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## Report of Work Completed – Dehydration Unit Removal

|                                    |                                |
|------------------------------------|--------------------------------|
| <b>COGCC Location Name (ID)</b>    | FEDERAL-62S95W 16SENW (316604) |
| <b>Client Location Name</b>        | Federal 2S-95-16-22CP          |
| <b>COGCC Remediation Project #</b> | 20090                          |
| <b>Legal Description</b>           | SENW Sec. 16 T2S-R95W          |
| <b>Coordinates (Lat/Long)</b>      | 39.875557 / -108.064815        |
| <b>County</b>                      | Rio Blanco County, Colorado    |

Mr. Janicek,

Confluence Compliance Companies, LLC (Confluence) prepared this Report of Work Completed (ROWC) for Caerus Oil & Gas LLC (Caerus) to document recent excavation activities associated with the decommissioning of a dehydration unit at the Federal 2S-95-16-22CP well pad (Location). The Location is 13.6 miles southwest of Meeker, Colorado in Rio Blanco 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

As required by Colorado Oil and Gas Conservation Commission (COGCC) Rule 911.a, Caerus submitted COGCC Initial eForm 27 Document # 402796488, presenting planned site investigation activities associated with the decommissioning of the dehydration unit and removal of the partially buried tank.

### Methodology

On November 4, 2021, Confluence was onsite to investigate and document dehydration unit decommissioning activities as per COGCC Form 27 Document # 402796488 and associated Conditions of Approval (COAs). Upon arrival to the Location, the dehydration unit and associated partially buried tank had been removed. Confluence collected samples from both excavation areas, characterizing the soil using visual and olfactory observations, and field-screened soil samples for volatile organic compounds using a photoionization detector (PID). Field screening and observations indicated impacts within the excavation for the partially buried tank. PID measurements ranged from 0.0 to 67.4 parts per million (ppm) and stained soil was observed on the eastern sidewall. One sample was collected from the base of the dehydration unit footprint. Two samples were collected from the partially buried tank excavation; one from the base and one from the eastern sidewall, which represented the most impacted material according to PID readings. Soil samples were

submitted for laboratory analysis of constituents listed in COGCC Table 915-1. Additionally, background soil samples were collected from comparable, nearby, non-impacted soil to establish native soil conditions for pH, electrical conductivity (EC), and sodium adsorption ratio (SAR) per Rule 915.e.(2).D.

On December 9, 2021, Confluence was onsite to coordinate and oversee remedial investigation activities associated with the total petroleum hydrocarbon (TPH) impacts discovered within the excavation for the partially buried tank associated with the dehydration unit. Using a mini excavator, impacted soil was removed from the excavation area. Excavation activities were directed by Confluence personnel who characterized the soil and field-screened soil samples. As the excavation was advanced, soil samples were collected from the base and sidewalls for laboratory analysis of TPH as approved in COGCC Supplemental Form 27 Document # 402886593. During remediation activities, excavated soil was stockpiled on site. Following the completion of excavation activities, a representative composite sample was collected from the stockpile for laboratory analysis of TPH.

All soil samples were collected in laboratory provided jars, immediately placed on ice, and shipped for laboratory analysis. Sample locations are illustrated in the attached Site Diagrams.

## Results

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

### Lithology and Hydrogeology

Soil at the Location is described as a sandy loam with gravel throughout. Groundwater is expected to flow north toward Timber Gulch and ultimately into the White River, located 17.25 miles northwest of the Location.

### Investigation Results

Laboratory results of initial investigation and characterization samples indicated compliance with COGCC Table 915-1 Soil Suitability for Reclamation (SSR) and metals standards except for pH, arsenic, and chromium (VI). Values of pH exceeding COGCC Table 915-1 range from 8.38 at the base of the tank excavation to 8.58 dehydration footprint. Arsenic exceedances range from 1.90 milligrams per kilogram (mg/kg) in the dehydration unit footprint to 2.47 mg/kg at the tank excavation east sidewall. Chromium (VI) exceedances range from 0.422 mg/kg at the tank excavation east sidewall to 0.471 mg/kg at the base of tank excavation.

Laboratory results of initial investigation and characterization samples indicated compliance with COGCC Table 915-1 organic compounds except for TPH in the east sidewall of the tank excavation with a concentration of 1,076 mg/kg.

### Excavation Results

The final depth of the remedial excavation was 7 feet below ground surface (bgs). Approximately 24 cubic yards of soil were removed from the excavation area. Laboratory results of the final excavation soil samples are compliant with COGCC Table 915-1 Soil Screening Levels for TPH. Laboratory results of the excavated soil stockpile composite sample indicate compliance with COGCC Table 915-1 Soil Screening Levels for TPH.

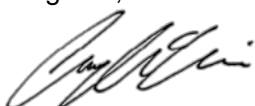


## Analysis and Recommendations

Although pH, arsenic, and chromium (VI) values above COGCCC Table 915-1 standards remain within the equipment removal excavations, background data suggests the pH and arsenic exceedances are within naturally occurring levels at the Location. Background samples collected directly adjacent to the Location indicate a pH value of 8.84 and arsenic concentrations of 28.9 mg/kg, both above their corresponding values within the excavations. The chromium (VI) exceedances in the initial tank excavation soil samples are both labeled with a “J” qualifier; stating that the identification of the analyte was made; however, the concentration is only an estimate due to the minimal amount of the analyte being exhibited in the sample material. Confluence recommends that Caerus request the consideration of the “J” qualifier from the COGCC as an estimated value. All other analytes are compliant with COGCC Table 915-1. Based on these results and analysis, Confluence recommends that Caerus request closure of COGCC Remediation Project # 20090 and a no further action (NFA) determination. The use of the excavation stockpile as backfill can be included in the NFA request.

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,



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## Attachments

- Topographic Location Map
- Site Diagram – Background Samples
- Site Diagram – Excavation
- Laboratory Results Summary Table
- Laboratory Reports





## Topographic Location Map

Caerus Oil and Gas LLC

Federal 2S-95-16-22CP  
(FEDERAL-62S95W 16SENW)  
COGCC Location ID: 316604

Rio Blanco County  
SENW Sec. 16 T2S-R95W



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

Created by: Andrew Smith on 12/28/2021.

Federal 2S-95-16-22CP



GRAND

7 mi




## Site Diagram Background Samples

### Caerus Oil and Gas LLC

Federal 2S-95-16-22CP  
(FEDERAL-62S95W 16SENW)  
COGCC Location ID: 316604  
Rio Blanco County  
SENW Sec. 16 T2S-R95W



### Legend

 Background Sample – 11/04/2021

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.

Map created by: Andrew Smith on 11/08/2021.

20211104-Fed 2S-95-16-22C-BGN@3'

20211104-Fed 2S-95-16-22C-BGN2@1.5'

20211104-Fed 2S-95-16-22C-BGW2@1.5'

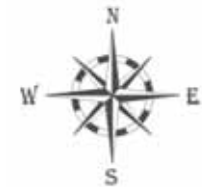
20211104-Fed 2S-95-16-22C-BGW@3'







## Site Diagram Excavation

### Caerus Oil and Gas LLC

Federal 2S-95-16-22CP  
(FEDERAL-62S95W 16SENW)  
COGCC Location ID: 316604  
Rio Blanco County  
SENW Sec. 16 T2S-R95W



### Legend

-  Soil Sample – 11/04/2021
-  Soil Sample – 12/09/2021
-  Final Excavation Extent – 12/09/2021
-  Soil Stockpile – 12/09/2021

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.

Map created by: Andrew Smith on 12/28/2021.



| Soil Screening and Remediation Limits |  |   | Organic Compounds (mg/kg [ppm])  |                                  |                                    |                                    |          |          |              |  |                        |                        |              |            |                    |                |                      |                      |          |                        |              |          |
|---------------------------------------|--|---|--|----------------------------------|------------------------------------|------------------------------------|----------|----------|--------------|--|------------------------|------------------------|--------------|------------|--------------------|----------------|----------------------|----------------------|----------|------------------------|--------------|----------|
| COGCC Table 915-1 Residential -->     |  |   | 500  | NA                               | NA                                 | NA                                 | 1.2      | 490      | 5.8          | 58   | 30                     | 27                     | 360          | 1800       | 1.1                | 0.11           | 1.1                  | 11                   | 110      | 0.11                   | 240          | 240      |
| Sample Date                           | Solid/Soil Source<br>(Equipment<br>[Vault/Sump, Separator, Tank<br>Battery, Dump Line, Pit, Cuttings,<br>Background, etc.] | Sample ID                               | TPH (total volatile and<br>extractable petroleum<br>hydrocarbons)<br>(GRO+DRO+ORO) | TPH-GRO (C6-C10)<br>Low Fraction | TPH-DRO (C10-C28)<br>High Fraction | TPH-ORO (C28-C36)<br>High Fraction | Benzene  | Toluene  | Ethylbenzene | Xylenes - total<br>(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 |
| 11/4/2021                             | Glycol Dehydration Tank  | 20211104-FED 2S-95-16-22CP-TANK_ESW@3'  | 1076   | 0.220                            | 962                                | 114                                | <0.00100 | <0.00500 | <0.00250     | 0.00308  | <0.00500               | 0.0836                 | 0.0269       | <0.00600   | <0.00600           | <0.00600       | 0.00316              | <0.00600             | 0.00803  | <0.00600               | 0.0202       | 0.228    |
| 11/4/2021                             | Glycol Dehydration Tank  | 20211104-FED 2S-95-16-22CP-DEHY@8"      | 5.48   | 0.0362                           | 3.00                               | 2.44                               | <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 |
| 11/4/2021                             | Glycol Dehydration Tank  | 20211104-FED 2S-95-16-22CP-TANK_BASE@7' | 146.6  | 0.0404                           | 71.6                               | 75.0                               | <0.00100 | <0.00500 | <0.00250     | 0.00117  | <0.00500               | <0.00500               | <0.00600     | <0.00600   | <0.00600           | <0.00600       | <0.00600             | <0.00600             | <0.00600 | <0.00600               | <0.00600     | <0.00600 |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK EWALL@4.5'  | 9.79   | <0.100                           | 2.65                               | 7.14                               | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK NWALL@4'    | 12.33  | <0.100                           | 3.54                               | 8.79                               | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK SWALL@5'    | 320.8  | 1.25                             | 259                                | 60.5                               | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK BASE@7'     | 84.8   | 0.142                            | 58.5                               | 26.2                               | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22 STOCK           | 320.4  | 10.3                             | 273                                | 37.1                               | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA   | NA                               | NA                                 | NA                                 | NA       | NA       | NA           | NA   | NA                     | NA                     | NA           | NA         | NA                 | NA             | NA                   | NA                   | NA       | NA                     | NA           | NA       |



