 20:08	WG1779526
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/24/2021 20:08	WG1779526
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/24/2021 20:08	WG1779526
Chrysene	U		0.00232	0.00600	1	11/24/2021 20:08	WG1779526
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/24/2021 20:08	WG1779526
Fluoranthene	U		0.00227	0.00600	1	11/24/2021 20:08	WG1779526
Fluorene	U		0.00205	0.00600	1	11/24/2021 20:08	WG1779526
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/24/2021 20:08	WG1779526
Naphthalene	U		0.00408	0.0200	1	11/24/2021 20:08	WG1779526
Phenanthrene	U		0.00231	0.00600	1	11/24/2021 20:08	WG1779526
Pyrene	U		0.00200	0.00600	1	11/24/2021 20:08	WG1779526
1-Methylnaphthalene	U		0.00449	0.0200	1	11/24/2021 20:08	WG1779526
2-Methylnaphthalene	U		0.00427	0.0200	1	11/24/2021 20:08	WG1779526
2-Chloronaphthalene	U		0.00466	0.0200	1	11/24/2021 20:08	WG1779526
(S) p-Terphenyl-d14	*85.4*			*23.0-120*		*11/24/2021 20:08*	WG1779526
(S) Nitrobenzene-d5	*51.3*			*14.0-149*		*11/24/2021 20:08*	WG1779526
(S) 2-Fluorobiphenyl	*68.7*			*34.0-125*		*11/24/2021 20:08*	WG1779526

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	31.4		0.133	1.00	1	11/30/2021 23:15	WG1781453

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/30/2021 13:43	WG1780826

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.61	T8	1	12/01/2021 15:31	WG1782370

Sample Narrative:

L1434701-04 WG1782370: 8.61 at 18.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1340		10.0	1	11/30/2021 07:09	WG1780983

Sample Narrative:

L1434701-04 WG1780983: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0321	J	0.0180	0.0400	1	12/02/2021 09:39	WG1782193

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	646		0.0852	0.500	1	11/30/2021 23:15	WG1781453
Cadmium	0.317	J	0.0471	0.500	1	11/30/2021 23:15	WG1781453
Chromium	31.4		0.133	1.00	1	11/30/2021 23:15	WG1781453
Copper	15.0		0.400	2.00	1	11/30/2021 23:15	WG1781453
Lead	16.5		0.208	0.500	1	11/30/2021 23:15	WG1781453
Nickel	18.5		0.132	2.00	1	11/30/2021 23:15	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 23:15	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 23:15	WG1781453
Zinc	35.9		0.832	5.00	1	11/30/2021 23:15	WG1781453

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.166	J	0.0167	0.200	1	12/01/2021 18:19	WG1780174

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.05		0.100	1.00	5	11/30/2021 22:17	WG1781452

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0277	B J	0.0217	0.100	1	11/24/2021 22:04	WG1779918
(S) a,a,a-Trifluorotoluene(FID)	*88.4*			*77.0-120*		*11/24/2021 22:04*	WG1779918

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 12:25	WG1779625
Toluene	U		0.00130	0.00500	1	11/24/2021 12:25	WG1779625
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 12:25	WG1779625
Total Xylenes	U		0.000880	0.00650	1	11/24/2021 12:25	WG1779625
(S) Toluene-d8	*104*			*75.0-131*		*11/24/2021 12:25*	WG1779625
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*11/24/2021 12:25*	WG1779625
(S) 1,2-Dichloroethane-d4	*77.1*			*70.0-130*		*11/24/2021 12:25*	WG1779625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.09		0.769	4.00	1	11/25/2021 02:15	WG1779516
(S) o-Terphenyl	*42.1*			*18.0-148*		*11/25/2021 02:15*	WG1779516

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/24/2021 20:28	WG1779526
Acenaphthene	U		0.00209	0.00600	1	11/24/2021 20:28	WG1779526
Acenaphthylene	U		0.00216	0.00600	1	11/24/2021 20:28	WG1779526
Benzo(a)anthracene	U		0.00173	0.00600	1	11/24/2021 20:28	WG1779526
Benzo(a)pyrene	U		0.00179	0.00600	1	11/24/2021 20:28	WG1779526
Benzo(b)fluoranthene	0.00257	J	0.00153	0.00600	1	11/24/2021 20:28	WG1779526
Benzo(g,h,i)perylene	0.00199	J	0.00177	0.00600	1	11/24/2021 20:28	WG1779526
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/24/2021 20:28	WG1779526
Chrysene	U		0.00232	0.00600	1	11/24/2021 20:28	WG1779526
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/24/2021 20:28	WG1779526
Fluoranthene	U		0.00227	0.00600	1	11/24/2021 20:28	WG1779526
Fluorene	U		0.00205	0.00600	1	11/24/2021 20:28	WG1779526
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/24/2021 20:28	WG1779526
Naphthalene	U		0.00408	0.0200	1	11/24/2021 20:28	WG1779526
Phenanthrene	U		0.00231	0.00600	1	11/24/2021 20:28	WG1779526
Pyrene	U		0.00200	0.00600	1	11/24/2021 20:28	WG1779526
1-Methylnaphthalene	U		0.00449	0.0200	1	11/24/2021 20:28	WG1779526
2-Methylnaphthalene	U		0.00427	0.0200	1	11/24/2021 20:28	WG1779526
2-Chloronaphthalene	U		0.00466	0.0200	1	11/24/2021 20:28	WG1779526
(S) p-Terphenyl-d14	*93.9*			*23.0-120*		*11/24/2021 20:28*	WG1779526
(S) Nitrobenzene-d5	*55.0*			*14.0-149*		*11/24/2021 20:28*	WG1779526
(S) 2-Fluorobiphenyl	*75.3*			*34.0-125*		*11/24/2021 20:28*	WG1779526

Calculated Results

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	32.2		0.133	1.00	1	11/30/2021 23:18	WG1781453

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	U		0.640	2.00	1	11/30/2021 13:43	WG1780826

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.61	T8	1	12/01/2021 15:31	WG1782370

Sample Narrative:

L1434701-05 WG1782370: 8.61 at 18.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	518		10.0	1	11/30/2021 07:09	WG1780983

Sample Narrative:

L1434701-05 WG1780983: at 25C

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0349	J	0.0180	0.0400	1	12/02/2021 09:41	WG1782193

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	590		0.0852	0.500	1	11/30/2021 23:18	WG1781453
Cadmium	0.291	J	0.0471	0.500	1	11/30/2021 23:18	WG1781453
Chromium	32.2		0.133	1.00	1	11/30/2021 23:18	WG1781453
Copper	15.1		0.400	2.00	1	11/30/2021 23:18	WG1781453
Lead	16.8		0.208	0.500	1	11/30/2021 23:18	WG1781453
Nickel	19.4		0.132	2.00	1	11/30/2021 23:18	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 23:18	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 23:18	WG1781453
Zinc	38.6		0.832	5.00	1	11/30/2021 23:18	WG1781453

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.152	J	0.0167	0.200	1	12/01/2021 18:22	WG1780174

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.48		0.100	1.00	5	11/30/2021 22:20	WG1781452

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0275	B J	0.0217	0.100	1	11/24/2021 22:26	WG1779918
(S) a,a,a-Trifluorotoluene(FID)	*87.8*			*77.0-120*		*11/24/2021 22:26*	WG1779918

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 12:44	WG1779625
Toluene	U		0.00130	0.00500	1	11/24/2021 12:44	WG1779625
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 12:44	WG1779625
Total Xylenes	U		0.000880	0.00650	1	11/24/2021 12:44	WG1779625
(S) Toluene-d8	*105*			*75.0-131*		*11/24/2021 12:44*	WG1779625
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*11/24/2021 12:44*	WG1779625
(S) 1,2-Dichloroethane-d4	*77.4*			*70.0-130*		*11/24/2021 12:44*	WG1779625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	5.17		0.769	4.00	1	11/25/2021 02:28	WG1779516
(S) o-Terphenyl	*44.0*			*18.0-148*		*11/25/2021 02:28*	WG1779516