Laboratory Results Summary Table - Soil  
Federal 2S-95-16-22CP

| Soil Screening and Remediation Limits |  |   |                          |                       |                       |             |          | Soil Suitability for Reclamation  |  |   |                                     | Metals (mg/kg [ppm]) |        |                    |               |        |      |        |          |        |       |
|---------------------------------------|--|---|--------------------------|-----------------------|-----------------------|-------------|----------|---|--|---|-------------------------------------|----------------------|--------|--------------------|---------------|--------|------|--------|----------|--------|-------|
| COGCC Table 915-1 Residential -->     |  |   | 1.1                      | 18                    | 24                    | 2           | 180      | 4   | 6  | 6-8.3   | 2                                   | 0.68                 | 15000  | 71                 | 0.3           | 3100   | 400  | 1500   | 390      | 390    | 23000 |
| Sample Date                           | Solid/Soil Source<br>(Equipment<br>[Vault/Sump, Separator, Tank<br>Battery, Dump Line, Pit, Cuttings,<br>Background, etc.] | Sample ID                               | Indeno(1,2,3, C,D)pyrene | 1- Methyl naphthalene | 2- Methyl naphthalene | Naphthalene | Pyrene   | EC (Specific Conductance)<br>(millimhos/centimeter)<br>(by saturated paste<br>method) | SAR (Sodium Adsorption<br>Ratio) (calculation)<br>(by saturated paste<br>method) | pH (pH Units)<br>(by saturated paste<br>method) | Boron - Hot Water Soluble<br>(mg/L) | Arsenic              | Barium | Cadmium<br>(mg/kg) | Chromium (VI) | Copper | Lead | Nickel | Selenium | Silver | Zinc  |
| 11/4/2021                             | Glycol Dehydration Tank  | 20211104-FED 2S-95-16-22CP-TANK_ESW@3'  | <0.00600                 | 0.118                 | 0.0106                | 0.00821     | 0.0138   | 0.929   | 1.01   | 7.46  | 0.429                               | 2.47                 | 317    | 0.371              | 0.422         | 16.7   | 13.8 | 22.2   | 0.890    | <1.00  | 47.0  |
| 11/4/2021                             | Glycol Dehydration Tank  | 20211104-FED 2S-95-16-22CP-DEHY@8"      | <0.00600                 | <0.0200               | <0.0200               | <0.0200     | <0.00600 | 0.143   | 0.879  | 8.58  | 0.427                               | 1.90                 | 1080   | 0.0475             | <1.00         | 11.2   | 14.3 | 14.9   | 0.946    | <1.00  | 34.8  |
| 11/4/2021                             | Glycol Dehydration Tank  | 20211104-FED 2S-95-16-22CP-TANK_BASE@7' | <0.00600                 | <0.0200               | <0.0200               | 0.00998     | <0.00600 | 0.555   | 4.32   | 8.38  | 0.661                               | 2.14                 | 456    | 0.288              | 0.471         | 14.8   | 13.6 | 21.1   | 1.22     | <1.00  | 41.6  |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK EWALL@4.5'  | NA                       | NA                    | NA                    | NA          | NA       | NA  | NA   | NA  | NA                                  | NA                   | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK NWALL@4'    | NA                       | NA                    | NA                    | NA          | NA       | NA  | NA   | NA  | NA                                  | NA                   | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK SWALL@5'    | NA                       | NA                    | NA                    | NA          | NA       | NA  | NA   | NA  | NA                                  | NA                   | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22TANK BASE@7'     | NA                       | NA                    | NA                    | NA          | NA       | NA  | NA   | NA  | NA                                  | NA                   | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 12/9/2021                             | Glycol Dehydration Tank  | 20211209-FED2S-95-16-22 STOCK           | NA                       | NA                    | NA                    | NA          | NA       | NA  | NA   | NA  | NA                                  | NA                   | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.114   | 0.208  | 8.06  | 0.150                               | 1.05                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.152   | 2.19   | 8.84  | 0.133                               | 13.0                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.139   | 0.159  | 8.45  | 0.188                               | 0.844                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.176   | 0.167  | 8.43  | 0.434                               | 1.72                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.169   | 0.158  | 8.34  | 0.409                               | 1.03                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.108   | 0.190  | 8.17  | 0.145                               | 0.887                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.153   | 2.24   | 8.83  | 0.151                               | 17.5                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.144   | 0.164  | 8.55  | 0.193                               | 0.558                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.166   | 0.177  | 8.38  | 0.404                               | 1.23                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.106   | 0.191  | 8.24  | 0.171                               | 0.966                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.160   | 2.30   | 8.81  | 0.132                               | 16.6                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.152   | 0.166  | 8.40  | 0.179                               | 0.712                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.185   | 0.164  | 8.33  | 0.400                               | 1.38                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.121   | 0.192  | 8.25  | 0.148                               | 1.04                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.178   | 2.28   | 8.83  | 0.138                               | 28.9                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.188   | 0.169  | 8.31  | 0.170                               | 0.844                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.169   | 0.153  | 8.31  | 0.409                               | 1.40                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.114   | 0.191  | 8.21  | 0.140                               | 0.829                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGN2@1.5'     | NA                       | NA                    | NA                    | NA          | NA       | 0.163   | 2.18   | 8.82  | 0.150                               | 25.3                 | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |
| 11/4/2021                             | Background   | 20211104-FED 2S-95-16-22C-BGW@3'        | NA                       | NA                    | NA                    | NA          | NA       | 0.129   | 0.150  | 8.38  | 0.176                               | 0.749                | NA     | NA                 | NA            | NA     | NA   | NA     | NA       | NA     | NA    |



## Caerus Oil and Gas

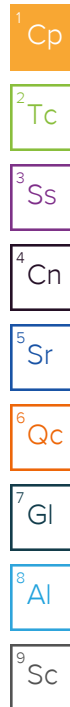
Sample Delivery Group: L1428767  
Samples Received: 11/09/2021  
Project Number: FED 2S-95-16-22CP  
Description: Background  
Site: FEDERAL 2S-95-16-22CP  
Report To: Brett Middleton  
143 Diamond Avenue  
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward  
Project Manager

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



### Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

# TABLE OF CONTENTS

|   |    |
|---|----|
| Cp: Cover Page                                  | 1  |
| Tc: Table of Contents                           | 2  |
| Ss: Sample Summary                              | 3  |
| Cn: Case Narrative                              | 7  |
| Sr: Sample Results                              | 8  |
| 20211104-FED 2S-95-16-22C-BGN@3' L1428767-01    | 8  |
| 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-02 | 9  |
| 20211104-FED 2S-95-16-22C-BGW@3' L1428767-03    | 10 |
| 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-04 | 11 |
| 20211104-FED 2S-95-16-22C-BGN@3' L1428767-05    | 12 |
| 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-06 | 13 |
| 20211104-FED 2S-95-16-22C-BGW@3' L1428767-07    | 14 |
| 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-08 | 15 |
| 20211104-FED 2S-95-16-22C-BGN@3' L1428767-09    | 16 |
| 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-10 | 17 |
| 20211104-FED 2S-95-16-22C-BGW@3' L1428767-11    | 18 |
| 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-12 | 19 |
| 20211104-FED 2S-95-16-22C-BGN@3' L1428767-13    | 20 |
| 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-14 | 21 |
| 20211104-FED 2S-95-16-22C-BGW@3' L1428767-15    | 22 |
| 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-16 | 23 |
| 20211104-FED 2S-95-16-22C-BGN@3' L1428767-17    | 24 |
| 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-18 | 25 |
| 20211104-FED 2S-95-16-22C-BGW@3' L1428767-19    | 26 |
| 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-20 | 27 |
| Qc: Quality Control Summary                     | 28 |
| Wet Chemistry by Method 9045D                   | 28 |
| Wet Chemistry by Method 9050AMod                | 30 |
| Metals (ICP) by Method 6010B-NE493 Ch 2         | 32 |
| Metals (ICPMS) by Method 6020                   | 33 |
| Gl: Glossary of Terms                           | 34 |
| Al: Accreditations & Locations                  | 35 |
| Sc: Sample Chain of Custody                     | 36 |

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



# SAMPLE SUMMARY

## 20211104-FED 2S-95-16-22C-BGN@3' L1428767-01 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:12        | 11/15/21 21:12     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 19:57     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 20:52     | LD      | Mt. Juliet, TN |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

## 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-02 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:30

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:15        | 11/15/21 21:15     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:00     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 20:55     | LD      | Mt. Juliet, TN |

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

## 20211104-FED 2S-95-16-22C-BGW@3' L1428767-03 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:00

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:18        | 11/15/21 21:18     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:02     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 20:58     | LD      | Mt. Juliet, TN |

<sup>9</sup> Sc

## 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-04 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:21        | 11/15/21 21:21     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:05     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:08     | LD      | Mt. Juliet, TN |

## 20211104-FED 2S-95-16-22C-BGN@3' L1428767-05 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:23        | 11/15/21 21:23     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:08     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:12     | LD      | Mt. Juliet, TN |

# SAMPLE SUMMARY

20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-06 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:30

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:26        | 11/15/21 21:26     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:11     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:15     | LD      | Mt. Juliet, TN |



20211104-FED 2S-95-16-22C-BGW@3' L1428767-07 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:00

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:29        | 11/15/21 21:29     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:13     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:18     | LD      | Mt. Juliet, TN |

20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-08 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:31        | 11/15/21 21:31     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:21     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 20:36     | LD      | Mt. Juliet, TN |

20211104-FED 2S-95-16-22C-BGN@3' L1428767-09 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:34        | 11/15/21 21:34     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:24     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:21     | LD      | Mt. Juliet, TN |

20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-10 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:30

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:42        | 11/15/21 21:42     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:27     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:25     | LD      | Mt. Juliet, TN |



# SAMPLE SUMMARY

## 20211104-FED 2S-95-16-22C-BGW@3' L1428767-11 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:00

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:45        | 11/15/21 21:45     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:29     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:28     | LD      | Mt. Juliet, TN |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

## 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-12 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:48        | 11/15/21 21:48     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:32     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:31     | LD      | Mt. Juliet, TN |

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

## 20211104-FED 2S-95-16-22C-BGN@3' L1428767-13 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:50        | 11/15/21 21:50     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:35     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:34     | LD      | Mt. Juliet, TN |

<sup>9</sup> Sc

## 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-14 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:30

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:53        | 11/15/21 21:53     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:37     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:38     | LD      | Mt. Juliet, TN |

## 20211104-FED 2S-95-16-22C-BGW@3' L1428767-15 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:00

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:56        | 11/15/21 21:56     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:40     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 21:54     | LD      | Mt. Juliet, TN |

# SAMPLE SUMMARY

## 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-16 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:58        | 11/15/21 21:58     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:43     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 4.385965 | 11/15/21 17:18        | 11/15/21 21:57     | LD      | Mt. Juliet, TN |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

## 20211104-FED 2S-95-16-22C-BGN@3' L1428767-17 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 22:01        | 11/15/21 22:01     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:46     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 22:00     | LD      | Mt. Juliet, TN |

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

## 20211104-FED 2S-95-16-22C-BGN2@1.5' L1428767-18 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 14:30

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 22:04        | 11/15/21 22:04     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:53     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 22:04     | LD      | Mt. Juliet, TN |

<sup>9</sup>Sc

## 20211104-FED 2S-95-16-22C-BGW@3' L1428767-19 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:00

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 22:07        | 11/15/21 22:07     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771799 | 1        | 11/10/21 09:00        | 11/10/21 09:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772029 | 1        | 11/10/21 12:48        | 11/11/21 08:05     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:56     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 22:07     | LD      | Mt. Juliet, TN |

## 20211104-FED 2S-95-16-22C-BGW2@1.5' L1428767-20 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 15:10

Received date/time  
11/09/21 09:30

| Method                                  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results                      | WG1773226 | 1        | 11/15/21 21:02        | 11/15/21 21:02     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D           | WG1771817 | 1        | 11/10/21 08:00        | 11/10/21 10:00     | KAB     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod        | WG1772198 | 1        | 11/10/21 15:22        | 11/11/21 06:50     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2 | WG1773231 | 1        | 11/13/21 11:50        | 11/15/21 20:59     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020           | WG1774274 | 5        | 11/15/21 17:18        | 11/15/21 22:10     | LD      | 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

## Report Revision History

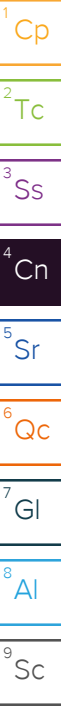
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Level II Report - Version 1: 11/16/21 15:40

## Project Narrative

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Regenerated for updated project info



Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.208  |           | 1        | 11/15/2021 21:12     | WG1773226 |

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.06   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

Sample Narrative:  
L1428767-01 WG1771799: 8.06 at 20.1C

Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|----------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |           |
| Specific Conductance | 114      |           | 10.0     | 1        | 11/11/2021 08:05     | WG1772029 |

Sample Narrative:  
L1428767-01 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|-----------|
|                      | mg/l   |           | mg/l   | mg/l  |          |                      |           |
| Hot Water Sol. Boron | 0.150  | J         | 0.0167 | 0.200 | 1        | 11/15/2021 19:57     | WG1773231 |

Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|-------|-------|----------|----------------------|-----------|
|         | mg/kg  |           | mg/kg | mg/kg |          |                      |           |
| Arsenic | 1.05   |           | 0.100 | 1.00  | 5        | 11/15/2021 20:52     | WG1774274 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.19   |           | 1        | 11/15/2021 21:15     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.84   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-02 WG1771799: 8.84 at 20.2C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | 152    |           | umhos/cm | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-02 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL  | RDL  | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|------|------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | 0.133  | <u>J</u>  | mg/l | mg/l | 1        | 11/15/2021 20:00     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | 13.0   |           | mg/kg | mg/kg | 5        | 11/15/2021 20:55     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.159  |           | 1        | 11/15/2021 21:18     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.45   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-03 WG1771799: 8.45 at 20.2C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 139      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-03 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.188  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:02     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 0.844  | <u>J</u>  | 0.100 | 1.00  | 5        | 11/15/2021 20:58     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.158  |           | 1        | 11/15/2021 21:21     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.34   | T8        | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-04 WG1771799: 8.34 at 19.9C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 169      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-04 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.409  |           | 0.0167 | 0.200 | 1        | 11/15/2021 20:05     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 1.03   |           | 0.100 | 1.00  | 5        | 11/15/2021 21:08     | <a href="#">WG1774274</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.190  |           | 1        | 11/15/2021 21:23     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.17   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-05 WG1771799: 8.17 at 20.2C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 108      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-05 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.145  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:08     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 0.887  | <u>J</u>  | 0.100 | 1.00  | 5        | 11/15/2021 21:12     | <a href="#">WG1774274</a> |

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

Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.24   |           | 1        | 11/15/2021 21:26     | WG1773226 |

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.83   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

Sample Narrative:

L1428767-06 WG1771799: 8.83 at 20.1C

Wet Chemistry by Method 9050AMod

| Analyte              | Result | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | 153    |           | umhos/cm | 1        | 11/11/2021 08:05     | WG1772029 |

Sample Narrative:

L1428767-06 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL  | RDL  | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|------|------|----------|----------------------|-----------|
| Hot Water Sol. Boron | 0.151  | J         | mg/l | mg/l | 1        | 11/15/2021 20:11     | WG1773231 |

Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|-------|-------|----------|----------------------|-----------|
| Arsenic | 17.5   |           | mg/kg | mg/kg | 5        | 11/15/2021 21:15     | WG1774274 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.164  |           | 1        | 11/15/2021 21:29     | WG1773226 |

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.55   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

Sample Narrative:  
L1428767-07 WG1771799: 8.55 at 19.9C

Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|----------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |           |
| Specific Conductance | 144      |           | 10.0     | 1        | 11/11/2021 08:05     | WG1772029 |

Sample Narrative:  
L1428767-07 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|-----------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |           |
| Hot Water Sol. Boron | 0.193  | J         | 0.0167 | 0.200 | 1        | 11/15/2021 20:13     | WG1773231 |

Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|-------|-------|----------|----------------------|-----------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |           |
| Arsenic | 0.558  | J         | 0.100 | 1.00  | 5        | 11/15/2021 21:18     | WG1774274 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.177  |           | 1        | 11/15/2021 21:31     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier          | Dilution | Analysis date / time | Batch                     |
|---------|--------|--------------------|----------|----------------------|---------------------------|
| pH      | 8.38   | <a href="#">T8</a> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-08 WG1771799: 8.38 at 20C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 166      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-08 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.404  |           | 0.0167 | 0.200 | 1        | 11/15/2021 20:21     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 1.23   |           | 0.100 | 1.00  | 5        | 11/15/2021 20:36     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.191  |           | 1        | 11/15/2021 21:34     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.24   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-09 WG1771799: 8.24 at 19.8C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 106      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-09 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.171  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:24     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 0.966  | <u>J</u>  | 0.100 | 1.00  | 5        | 11/15/2021 21:21     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.30   |           | 1        | 11/15/2021 21:42     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.81   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-10 WG1771799: 8.81 at 19.9C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 160      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-10 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.132  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:27     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
|         | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 16.6   |           | 0.100 | 1.00  | 5        | 11/15/2021 21:25     | <a href="#">WG1774274</a> |

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



Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.166  |           | 1        | 11/15/2021 21:45     | WG1773226 |

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.40   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

Sample Narrative:  
L1428767-11 WG1771799: 8.4 at 19.5C

Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|----------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |           |
| Specific Conductance | 152      |           | 10.0     | 1        | 11/11/2021 08:05     | WG1772029 |

Sample Narrative:  
L1428767-11 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|-----------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |           |
| Hot Water Sol. Boron | 0.179  | J         | 0.0167 | 0.200 | 1        | 11/15/2021 20:29     | WG1773231 |

Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|-------|-------|----------|----------------------|-----------|
|         | mg/kg  |           | mg/kg | mg/kg |          |                      |           |
| Arsenic | 0.712  | J         | 0.100 | 1.00  | 5        | 11/15/2021 21:28     | WG1774274 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.164  |           | 1        | 11/15/2021 21:48     | WG1773226 |

<sup>1</sup>Cp

<sup>2</sup>Tc

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.33   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

<sup>3</sup>Ss

<sup>4</sup>Cn

Sample Narrative:

L1428767-12 WG1771799: 8.33 at 19.6C

<sup>5</sup>Sr

Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|----------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |           |
| Specific Conductance | 185      |           | 10.0     | 1        | 11/11/2021 08:05     | WG1772029 |

<sup>6</sup>Qc

<sup>7</sup>Gl

Sample Narrative:

L1428767-12 WG1772029: at 25C

<sup>8</sup>Al

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|-----------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |           |
| Hot Water Sol. Boron | 0.400  |           | 0.0167 | 0.200 | 1        | 11/15/2021 20:32     | WG1773231 |

<sup>9</sup>Sc

Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|-------|-------|----------|----------------------|-----------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |           |
| Arsenic | 1.38   |           | 0.100 | 1.00  | 5        | 11/15/2021 21:31     | WG1774274 |

Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.192  |           | 1        | 11/15/2021 21:50     | WG1773226 |

<sup>1</sup>Cp

<sup>2</sup>Tc

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.25   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

<sup>3</sup>Ss

<sup>4</sup>Cn

Sample Narrative:  
L1428767-13 WG1771799: 8.25 at 19.4C

<sup>5</sup>Sr

Wet Chemistry by Method 9050AMod

| Analyte              | Result<br>umhos/cm | Qualifier | RDL<br>umhos/cm | Dilution | Analysis<br>date / time | Batch                     |
|----------------------|--------------------|-----------|-----------------|----------|-------------------------|---------------------------|
| Specific Conductance | 121                |           | 10.0            | 1        | 11/11/2021 08:05        | <a href="#">WG1772029</a> |