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/24/2021 20:48	WG1779526
Acenaphthene	U		0.00209	0.00600	1	11/24/2021 20:48	WG1779526
Acenaphthylene	U		0.00216	0.00600	1	11/24/2021 20:48	WG1779526
Benzo(a)anthracene	U		0.00173	0.00600	1	11/24/2021 20:48	WG1779526
Benzo(a)pyrene	U		0.00179	0.00600	1	11/24/2021 20:48	WG1779526
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/24/2021 20:48	WG1779526
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/24/2021 20:48	WG1779526
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/24/2021 20:48	WG1779526
Chrysene	U		0.00232	0.00600	1	11/24/2021 20:48	WG1779526
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/24/2021 20:48	WG1779526
Fluoranthene	U		0.00227	0.00600	1	11/24/2021 20:48	WG1779526
Fluorene	U		0.00205	0.00600	1	11/24/2021 20:48	WG1779526
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/24/2021 20:48	WG1779526
Naphthalene	U		0.00408	0.0200	1	11/24/2021 20:48	WG1779526
Phenanthrene	U		0.00231	0.00600	1	11/24/2021 20:48	WG1779526
Pyrene	U		0.00200	0.00600	1	11/24/2021 20:48	WG1779526
1-Methylnaphthalene	U		0.00449	0.0200	1	11/24/2021 20:48	WG1779526
2-Methylnaphthalene	U		0.00427	0.0200	1	11/24/2021 20:48	WG1779526
2-Chloronaphthalene	U		0.00466	0.0200	1	11/24/2021 20:48	WG1779526
(S) p-Terphenyl-d14	*92.7*			*23.0-120*		*11/24/2021 20:48*	WG1779526
(S) Nitrobenzene-d5	*53.7*			*14.0-149*		*11/24/2021 20:48*	WG1779526
(S) 2-Fluorobiphenyl	*72.4*			*34.0-125*		*11/24/2021 20:48*	WG1779526

Method Blank (MB)

(MB) R3735268-1 11/30/21 13:37

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

L1423071-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1423071-01 11/30/21 13:38 • (DUP) R3735268-3 11/30/21 13:38

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

L1435575-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1435575-01 11/30/21 13:44 • (DUP) R3735268-8 11/30/21 13:44

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

Laboratory Control Sample (LCS)

(LCS) R3735268-2 11/30/21 13:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	22.5	93.8	80.0-120	

L1434136-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434136-02 11/30/21 13:39 • (MS) R3735268-4 11/30/21 13:39 • (MSD) R3735268-5 11/30/21 13:40

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 %
Chromium,Hexavalent	20.0	U	18.2	19.0	91.2	94.8	1	75.0-125			3.88	20

L1434136-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1434136-02 11/30/21 13:39 • (MS) R3735268-6 11/30/21 13:40

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	683	U	673	98.5	50	75.0-125	

Method Blank (MB)

(MB) R3737048-1 12/04/21 10:38

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

L1435786-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1435786-02 12/04/21 10:44 • (DUP) R3737048-3 12/04/21 10:45

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

L1436194-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1436194-04 12/04/21 11:02 • (DUP) R3737048-8 12/04/21 11:04

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

Laboratory Control Sample (LCS)

(LCS) R3737048-2 12/04/21 10:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	23.9	99.5	80.0-120	

L1436175-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1436175-05 12/04/21 10:53 • (MS) R3737048-4 12/04/21 10:53 • (MSD) R3737048-5 12/04/21 10:56

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 %
Chromium,Hexavalent	20.0	U	10.0	10.1	50.2	50.6	1	75.0-125	J6	J6	0.797	20

L1436152-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1436152-01 12/01/21 15:31 • (DUP) R3735921-2 12/01/21 15:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.08	8.03	1	0.621		1

Sample Narrative:

OS: 8.08 at 18.5C

DUP: 8.03 at 18.5C

L1436394-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1436394-01 12/01/21 15:31 • (DUP) R3735921-3 12/01/21 15:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	9.40	9.43	1	0.319		1

Sample Narrative:

OS: 9.4 at 19.3C

DUP: 9.43 at 19.4C

Laboratory Control Sample (LCS)

(LCS) R3735921-1 12/01/21 15:31

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 19C

Method Blank (MB)

(MB) R3734991-1 11/30/21 07:09

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

Sample Narrative:

BLANK: at 25C

L1434701-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1434701-05 11/30/21 07:09 • (DUP) R3734991-3 11/30/21 07:09

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	518	506	1	2.34		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3734991-2 11/30/21 07:09

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	263	98.1	85.0-115	

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R3736214-1 12/02/21 09:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3736214-2 12/02/21 09:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.510	102	80.0-120	

L1435865-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1435865-01 12/02/21 09:23 • (MS) R3736214-3 12/02/21 09:25 • (MSD) R3736214-4 12/02/21 09:27

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 %
Mercury	0.500	U	0.570	0.455	114	90.9	1	75.0-125		J3	22.6	20