<sup>6</sup>Qc

<sup>7</sup>Gl

Sample Narrative:  
L1428767-13 WG1772029: at 25C

<sup>8</sup>Al

<sup>9</sup>Sc

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

| Analyte              | Result<br>mg/l | <u>Qualifier</u> | MDL<br>mg/l | RDL<br>mg/l | Dilution | Analysis<br>date / time | <u>Batch</u>              |
|----------------------|----------------|------------------|-------------|-------------|----------|-------------------------|---------------------------|
| Hot Water Sol. Boron | 0.148          | <u>J</u>         | 0.0167      | 0.200       | 1        | 11/15/2021 20:35        | <a href="#">WG1773231</a> |

Metals (ICPMS) by Method 6020

|         | Result | <u>Qualifier</u> | MDL   | RDL   | Dilution | Analysis         | <u>Batch</u>              |
|---------|--------|------------------|-------|-------|----------|------------------|---------------------------|
| Analyte | mg/kg  |                  | mg/kg | mg/kg |          | date / time      |                           |
| Arsenic | 1.04   |                  | 0.100 | 1.00  | 5        | 11/15/2021 21:34 | <a href="#">WG1774274</a> |



## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.28   |           | 1        | 11/15/2021 21:53     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.83   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-14 WG1771799: 8.83 at 19.3C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | 178    |           | umhos/cm | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-14 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL  | RDL  | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|------|------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | 0.138  | <u>J</u>  | mg/l | mg/l | 1        | 11/15/2021 20:37     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | 28.9   |           | mg/kg | mg/kg | 5        | 11/15/2021 21:38     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.169  |           | 1        | 11/15/2021 21:56     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.31   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-15 WG1771799: 8.31 at 19.3C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 188      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-15 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.170  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:40     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 0.844  | <u>J</u>  | 0.100 | 1.00  | 5        | 11/15/2021 21:54     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.153  |           | 1        | 11/15/2021 21:58     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.31   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

## Sample Narrative:

L1428767-16 WG1771799: 8.31 at 19.2C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|----------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |           |
| Specific Conductance | 169      |           | 10.0     | 1        | 11/11/2021 08:05     | WG1772029 |

## Sample Narrative:

L1428767-16 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|-----------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |           |
| Hot Water Sol. Boron | 0.409  |           | 0.0167 | 0.200 | 1        | 11/15/2021 20:43     | WG1773231 |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|--------|-------|----------|----------------------|-----------|
| Arsenic | mg/kg  |           | mg/kg  | mg/kg |          |                      |           |
| Arsenic | 1.40   |           | 0.0877 | 0.877 | 4.385965 | 11/15/2021 21:57     | WG1774274 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.191  |           | 1        | 11/15/2021 22:01     | WG1773226 |

Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|----------|----------------------|-----------|
| pH      | 8.21   | T8        | 1        | 11/10/2021 09:00     | WG1771799 |

Sample Narrative:  
L1428767-17 WG1771799: 8.21 at 19.2C

Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch     |
|----------------------|----------|-----------|----------|----------|----------------------|-----------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |           |
| Specific Conductance | 114      |           | 10.0     | 1        | 11/11/2021 08:05     | WG1772029 |

Sample Narrative:  
L1428767-17 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|-----------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |           |
| Hot Water Sol. Boron | 0.140  | J         | 0.0167 | 0.200 | 1        | 11/15/2021 20:46     | WG1773231 |

Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch     |
|---------|--------|-----------|-------|-------|----------|----------------------|-----------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |           |
| Arsenic | 0.829  | J         | 0.100 | 1.00  | 5        | 11/15/2021 22:00     | WG1774274 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.18   |           | 1        | 11/15/2021 22:04     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.82   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-18 WG1771799: 8.82 at 19.3C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 163      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-18 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.150  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:53     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
|         | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 25.3   |           | 0.100 | 1.00  | 5        | 11/15/2021 22:04     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.150  |           | 1        | 11/15/2021 22:07     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.38   | <u>T8</u> | 1        | 11/10/2021 09:00     | <a href="#">WG1771799</a> |

## Sample Narrative:

L1428767-19 WG1771799: 8.38 at 19.4C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 129      |           | 10.0     | 1        | 11/11/2021 08:05     | <a href="#">WG1772029</a> |

## Sample Narrative:

L1428767-19 WG1772029: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.176  | <u>J</u>  | 0.0167 | 0.200 | 1        | 11/15/2021 20:56     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 0.749  | <u>J</u>  | 0.100 | 1.00  | 5        | 11/15/2021 22:07     | <a href="#">WG1774274</a> |

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

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.167  |           | 1        | 11/15/2021 21:02     | WG1773226 |

## Wet Chemistry by Method 9045D

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|----------|----------------------|---------------------------|
| pH      | 8.43   | T8        | 1        | 11/10/2021 10:00     | <a href="#">WG1771817</a> |

## Sample Narrative:

L1428767-20 WG1771817: 8.43 at 20C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result   | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|----------------------|----------|-----------|----------|----------|----------------------|---------------------------|
| Specific Conductance | umhos/cm |           | umhos/cm |          |                      |                           |
| Specific Conductance | 176      |           | 10.0     | 1        | 11/11/2021 06:50     | <a href="#">WG1772198</a> |

## Sample Narrative:

L1428767-20 WG1772198: at 25C

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

| Analyte              | Result | Qualifier | MDL    | RDL   | Dilution | Analysis date / time | Batch                     |
|----------------------|--------|-----------|--------|-------|----------|----------------------|---------------------------|
| Hot Water Sol. Boron | mg/l   |           | mg/l   | mg/l  |          |                      |                           |
| Hot Water Sol. Boron | 0.434  |           | 0.0167 | 0.200 | 1        | 11/15/2021 20:59     | <a href="#">WG1773231</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result | Qualifier | MDL   | RDL   | Dilution | Analysis date / time | Batch                     |
|---------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Arsenic | mg/kg  |           | mg/kg | mg/kg |          |                      |                           |
| Arsenic | 1.72   |           | 0.100 | 1.00  | 5        | 11/15/2021 22:10     | <a href="#">WG1774274</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1428767-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1428767-05 11/10/21 09:00 • (DUP) R3727757-2 11/10/21 09:00

|         | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---------|-----------------|------------|----------|---------|---------------|----------------|
| Analyte | su              | su         |          | %       |               | %              |
| pH      | 8.17            | 8.16       | 1        | 0.122   |               | 1              |

Sample Narrative:

OS: 8.17 at 20.2C

DUP: 8.16 at 19.8C



L1428767-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1428767-10 11/10/21 09:00 • (DUP) R3727757-3 11/10/21 09:00

|         | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---------|-----------------|------------|----------|---------|---------------|----------------|
| Analyte | su              | su         |          | %       |               | %              |
| pH      | 8.81            | 8.82       | 1        | 0.113   |               | 1              |

Sample Narrative:

OS: 8.81 at 19.9C

DUP: 8.82 at 20.3C

Laboratory Control Sample (LCS)

(LCS) R3727757-1 11/10/21 09:00

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

Sample Narrative:

LCS: 10.01 at 19.9C



L1428752-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1428752-02 11/10/21 10:00 • (DUP) R3727707-2 11/10/21 10:00

|         | Original Result | DUP Result | Dilution | DUP RPD | <u>DUP Qualifier</u> | DUP RPD Limits |
|---------|-----------------|------------|----------|---------|----------------------|----------------|
| Analyte | su              | su         |          | %       |                      | %              |
| pH      | 8.68            | 8.65       | 1        | 0.346   |                      | 1              |

Sample Narrative:

OS: 8.68 at 20.2C

DUP: 8.65 at 20.2C

L1428767-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1428767-20 11/10/21 10:00 • (DUP) R3727707-3 11/10/21 10:00

|         | Original Result | DUP Result | Dilution | DUP RPD | <u>DUP Qualifier</u> | DUP RPD Limits |
|---------|-----------------|------------|----------|---------|----------------------|----------------|
| Analyte | su              | su         |          | %       |                      | %              |
| pH      | 8.43            | 8.43       | 1        | 0.000   |                      | 1              |

Sample Narrative:

OS: 8.43 at 20C

DUP: 8.43 at 20.1C

Laboratory Control Sample (LCS)

(LCS) R3727707-1 11/10/21 10:00

|         | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | <u>LCS Qualifier</u> |
|---------|--------------|------------|----------|-------------|----------------------|
| Analyte | su           | su         | %        | %           |                      |
| pH      | 10.0         | 10.0       | 100      | 99.0-101    |                      |

Sample Narrative:

LCS: 10.01 at 19.5C



Method Blank (MB)

(MB) R3728107-1 11/11/21 08:05

| Analyte              | MB Result<br>umhos/cm | MB Qualifier | MB MDL<br>umhos/cm | MB RDL<br>umhos/cm |
|----------------------|-----------------------|--------------|--------------------|--------------------|
| Specific Conductance | U                     |              | 10.0               | 10.0               |

Sample Narrative:

BLANK: at 25C

L1428767-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1428767-15 11/11/21 08:05 • (DUP) R3728107-3 11/11/21 08:05

| Analyte              | Original Result<br>umhos/cm | DUP Result<br>umhos/cm | Dilution | DUP RPD<br>% | DUP Qualifier | DUP RPD<br>Limits<br>% |
|----------------------|-----------------------------|------------------------|----------|--------------|---------------|------------------------|
| Specific Conductance | 188                         | 171                    | 1        | 9.21         |               | 20                     |

Sample Narrative:

OS: at 25C

DUP: at 25C

L1428770-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1428770-09 11/11/21 08:05 • (DUP) R3728107-4 11/11/21 08:05

| Analyte              | Original Result<br>umhos/cm | DUP Result<br>umhos/cm | Dilution | DUP RPD<br>% | DUP Qualifier | DUP RPD<br>Limits<br>% |
|----------------------|-----------------------------|------------------------|----------|--------------|---------------|------------------------|
| Specific Conductance | 198                         | 205                    | 1        | 3.33         |               | 20                     |

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3728107-2 11/11/21 08:05

| Analyte              | Spike Amount<br>umhos/cm | LCS Result<br>umhos/cm | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------------------|--------------------------|------------------------|---------------|------------------|---------------|
| Specific Conductance | 268                      | 267                    | 99.7          | 85.0-115         |               |

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R3728101-1 11/11/21 06:50

| Analyte              | MB Result<br>umhos/cm | MB Qualifier | MB MDL<br>umhos/cm | MB RDL<br>umhos/cm |
|----------------------|-----------------------|--------------|--------------------|--------------------|
| Specific Conductance | U                     |              | 10.0               | 10.0               |

Sample Narrative:

BLANK: at 25C

L1428768-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1428768-05 11/11/21 06:50 • (DUP) R3728101-3 11/11/21 06:50

| Analyte              | Original Result<br>umhos/cm | DUP Result<br>umhos/cm | Dilution | DUP RPD<br>% | DUP Qualifier | DUP RPD<br>Limits<br>% |
|----------------------|-----------------------------|------------------------|----------|--------------|---------------|------------------------|
| Specific Conductance | 122                         | 117                    | 1        | 4.52         |               | 20                     |

Sample Narrative:

OS: at 25C

DUP: at 25C

L1428774-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1428774-02 11/11/21 06:50 • (DUP) R3728101-4 11/11/21 06:50

| Analyte              | Original Result<br>umhos/cm | DUP Result<br>umhos/cm | Dilution | DUP RPD<br>% | DUP Qualifier | DUP RPD<br>Limits<br>% |
|----------------------|-----------------------------|------------------------|----------|--------------|---------------|------------------------|
| Specific Conductance | 122                         | 128                    | 1        | 4.98         |               | 20                     |

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3728101-2 11/11/21 06:50

| Analyte              | Spike Amount<br>umhos/cm | LCS Result<br>umhos/cm | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------------------|--------------------------|------------------------|---------------|------------------|---------------|
| Specific Conductance | 268                      | 269                    | 100           | 85.0-115         |               |

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3729816-1 11/15/21 19:49

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

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

(LCS) R3729816-2 11/15/21 19:52 • (LCSD) R3729816-3 11/15/21 19:54

| Analyte              | Spike Amount<br>mg/l | LCS Result<br>mg/l | LCSD Result<br>mg/l | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | LCS Qualifier | LCSD Qualifier | RPD<br>% | RPD Limits<br>% |
|----------------------|----------------------|--------------------|---------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Hot Water Sol. Boron | 1.00                 | 1.04               | 1.04                | 104           | 104            | 80.0-120         |               |                | 0.324    | 20              |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3729763-1 11/15/21 20:29

| Analyte | MB Result<br>mg/kg | <u>MB Qualifier</u> | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|---------|--------------------|---------------------|-----------------|-----------------|
| Arsenic | U                  |                     | 0.100           | 1.00            |

Laboratory Control Sample (LCS)

(LCS) R3729763-2 11/15/21 20:32

| Analyte | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | <u>LCS Qualifier</u> |
|---------|-----------------------|---------------------|---------------|------------------|----------------------|
| Arsenic | 100                   | 90.4                | 90.4          | 80.0-120         |                      |

L1428767-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1428767-08 11/15/21 20:36 • (MS) R3729763-5 11/15/21 20:45 • (MSD) R3729763-6 11/15/21 20:49

| Analyte | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | <u>MS Qualifier</u> | <u>MSD Qualifier</u> | RPD<br>% | RPD Limits<br>% |
|---------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|---------------------|----------------------|----------|-----------------|
| Arsenic | 100                   | 1.23                     | 87.3               | 92.3                | 86.1         | 91.0          | 5        | 75.0-125         |                     |                      | 5.48     | 20              |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

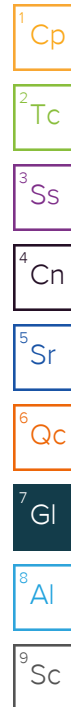
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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   |
|-----------|---|
| J         | The identification of the analyte is acceptable; the reported value is an estimate. |
| T8        | Sample(s) received past/too close to holding time expiration.                       |



# ACCREDITATIONS & LOCATIONS

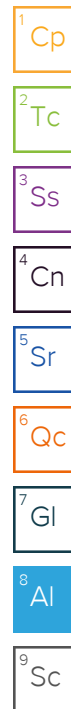
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

|                                |             |                             |                  |
|--------------------------------|-------------|-----------------------------|------------------|
| 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 <sup>1</sup>     | TN00003          |
| Colorado                       | TN00003     | New York                    | 11742            |
| Connecticut                    | PH-0197     | North Carolina              | Env375           |
| Florida                        | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                        | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>           | 923         | North Dakota                | R-140            |
| Idaho                          | TN00003     | Ohio--VAP                   | CL0069           |
| Illinois                       | 200008      | Oklahoma                    | 9915             |
| Indiana                        | C-TN-01     | Oregon                      | TN200002         |
| Iowa                           | 364         | Pennsylvania                | 68-02979         |
| Kansas                         | E-10277     | Rhode Island                | LA000356         |
| Kentucky <sup>1 6</sup>        | KY90010     | South Carolina              | 84004002         |
| Kentucky <sup>2</sup>          | 16          | South Dakota                | n/a              |
| Louisiana                      | AI30792     | Tennessee <sup>1 4</sup>    | 2006             |
| Louisiana                      | LA018       | Texas                       | T104704245-20-18 |
| Maine                          | TN00003     | Texas <sup>5</sup>          | 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 <sup>5</sup> | 1461.02     | DOD                         | 1461.01          |
| Canada                         | 1461.01     | USDA                        | P330-15-00234    |
| EPA--Crypto                    | TN00003     |                             |                  |

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

\* 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.



[illegible]

**Caerus Oil and Gas**

Sample Delivery Group: L1428773  
Samples Received: 11/09/2021  
Project Number: FEDERAL 2S-95-16-22C  
Description: Facility Decommissioning  
Site: FEDERAL 2S-95-16-22CP  
Report To: Brett Middleton  
143 Diamond Avenue  
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward  
Project Manager

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

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



# TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>Cp: Cover Page</b>                                       | <b>1</b>  |
| <b>Tc: Table of Contents</b>                                | <b>2</b>  |
| <b>Ss: Sample Summary</b>                                   | <b>3</b>  |
| <b>Cn: Case Narrative</b>                                   | <b>4</b>  |
| <b>Sr: Sample Results</b>                                   | <b>5</b>  |
| 20211104-FED 2S-95-16-22CP-TANK_ESW@3' L1428773-01          | <b>5</b>  |
| 20211104-FED 2S-95-16-22CP-DEHY@8" L1428773-02              | <b>7</b>  |
| 20211104-FED 2S-95-16-22CP-TANK_BASE@7' L1428773-03         | <b>9</b>  |
| <b>Qc: Quality Control Summary</b>                          | <b>11</b> |
| Wet Chemistry by Method 7199                                | <b>11</b> |
| Wet Chemistry by Method 9045D                               | <b>12</b> |
| Wet Chemistry by Method 9050AMod                            | <b>14</b> |
| Metals (ICP) by Method 6010B                                | <b>15</b> |
| Metals (ICP) by Method 6010B-NE493 Ch 2                     | <b>16</b> |
| Metals (ICPMS) by Method 6020                               | <b>17</b> |
| Volatile Organic Compounds (GC) by Method 8015D/GRO         | <b>18</b> |
| Volatile Organic Compounds (GC/MS) by Method 8260B          | <b>19</b> |
| Semi-Volatile Organic Compounds (GC) by Method 8015M        | <b>20</b> |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | <b>21</b> |
| <b>Gl: Glossary of Terms</b>                                | <b>23</b> |
| <b>Al: Accreditations &amp; Locations</b>                   | <b>24</b> |
| <b>Sc: Sample Chain of Custody</b>                          | <b>25</b> |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# SAMPLE SUMMARY

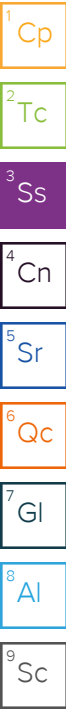
20211104-FED 2S-95-16-22CP-TANK\_ESW@3' L1428773-01 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 13:30

Received date/time  
11/09/21 09:30

| Method  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results  | WG1774639 | 1        | 11/16/21 13:10        | 11/16/21 13:10     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 7199                                | WG1772377 | 1        | 11/12/21 02:04        | 11/15/21 21:09     | JER     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D                               | WG1771693 | 1        | 11/10/21 14:00        | 11/10/21 14:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod                            | WG1772198 | 1        | 11/10/21 15:22        | 11/11/21 06:50     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B                                | WG1774287 | 1        | 11/15/21 08:05        | 11/16/21 10:15     | CCE     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2                     | WG1773235 | 1        | 11/16/21 14:28        | 11/17/21 13:18     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020                               | WG1774284 | 5        | 11/15/21 08:03        | 11/16/21 10:27     | JPD     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO         | WG1775205 | 1        | 11/09/21 22:55        | 11/16/21 18:18     | NCC     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B          | WG1772127 | 1        | 11/09/21 22:55        | 11/10/21 22:29     | JHH     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M        | WG1774827 | 5        | 11/16/21 09:43        | 11/17/21 10:39     | JAS     | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG1772876 | 1        | 11/15/21 09:18        | 11/15/21 19:37     | ADF     | Mt. Juliet, TN |



20211104-FED 2S-95-16-22CP-DEHY@8" L1428773-02 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 13:45

Received date/time  
11/09/21 09:30

| Method  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results  | WG1774639 | 1        | 11/16/21 13:13        | 11/16/21 13:13     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 7199                                | WG1772377 | 1        | 11/12/21 02:04        | 11/15/21 21:14     | JER     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D                               | WG1771693 | 1        | 11/10/21 14:00        | 11/10/21 14:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod                            | WG1772198 | 1        | 11/10/21 15:22        | 11/11/21 06:50     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B                                | WG1774287 | 1        | 11/15/21 08:05        | 11/16/21 09:58     | CCE     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2                     | WG1773235 | 1        | 11/16/21 14:28        | 11/17/21 13:26     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020                               | WG1774284 | 5        | 11/15/21 08:03        | 11/16/21 09:54     | JPD     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO         | WG1775205 | 1        | 11/09/21 22:55        | 11/16/21 18:40     | NCC     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B          | WG1772127 | 1        | 11/09/21 22:55        | 11/10/21 22:48     | JHH     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M        | WG1774827 | 1        | 11/16/21 09:43        | 11/16/21 23:14     | JAS     | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG1772876 | 1        | 11/15/21 09:18        | 11/15/21 20:37     | LEA     | Mt. Juliet, TN |