Method Blank (MB)

(MB) R3735627-1 11/30/21 22:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
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) R3735627-2 11/30/21 22:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	100	100	80.0-120	
Cadmium	100	94.8	94.8	80.0-120	
Chromium	100	97.0	97.0	80.0-120	
Copper	100	97.8	97.8	80.0-120	
Lead	100	97.3	97.3	80.0-120	
Nickel	100	97.2	97.2	80.0-120	
Selenium	100	97.8	97.8	80.0-120	
Silver	20.0	18.6	93.2	80.0-120	
Zinc	100	94.8	94.8	80.0-120	

L1434125-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434125-03 11/30/21 22:07 • (MS) R3735627-5 11/30/21 22:16 • (MSD) R3735627-6 11/30/21 22:19

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 %
Barium	100	149	227	226	77.7	76.1	1	75.0-125			0.685	20
Cadmium	100	0.325	95.0	92.4	94.6	92.1	1	75.0-125			2.69	20
Chromium	100	6.76	95.7	93.7	88.9	86.9	1	75.0-125			2.09	20
Copper	100	19.0	115	113	95.7	94.1	1	75.0-125			1.34	20
Lead	100	12.2	108	106	95.4	94.1	1	75.0-125			1.19	20
Nickel	100	13.6	111	110	97.4	96.6	1	75.0-125			0.700	20
Selenium	100	U	91.7	90.5	91.7	90.5	1	75.0-125			1.39	20
Silver	20.0	U	18.9	18.4	94.7	92.1	1	75.0-125			2.74	20
Zinc	100	40.0	126	127	85.8	86.7	1	75.0-125			0.736	20

Method Blank (MB)

(MB) R3736034-1 12/01/21 18:01

Analyte	MB Result mg/l	MB Qualifier	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) R3736034-2 12/01/21 18:04 • (LCSD) R3736034-3 12/01/21 18:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.02	1.00	102	100	80.0-120			1.17	20

Method Blank (MB)

(MB) R3735490-1 11/30/21 20:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3735490-2 11/30/21 20:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	92.4	92.4	80.0-120	

L1434125-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434125-03 11/30/21 20:58 • (MS) R3735490-5 11/30/21 21:09 • (MSD) R3735490-6 11/30/21 21:12

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	7.33	91.1	89.6	83.8	82.2	5	75.0-125			1.73	20

Method Blank (MB)

(MB) R3734347-2 11/24/21 20:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0233	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*89.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3734347-1 11/24/21 19:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.27	77.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*107*	*77.0-120*	

Method Blank (MB)

(MB) R3736001-2 11/29/21 02:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*91.4*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3736001-1 11/29/21 01:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.01	91.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*101*	*77.0-120*	

Method Blank (MB)

(MB) R3734396-3 11/24/21 10:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*109*			*75.0-131*
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*75.6*			*70.0-130*

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

(LCS) R3734396-1 11/24/21 09:30 • (LCSD) R3734396-2 11/24/21 09:50

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	0.152	0.144	122	115	70.0-123			5.41	20
Ethylbenzene	0.125	0.141	0.140	113	112	74.0-126			0.712	20
Toluene	0.125	0.137	0.142	110	114	75.0-121			3.58	20
Xylenes, Total	0.375	0.427	0.423	114	113	72.0-127			0.941	20
(S) Toluene-d8				*101*	*104*	*75.0-131*				
(S) 4-Bromofluorobenzene				*107*	*104*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*81.3*	*81.5*	*70.0-130*				

Method Blank (MB)

(MB) R3736109-3 11/29/21 09:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*104*			*75.0-131*
(S) 4-Bromofluorobenzene	*101*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*96.4*			*70.0-130*

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

(LCS) R3736109-1 11/29/21 08:39 • (LCSD) R3736109-2 11/29/21 08:58

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 %
Benzene	0.125	0.111	0.106	88.8	84.8	70.0-123			4.61	20
Ethylbenzene	0.125	0.115	0.113	92.0	90.4	74.0-126			1.75	20
Toluene	0.125	0.112	0.112	89.6	89.6	75.0-121			0.000	20
Xylenes, Total	0.375	0.349	0.349	93.1	93.1	72.0-127			0.000	20
(S) Toluene-d8				*103*	*106*	*75.0-131*				
(S) 4-Bromofluorobenzene				*102*	*104*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*102*	*98.7*	*70.0-130*				