20211104-FED 2S-95-16-22CP-TANK\_BASE@7' L1428773-03 Solid

Collected by  
Andrew Smith

Collected date/time  
11/04/21 13:35

Received date/time  
11/09/21 09:30

| Method  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results  | WG1774639 | 1        | 11/16/21 13:16        | 11/16/21 13:16     | CCE     | Mt. Juliet, TN |
| Wet Chemistry by Method 7199                                | WG1772377 | 1        | 11/12/21 02:04        | 11/15/21 21:19     | JER     | Mt. Juliet, TN |
| Wet Chemistry by Method 9045D                               | WG1771881 | 1        | 11/10/21 11:00        | 11/10/21 11:00     | PSN     | Mt. Juliet, TN |
| Wet Chemistry by Method 9050AMod                            | WG1772198 | 1        | 11/10/21 15:22        | 11/11/21 06:50     | ARD     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B                                | WG1774287 | 1        | 11/15/21 08:05        | 11/16/21 10:18     | CCE     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B-NE493 Ch 2                     | WG1773235 | 1        | 11/16/21 14:28        | 11/17/21 13:29     | CCE     | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020                               | WG1774284 | 5        | 11/15/21 08:03        | 11/16/21 10:30     | JPD     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO         | WG1775205 | 1        | 11/09/21 22:55        | 11/16/21 19:02     | NCC     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B          | WG1772127 | 1        | 11/09/21 22:55        | 11/10/21 23:08     | JHH     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M        | WG1774827 | 10       | 11/16/21 09:43        | 11/17/21 10:26     | JAS     | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG1772876 | 1        | 11/15/21 09:18        | 11/15/21 20:57     | ADF     | 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 | 1.01   |           | 1        | 11/16/2021 13:10     | WG1774639 |

## Wet Chemistry by Method 7199

| Analyte             | Result mg/kg | Qualifier | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch     |
|---------------------|--------------|-----------|-----------|-----------|----------|----------------------|-----------|
| Hexavalent Chromium | 0.422        | J         | 0.255     | 1.00      | 1        | 11/15/2021 21:09     | WG1772377 |

## Wet Chemistry by Method 9045D

| Analyte | Result su | Qualifier | Dilution | Analysis date / time | Batch     |
|---------|-----------|-----------|----------|----------------------|-----------|
| pH      | 7.46      | T8        | 1        | 11/10/2021 14:00     | WG1771693 |

## Sample Narrative:

L1428773-01 WG1771693: 7.46 at 19.3C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result umhos/cm | Qualifier | RDL umhos/cm | Dilution | Analysis date / time | Batch     |
|----------------------|-----------------|-----------|--------------|----------|----------------------|-----------|
| Specific Conductance | 929             |           | 10.0         | 1        | 11/11/2021 06:50     | WG1772198 |

## Sample Narrative:

L1428773-01 WG1772198: at 25C

## Metals (ICP) by Method 6010B

| Analyte  | Result mg/kg | Qualifier | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch     |
|----------|--------------|-----------|-----------|-----------|----------|----------------------|-----------|
| Barium   | 317          |           | 0.0852    | 0.500     | 1        | 11/16/2021 10:15     | WG1774287 |
| Cadmium  | 0.371        | J         | 0.0471    | 0.500     | 1        | 11/16/2021 10:15     | WG1774287 |
| Copper   | 16.7         |           | 0.400     | 2.00      | 1        | 11/16/2021 10:15     | WG1774287 |
| Lead     | 13.8         |           | 0.208     | 0.500     | 1        | 11/16/2021 10:15     | WG1774287 |
| Nickel   | 22.2         |           | 0.132     | 2.00      | 1        | 11/16/2021 10:15     | WG1774287 |
| Selenium | 0.890        | J         | 0.764     | 2.00      | 1        | 11/16/2021 10:15     | WG1774287 |
| Silver   | U            |           | 0.127     | 1.00      | 1        | 11/16/2021 10:15     | WG1774287 |
| Zinc     | 47.0         |           | 0.832     | 5.00      | 1        | 11/16/2021 10:15     | WG1774287 |

## 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 | 0.429       |           | 0.0167   | 0.200    | 1        | 11/17/2021 13:18     | WG1773235 |

## Metals (ICPMS) by Method 6020

| Analyte | Result mg/kg | Qualifier | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|-----------|
| Arsenic | 2.47         |           | 0.100     | 1.00      | 5        | 11/16/2021 10:27     | WG1774284 |

## 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          | 0.220        | B         | 0.0217    | 0.100     | 1        | 11/16/2021 18:18     | WG1775205 |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 98.9         |           |           | 77.0-120  |          | 11/16/2021 18:18     | WG1775205 |



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

| Analyte                   | Result<br>mg/kg | Qualifier         | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------|-----------------|-------------------|--------------|--------------|----------|-------------------------|---------------------------|
| Benzene                   | U               |                   | 0.000467     | 0.00100      | 1        | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| Toluene                   | U               |                   | 0.00130      | 0.00500      | 1        | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| Ethylbenzene              | U               |                   | 0.000737     | 0.00250      | 1        | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| Xylenes, Total            | 0.00308         | <a href="#">J</a> | 0.000880     | 0.00650      | 1        | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| 1,2,4-Trimethylbenzene    | U               |                   | 0.00158      | 0.00500      | 1        | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| 1,3,5-Trimethylbenzene    | 0.0836          |                   | 0.00200      | 0.00500      | 1        | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| (S) Toluene-d8            | 104             |                   |              | 75.0-131     |          | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| (S) 4-Bromofluorobenzene  | 103             |                   |              | 67.0-138     |          | 11/10/2021 22:29        | <a href="#">WG1772127</a> |
| (S) 1,2-Dichloroethane-d4 | 85.6            |                   |              | 70.0-130     |          | 11/10/2021 22:29        | <a href="#">WG1772127</a> |

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

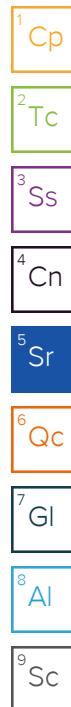
| Analyte                 | Result<br>mg/kg | Qualifier          | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|--------------------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 962             |                    | 8.05         | 20.0         | 5        | 11/17/2021 10:39        | <a href="#">WG1774827</a> |
| C28-C36 Motor Oil Range | 114             | <a href="#">B</a>  | 1.37         | 20.0         | 5        | 11/17/2021 10:39        | <a href="#">WG1774827</a> |
| (S) o-Terphenyl         | 0.000           | <a href="#">J2</a> |              | 18.0-148     |          | 11/17/2021 10:39        | <a href="#">WG1774827</a> |

## Sample Narrative:

L1428773-01 WG1774827: Surrogate failure due to matrix interference

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

| Analyte                | Result<br>mg/kg | Qualifier          | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|------------------------|-----------------|--------------------|--------------|--------------|----------|-------------------------|---------------------------|
| Anthracene             | U               | <a href="#">J5</a> | 0.00230      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Acenaphthene           | 0.0269          |                    | 0.00209      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Acenaphthylene         | U               |                    | 0.00216      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Benzo(a)anthracene     | U               |                    | 0.00173      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Benzo(a)pyrene         | U               |                    | 0.00179      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Benzo(b)fluoranthene   | 0.00316         | <a href="#">J</a>  | 0.00153      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Benzo(g,h,i)perylene   | U               |                    | 0.00177      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Benzo(k)fluoranthene   | U               |                    | 0.00215      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Chrysene               | 0.00803         |                    | 0.00232      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Dibenz(a,h)anthracene  | U               |                    | 0.00172      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Fluoranthene           | 0.0202          |                    | 0.00227      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Fluorene               | 0.228           |                    | 0.00205      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Indeno(1,2,3-cd)pyrene | U               |                    | 0.00181      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Naphthalene            | 0.00821         | <a href="#">J</a>  | 0.00408      | 0.0200       | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Phenanthrene           | 0.294           |                    | 0.00231      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| Pyrene                 | 0.0138          |                    | 0.00200      | 0.00600      | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| 1-Methylnaphthalene    | 0.118           |                    | 0.00449      | 0.0200       | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| 2-Methylnaphthalene    | 0.0106          | <a href="#">J</a>  | 0.00427      | 0.0200       | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| 2-Chloronaphthalene    | U               |                    | 0.00466      | 0.0200       | 1        | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| (S) p-Terphenyl-d14    | 94.9            |                    |              | 23.0-120     |          | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| (S) Nitrobenzene-d5    | 71.3            |                    |              | 14.0-149     |          | 11/15/2021 19:37        | <a href="#">WG1772876</a> |
| (S) 2-Fluorobiphenyl   | 73.7            |                    |              | 34.0-125     |          | 11/15/2021 19:37        | <a href="#">WG1772876</a> |



## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 0.879  |           | 1        | 11/16/2021 13:13     | WG1774639 |

## 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        | 11/15/2021 21:14     | <a href="#">WG1772377</a> |

## Wet Chemistry by Method 9045D

| Analyte | Result su | Qualifier          | Dilution | Analysis date / time | Batch                     |
|---------|-----------|--------------------|----------|----------------------|---------------------------|
| pH      | 8.58      | <a href="#">T8</a> | 1        | 11/10/2021 14:00     | <a href="#">WG1771693</a> |

## Sample Narrative:

L1428773-02 WG1771693: 8.58 at 19.3C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result umhos/cm | Qualifier | RDL umhos/cm | Dilution | Analysis date / time | Batch                     |
|----------------------|-----------------|-----------|--------------|----------|----------------------|---------------------------|
| Specific Conductance | 143             |           | 10.0         | 1        | 11/11/2021 06:50     | <a href="#">WG1772198</a> |

## Sample Narrative:

L1428773-02 WG1772198: at 25C

## Metals (ICP) by Method 6010B

| Analyte  | Result mg/kg | Qualifier               | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch                     |
|----------|--------------|-------------------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium   | 1080         | <a href="#">J3 O1 V</a> | 0.0852    | 0.500     | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Cadmium  | 0.0475       | <a href="#">J</a>       | 0.0471    | 0.500     | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Copper   | 11.2         |                         | 0.400     | 2.00      | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Lead     | 14.3         |                         | 0.208     | 0.500     | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Nickel   | 14.9         |                         | 0.132     | 2.00      | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Selenium | 0.946        | <a href="#">J</a>       | 0.764     | 2.00      | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Silver   | U            |                         | 0.127     | 1.00      | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |
| Zinc     | 34.8         |                         | 0.832     | 5.00      | 1        | 11/16/2021 09:58     | <a href="#">WG1774287</a> |

## 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 | 0.427       |           | 0.0167   | 0.200    | 1        | 11/17/2021 13:26     | <a href="#">WG1773235</a> |

## Metals (ICPMS) by Method 6020

| Analyte | Result mg/kg | Qualifier | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch                     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|---------------------------|
| Arsenic | 1.90         |           | 0.100     | 1.00      | 5        | 11/16/2021 09:54     | <a href="#">WG1774284</a> |

## 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                  | 0.0362       | <a href="#">B J</a> | 0.0217    | 0.100     | 1        | 11/16/2021 18:40     | <a href="#">WG1775205</a> |
| (S)<br><i>a,a,a</i> -Trifluorotoluene(FID) | 89.9         |                     |           | 77.0-120  |          | 11/16/2021 18:40     | <a href="#">WG1775205</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

| Analyte                   | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| Benzene                   | U               |           | 0.000467     | 0.00100      | 1        | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| Toluene                   | U               |           | 0.00130      | 0.00500      | 1        | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| Ethylbenzene              | U               |           | 0.000737     | 0.00250      | 1        | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| Xylenes, Total            | U               |           | 0.000880     | 0.00650      | 1        | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| 1,2,4-Trimethylbenzene    | U               |           | 0.00158      | 0.00500      | 1        | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| 1,3,5-Trimethylbenzene    | U               |           | 0.00200      | 0.00500      | 1        | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| (S) Toluene-d8            | 106             |           |              | 75.0-131     |          | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| (S) 4-Bromofluorobenzene  | 100             |           |              | 67.0-138     |          | 11/10/2021 22:48        | <a href="#">WG1772127</a> |
| (S) 1,2-Dichloroethane-d4 | 84.3            |           |              | 70.0-130     |          | 11/10/2021 22:48        | <a href="#">WG1772127</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier           | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|---------------------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 3.00            | <a href="#">B J</a> | 1.61         | 4.00         | 1        | 11/16/2021 23:14        | <a href="#">WG1774827</a> |
| C28-C36 Motor Oil Range | 2.44            | <a href="#">B J</a> | 0.274        | 4.00         | 1        | 11/16/2021 23:14        | <a href="#">WG1774827</a> |
| (S) o-Terphenyl         | 71.9            |                     |              | 18.0-148     |          | 11/16/2021 23:14        | <a href="#">WG1774827</a> |

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

| Analyte                | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| Anthracene             | U               |           | 0.00230      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Acenaphthene           | U               |           | 0.00209      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Acenaphthylene         | U               |           | 0.00216      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Benzo(a)anthracene     | U               |           | 0.00173      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Benzo(a)pyrene         | U               |           | 0.00179      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Benzo(b)fluoranthene   | U               |           | 0.00153      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Benzo(g,h,i)perylene   | U               |           | 0.00177      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Benzo(k)fluoranthene   | U               |           | 0.00215      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Chrysene               | U               |           | 0.00232      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Dibenz(a,h)anthracene  | U               |           | 0.00172      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Fluoranthene           | U               |           | 0.00227      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Fluorene               | U               |           | 0.00205      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Indeno(1,2,3-cd)pyrene | U               |           | 0.00181      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Naphthalene            | U               |           | 0.00408      | 0.0200       | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Phenanthrene           | U               |           | 0.00231      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| Pyrene                 | U               |           | 0.00200      | 0.00600      | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| 1-Methylnaphthalene    | U               |           | 0.00449      | 0.0200       | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| 2-Methylnaphthalene    | U               |           | 0.00427      | 0.0200       | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| 2-Chloronaphthalene    | U               |           | 0.00466      | 0.0200       | 1        | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| (S) p-Terphenyl-d14    | 94.0            |           |              | 23.0-120     |          | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| (S) Nitrobenzene-d5    | 51.4            |           |              | 14.0-149     |          | 11/15/2021 20:37        | <a href="#">WG1772876</a> |
| (S) 2-Fluorobiphenyl   | 70.5            |           |              | 34.0-125     |          | 11/15/2021 20:37        | <a href="#">WG1772876</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

| Analyte                 | Result | Qualifier | Dilution | Analysis date / time | Batch     |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 4.32   |           | 1        | 11/16/2021 13:16     | WG1774639 |

## Wet Chemistry by Method 7199

| Analyte             | Result mg/kg | Qualifier            | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch                     |
|---------------------|--------------|----------------------|-----------|-----------|----------|----------------------|---------------------------|
| Hexavalent Chromium | 0.471        | <a href="#">J P1</a> | 0.255     | 1.00      | 1        | 11/15/2021 21:19     | <a href="#">WG1772377</a> |

## Wet Chemistry by Method 9045D

| Analyte | Result su | Qualifier          | Dilution | Analysis date / time | Batch                     |
|---------|-----------|--------------------|----------|----------------------|---------------------------|
| pH      | 8.38      | <a href="#">T8</a> | 1        | 11/10/2021 11:00     | <a href="#">WG1771881</a> |

## Sample Narrative:

L1428773-03 WG1771881: 8.38 at 19.6C

## Wet Chemistry by Method 9050AMod

| Analyte              | Result umhos/cm | Qualifier | RDL umhos/cm | Dilution | Analysis date / time | Batch                     |
|----------------------|-----------------|-----------|--------------|----------|----------------------|---------------------------|
| Specific Conductance | 555             |           | 10.0         | 1        | 11/11/2021 06:50     | <a href="#">WG1772198</a> |

## Sample Narrative:

L1428773-03 WG1772198: at 25C

## Metals (ICP) by Method 6010B

| Analyte  | Result mg/kg | Qualifier         | MDL mg/kg | RDL mg/kg | Dilution | Analysis date / time | Batch                     |
|----------|--------------|-------------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium   | 456          |                   | 0.0852    | 0.500     | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Cadmium  | 0.288        | <a href="#">J</a> | 0.0471    | 0.500     | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Copper   | 14.8         |                   | 0.400     | 2.00      | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Lead     | 13.6         |                   | 0.208     | 0.500     | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Nickel   | 21.1         |                   | 0.132     | 2.00      | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Selenium | 1.22         | <a href="#">J</a> | 0.764     | 2.00      | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Silver   | U            |                   | 0.127     | 1.00      | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |
| Zinc     | 41.6         |                   | 0.832     | 5.00      | 1        | 11/16/2021 10:18     | <a href="#">WG1774287</a> |

## 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 | 0.661       |           | 0.0167   | 0.200    | 1        | 11/17/2021 13:29     | <a href="#">WG1773235</a> |

## 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        | 11/16/2021 10:30     | <a href="#">WG1774284</a> |

## 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                  | 0.0404       | <a href="#">B J</a> | 0.0217    | 0.100     | 1        | 11/16/2021 19:02     | <a href="#">WG1775205</a> |
| (S)<br><i>a,a,a</i> -Trifluorotoluene(FID) | 91.8         |                     |           | 77.0-120  |          | 11/16/2021 19:02     | <a href="#">WG1775205</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

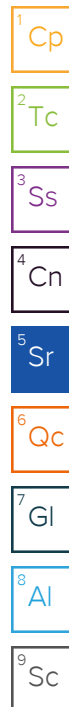
| Analyte                   | Result<br>mg/kg | Qualifier         | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------|-----------------|-------------------|--------------|--------------|----------|-------------------------|---------------------------|
| Benzene                   | U               |                   | 0.000467     | 0.00100      | 1        | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| Toluene                   | U               |                   | 0.00130      | 0.00500      | 1        | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| Ethylbenzene              | U               |                   | 0.000737     | 0.00250      | 1        | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| Xylenes, Total            | 0.00117         | <a href="#">U</a> | 0.000880     | 0.00650      | 1        | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| 1,2,4-Trimethylbenzene    | U               |                   | 0.00158      | 0.00500      | 1        | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| 1,3,5-Trimethylbenzene    | U               |                   | 0.00200      | 0.00500      | 1        | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| (S) Toluene-d8            | 106             |                   |              | 75.0-131     |          | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| (S) 4-Bromofluorobenzene  | 104             |                   |              | 67.0-138     |          | 11/10/2021 23:08        | <a href="#">WG1772127</a> |
| (S) 1,2-Dichloroethane-d4 | 87.9            |                   |              | 70.0-130     |          | 11/10/2021 23:08        | <a href="#">WG1772127</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier         | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|-------------------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 71.6            | <a href="#">B</a> | 16.1         | 40.0         | 10       | 11/17/2021 10:26        | <a href="#">WG1774827</a> |
| C28-C36 Motor Oil Range | 75.0            | <a href="#">B</a> | 2.74         | 40.0         | 10       | 11/17/2021 10:26        | <a href="#">WG1774827</a> |
| (S) o-Terphenyl         | 64.8            |                   |              | 18.0-148     |          | 11/17/2021 10:26        | <a href="#">WG1774827</a> |

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

| Analyte                | Result<br>mg/kg | Qualifier         | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|------------------------|-----------------|-------------------|--------------|--------------|----------|-------------------------|---------------------------|
| Anthracene             | U               |                   | 0.00230      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Acenaphthene           | U               |                   | 0.00209      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Acenaphthylene         | U               |                   | 0.00216      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Benzo(a)anthracene     | U               |                   | 0.00173      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Benzo(a)pyrene         | U               |                   | 0.00179      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Benzo(b)fluoranthene   | U               |                   | 0.00153      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Benzo(g,h,i)perylene   | U               |                   | 0.00177      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Benzo(k)fluoranthene   | U               |                   | 0.00215      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Chrysene               | U               |                   | 0.00232      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Dibenz(a,h)anthracene  | U               |                   | 0.00172      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Fluoranthene           | U               |                   | 0.00227      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Fluorene               | U               |                   | 0.00205      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Indeno(1,2,3-cd)pyrene | U               |                   | 0.00181      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Naphthalene            | 0.00998         | <a href="#">U</a> | 0.00408      | 0.0200       | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Phenanthrene           | 0.00306         | <a href="#">U</a> | 0.00231      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| Pyrene                 | U               |                   | 0.00200      | 0.00600      | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| 1-Methylnaphthalene    | U               |                   | 0.00449      | 0.0200       | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| 2-Methylnaphthalene    | U               |                   | 0.00427      | 0.0200       | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| 2-Chloronaphthalene    | U               |                   | 0.00466      | 0.0200       | 1        | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| (S) p-Terphenyl-d14    | 84.8            |                   |              | 23.0-120     |          | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| (S) Nitrobenzene-d5    | 46.5            |                   |              | 14.0-149     |          | 11/15/2021 20:57        | <a href="#">WG1772876</a> |
| (S) 2-Fluorobiphenyl   | 61.4            |                   |              | 34.0-125     |          | 11/15/2021 20:57        | <a href="#">WG1772876</a> |