Method Blank (MB)

(MB) R3733880-1 11/24/21 22:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*48.8*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3733880-2 11/24/21 22:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	28.6	57.2	50.0-150	
(S) o-Terphenyl			*70.7*	*18.0-148*	

L1431852-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1431852-01 11/24/21 23:14 • (MS) R3733880-3 11/24/21 23:27 • (MSD) R3733880-4 11/24/21 23:40

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 %
TPH (GC/FID) High Fraction	48.6	2.62	20.2	24.5	36.2	45.1	1	50.0-150	J6	J6	19.2	20
(S) o-Terphenyl					*43.2*	*53.9*		*18.0-148*				

Method Blank (MB)

(MB) R3733851-2 11/24/21 17:08

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	*44.4*			*14.0-149*
(S) 2-Fluorobiphenyl	*55.9*			*34.0-125*
(S) p-Terphenyl-d14	*73.7*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3733851-1 11/24/21 16:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0662	82.8	50.0-126	
Acenaphthene	0.0800	0.0650	81.3	50.0-120	
Acenaphthylene	0.0800	0.0717	89.6	50.0-120	
Benzo(a)anthracene	0.0800	0.0667	83.4	45.0-120	
Benzo(a)pyrene	0.0800	0.0553	69.1	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0535	66.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0539	67.4	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0561	70.1	49.0-125	
Chrysene	0.0800	0.0640	80.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0605	75.6	47.0-125	
Fluoranthene	0.0800	0.0687	85.9	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3733851-1 11/24/21 16:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0663	82.9	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0568	71.0	46.0-125	
Naphthalene	0.0800	0.0642	80.3	50.0-120	
Phenanthrene	0.0800	0.0617	77.1	47.0-120	
Pyrene	0.0800	0.0638	79.8	43.0-123	
1-Methylnaphthalene	0.0800	0.0697	87.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0631	78.9	50.0-120	
2-Chloronaphthalene	0.0800	0.0602	75.3	50.0-120	
(S) Nitrobenzene-d5			*65.8*	*14.0-149*	
(S) 2-Fluorobiphenyl			*77.7*	*34.0-125*	
(S) p-Terphenyl-d14			*94.5*	*23.0-120*	

L1431116-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1431116-03 11/24/21 23:28 • (MS) R3733851-3 11/24/21 23:47 • (MSD) R3733851-4 11/25/21 00:07

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	0.0408	0.245	0.0799	263	49.6	1	10.0-145	J5	J3	102	30
Acenaphthene	0.0776	0.0678	0.312	0.114	315	58.6	1	14.0-127	J5	J3	93.0	27
Acenaphthylene	0.0776	0.0231	0.121	0.0713	126	61.2	1	21.0-124	J5	J3	51.7	25
Benzo(a)anthracene	0.0776	0.104	0.419	0.178	406	93.9	1	10.0-139	J5	J3	80.7	30
Benzo(a)pyrene	0.0776	0.0910	0.231	0.166	180	95.2	1	10.0-141	J5	J3	32.7	31
Benzo(b)fluoranthene	0.0776	0.0766	0.192	0.129	149	66.5	1	10.0-140	J5	J3	39.3	36
Benzo(g,h,i)perylene	0.0776	0.0924	0.147	0.156	70.4	80.7	1	10.0-140			5.94	33
Benzo(k)fluoranthene	0.0776	0.00771	0.0649	0.0521	73.7	56.3	1	10.0-137			21.9	31
Chrysene	0.0776	0.145	0.608	0.220	597	95.2	1	10.0-145	J5	J3	93.7	30
Dibenz(a,h)anthracene	0.0776	0.0262	0.0889	0.0744	80.8	61.2	1	10.0-132			17.8	31
Fluoranthene	0.0776	0.137	0.496	0.226	463	113	1	10.0-153	J5	J3	74.8	33
Fluorene	0.0776	0.152	0.608	0.192	588	50.8	1	11.0-130	J5	J3	104	29
Indeno(1,2,3-cd)pyrene	0.0776	0.0492	0.102	0.112	68.0	79.7	1	10.0-137			9.35	32
Naphthalene	0.0776	0.0742	0.283	0.143	269	87.3	1	10.0-135	J5	J3	65.7	27
Phenanthrene	0.0776	0.257	1.25	0.318	1280	77.4	1	10.0-144	J5	J3	119	31
Pyrene	0.0776	0.332	0.919	0.366	756	43.1	1	10.0-148	V	J3	86.1	35
1-Methylnaphthalene	0.0776	0.733	4.23	0.854	4510	154	1	10.0-142	E V	J3 V	133	28
2-Methylnaphthalene	0.0776	0.557	2.76	0.721	2840	208	1	10.0-137	V	J3 V	117	28
2-Chloronaphthalene	0.0776	U	0.0260	0.0416	33.5	52.8	1	29.0-120		J3	46.2	24
(S) Nitrobenzene-d5					*67.5*	*66.1*		*14.0-149*				
(S) 2-Fluorobiphenyl					*64.4*	*56.2*		*34.0-125*				
(S) p-Terphenyl-d14					*112*	*86.2*		*23.0-120*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

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
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC	Billing Information: Info on file
Address: Info on file	
Report To: Jake Janicek, Brett Middleton, Blair Rollins	Email To: Info on file
Copy To: Chris McKisson, remediation@confluence-cc.com	Site Collection Info/Address:
Customer Project Name/Number: B36-496 Historical; PH05 & PH12	State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET
Phone: / Email:	Site/Facility ID #: B36-496 / Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Andrew Smith	Purchase Order # : / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): AS	Turnaround Date Required: Standard 5-Day / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	BTEX	TPH (GRO, DRO)	Table 910-1 Metal's	Table 910-1 PAH's	EC, SAR, pH, Arsenic	pH Only	SAR Only				Lab Profile/Line:
20211110-B36-496-PH12-BASE@6'	SL	G	11/10/2021	0930				2	G						X	X				-01
20211110-B36-496-PH12-NSW@3'	SL	G	11/10/2021	0945				2	G							X				-02
20211110-B36-496-PH12-WSW@3'	SL	G	11/10/2021	0950				2	G							X				-03
20211110-B36-496-PH12-WSW2@3'	SL	G	11/10/2021	0955				2	G							X				
20211110-B36-496-PH12-WSW3@3'	SL	G	11/10/2021	1000				2	G							X				
20211110-B36-496-PH12-ESW@3'	SL	G	11/10/2021	1010				2	G							X				
20211110-B36-496-PH12-ESW2@3'	SL	G	11/10/2021	1015				2	G							X				
20211110-B36-496-PH12-ESW3@3'	SL	G	11/10/2021	1020				2	G							X				-04
20211110-B36-496-PH12-ESW4@3'	SL	G	11/10/2021	1025				2	G							X				
20211110-B36-496-PH12-SSW@3'	SL	G	11/10/2021	1030				2	G							X				-05

Lab Profile/Line:

Lab Sample Receipt Checklist:			
Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY: L1934701
Lab Sample # / Comments: L1934873

N 11/23/21

Customer Remarks / Special Conditions / Possible Hazards:
Please hold all extra material for additional 910-1 analysis.

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: oC
Cooler 1 Therm Corr. Factor: oC
Cooler 1 Corrected Temp: oC
Comments:

Relinquished by/Company: (Signature) AS	Date/Time: 11-11-21/1100	Received by/Company: (Signature)	Date/Time: 11/11 1200	K085
Relinquished by/Company: (Signature)	Date/Time: 11/12/21 1500	Received by/Company: (Signature)	Date/Time: 11/12/21 0845	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	

2.7+2.7 ARBA

Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 2

L1430873 *CAERUSPCO* Coming up on Hold time

R1/R2

Please relog the below to a new SDG to run for the remainder of TABLE910

- PH12BASE@5 (L1430873-01)
- PH12NSWALL@3 (L1430873-02
- PH12WSWALL@3 (L1430873-03)
- PH12ESWALL2@3 (L1430873-07)
- PH12SSWALL@3 (L1430873-10)

_ _

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed.
_My new email address is <u>Chris.Ward@pacelabs.com</u>. Please update your records accordingly.
_
* *

Thanks,*

** *Chris
Ward

*Project Manager2_*

_***Pace Analytical National**
*

12065 Lebanon Road | Mt. Juliet, TN 37122**

Chris.ward@pacelabs.com
| www.pacenational.com

<u>615.773.9712</u>

MAKE YOUR PAYMENTS ONLINE*

Time estimate: oh **Time spent:** oh

Members

Chris Ward (responsible)