Method Blank (MB)

(MB) R3729918-1 11/15/21 18:54

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

L1427667-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1427667-05 11/15/21 19:14 • (DUP) R3729918-3 11/15/21 19:20

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

L1428773-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1428773-03 11/15/21 21:19 • (DUP) R3729918-8 11/15/21 21:24

|                     | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---------------------|-----------------|------------|----------|---------|---------------|----------------|
| Analyte             | mg/kg           | mg/kg      |          | %       |               | %              |
| Hexavalent Chromium | 0.471           | U          | 1        | 200     | P1            | 20             |

Laboratory Control Sample (LCS)

(LCS) R3729918-2 11/15/21 18:59

|                     | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---------------------|--------------|------------|----------|-------------|---------------|
| Analyte             | mg/kg        | mg/kg      | %        | %           |               |
| Hexavalent Chromium | 10.0         | 10.7       | 107      | 80.0-120    |               |

L1427912-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1427912-02 11/15/21 20:01 • (MS) R3729918-4 11/15/21 20:06 • (MSD) R3729918-5 11/15/21 20:12

|                     | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD  | RPD Limits |
|---------------------|--------------|-----------------|-----------|------------|---------|----------|----------|-------------|--------------|---------------|------|------------|
| Analyte             | mg/kg        | mg/kg           | mg/kg     | mg/kg      | %       | %        |          | %           |              |               | %    | %          |
| Hexavalent Chromium | 20.0         | U               | 18.7      | 20.6       | 93.7    | 103      | 1        | 75.0-125    |              |               | 9.26 | 20         |

L1427912-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1427912-02 11/15/21 20:01 • (MS) R3729918-6 11/15/21 20:17

|                     | Spike Amount | Original Result | MS Result | MS Rec. | Dilution | Rec. Limits | MS Qualifier |
|---------------------|--------------|-----------------|-----------|---------|----------|-------------|--------------|
| Analyte             | mg/kg        | mg/kg           | mg/kg     | %       |          | %           |              |
| Hexavalent Chromium | 659          | U               | 672       | 102     | 50       | 75.0-125    |              |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3727930-1 11/10/21 14:00

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | <u>LCS Qualifier</u> |
|---------|--------------|------------|----------|-------------|----------------------|
|         | su           | su         | %        | %           |                      |
| pH      | 10.0         | 10.0       | 100      | 99.0-101    |                      |

Sample Narrative:

LCS: 10.02 at 18.1C

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1428768-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1428768-10 11/10/21 11:00 • (DUP) R3727793-2 11/10/21 11:00

|         | Original Result | DUP Result | Dilution | DUP RPD | <u>DUP Qualifier</u> | DUP RPD Limits |
|---------|-----------------|------------|----------|---------|----------------------|----------------|
| Analyte | su              | su         |          | %       |                      | %              |
| pH      | 8.42            | 8.40       | 1        | 0.238   |                      | 1              |

Sample Narrative:

OS: 8.42 at 19.8C

DUP: 8.4 at 19.6C

L1428770-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1428770-18 11/10/21 11:00 • (DUP) R3727793-3 11/10/21 11:00

|         | Original Result | DUP Result | Dilution | DUP RPD | <u>DUP Qualifier</u> | DUP RPD Limits |
|---------|-----------------|------------|----------|---------|----------------------|----------------|
| Analyte | su              | su         |          | %       |                      | %              |
| pH      | 8.24            | 8.23       | 1        | 0.121   |                      | 1              |

Sample Narrative:

OS: 8.24 at 19.1C

DUP: 8.23 at 19.1C

Laboratory Control Sample (LCS)

(LCS) R3727793-1 11/10/21 11:00

|         | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | <u>LCS Qualifier</u> |
|---------|--------------|------------|----------|-------------|----------------------|
| Analyte | su           | su         | %        | %           |                      |
| pH      | 10.0         | 10.0       | 100      | 99.0-101    |                      |

Sample Narrative:

LCS: 10.02 at 18.7C





Method Blank (MB)

(MB) R3728101-1 11/11/21 06:50

| Analyte              | MB Result<br>umhos/cm | MB Qualifier | MB MDL<br>umhos/cm | MB RDL<br>umhos/cm |
|----------------------|-----------------------|--------------|--------------------|--------------------|
| Specific Conductance | U                     |              | 10.0               | 10.0               |

Sample Narrative:

BLANK: at 25C

L1428768-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1428768-05 11/11/21 06:50 • (DUP) R3728101-3 11/11/21 06:50

| Analyte              | Original Result<br>umhos/cm | DUP Result<br>umhos/cm | Dilution | DUP RPD<br>% | DUP Qualifier | DUP RPD<br>Limits<br>% |
|----------------------|-----------------------------|------------------------|----------|--------------|---------------|------------------------|
| Specific Conductance | 122                         | 117                    | 1        | 4.52         |               | 20                     |

Sample Narrative:

OS: at 25C

DUP: at 25C

L1428774-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1428774-02 11/11/21 06:50 • (DUP) R3728101-4 11/11/21 06:50

| Analyte              | Original Result<br>umhos/cm | DUP Result<br>umhos/cm | Dilution | DUP RPD<br>% | DUP Qualifier | DUP RPD<br>Limits<br>% |
|----------------------|-----------------------------|------------------------|----------|--------------|---------------|------------------------|
| Specific Conductance | 122                         | 128                    | 1        | 4.98         |               | 20                     |

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3728101-2 11/11/21 06:50

| Analyte              | Spike Amount<br>umhos/cm | LCS Result<br>umhos/cm | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------------------|--------------------------|------------------------|---------------|------------------|---------------|
| Specific Conductance | 268                      | 269                    | 100           | 85.0-115         |               |

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3730107-1 11/16/21 09:52

| Analyte  | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|----------|--------------------|--------------|-----------------|-----------------|
| Barium   | U                  |              | 0.0852          | 0.500           |
| Cadmium  | U                  |              | 0.0471          | 0.500           |
| Copper   | U                  |              | 0.400           | 2.00            |
| Lead     | U                  |              | 0.208           | 0.500           |
| Nickel   | U                  |              | 0.132           | 2.00            |
| Selenium | U                  |              | 0.764           | 2.00            |
| Silver   | U                  |              | 0.127           | 1.00            |
| Zinc     | U                  |              | 0.832           | 5.00            |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3730107-2 11/16/21 09:55

| Analyte  | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------|-----------------------|---------------------|---------------|------------------|---------------|
| Barium   | 100                   | 97.8                | 97.8          | 80.0-120         |               |
| Cadmium  | 100                   | 94.7                | 94.7          | 80.0-120         |               |
| Copper   | 100                   | 95.6                | 95.6          | 80.0-120         |               |
| Lead     | 100                   | 94.0                | 94.0          | 80.0-120         |               |
| Nickel   | 100                   | 95.7                | 95.7          | 80.0-120         |               |
| Selenium | 100                   | 96.4                | 96.4          | 80.0-120         |               |
| Silver   | 20.0                  | 17.9                | 89.3          | 80.0-120         |               |
| Zinc     | 100                   | 93.6                | 93.6          | 80.0-120         |               |

L1428773-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1428773-02 11/16/21 09:58 • (MS) R3730107-4 11/16/21 10:07 • (MSD) R3730107-5 11/16/21 10:10

| Analyte  | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|----------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Barium   | 100                   | 1080                     | 439                | 641                 | 0.000        | 0.000         | 1        | 75.0-125         | V            | J3 V          | 37.4     | 20              |
| Cadmium  | 100                   | 0.0475                   | 90.2               | 93.5                | 90.1         | 93.5          | 1        | 75.0-125         |              |               | 3.62     | 20              |
| Copper   | 100                   | 11.2                     | 108                | 115                 | 96.9         | 104           | 1        | 75.0-125         |              |               | 6.63     | 20              |
| Lead     | 100                   | 14.3                     | 105                | 111                 | 91.0         | 96.8          | 1        | 75.0-125         |              |               | 5.37     | 20              |
| Nickel   | 100                   | 14.9                     | 117                | 126                 | 102          | 111           | 1        | 75.0-125         |              |               | 7.43     | 20              |
| Selenium | 100                   | 0.946                    | 90.7               | 94.9                | 89.8         | 93.9          | 1        | 75.0-125         |              |               | 4.46     | 20              |
| Silver   | 20.0                  | U                        | 16.9               | 17.7                | 84.4         | 88.3          | 1        | 75.0-125         |              |               | 4.57     | 20              |
| Zinc     | 100                   | 34.8                     | 126                | 132                 | 91.4         | 97.7          | 1        | 75.0-125         |              |               | 4.83     | 20              |

Method Blank (MB)

(MB) R3730720-1 11/17/21 12:54

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

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

(LCS) R3730720-2 11/17/21 12:57 • (LCSD) R3730720-3 11/17/21 12:59

| Analyte              | Spike Amount<br>mg/l | LCS Result<br>mg/l | LCSD Result<br>mg/l | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | <u>LCS Qualifier</u> | <u>LCSD Qualifier</u> | RPD<br>% | RPD Limits<br>% |
|----------------------|----------------------|--------------------|---------------------|---------------|----------------|------------------|----------------------|-----------------------|----------|-----------------|
| Hot Water Sol. Boron | 1.00                 | 1.07               | 1.05                | 107           | 105            | 80.0-120         |                      |                       | 1.86     | 20              |

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3729934-1 11/16/21 09:48

| Analyte | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|---------|--------------------|--------------|-----------------|-----------------|
| Arsenic | U                  |              | 0.100           | 1.00            |

Laboratory Control Sample (LCS)

(LCS) R3729934-2 11/16/21 09:51

| Analyte | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|---------|-----------------------|---------------------|---------------|------------------|---------------|
| Arsenic | 100                   | 92.2                | 92.2          | 80.0-120         |               |

L1428773-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1428773-02 11/16/21 09:54 • (MS) R3729934-5 11/16/21 10:04 • (MSD) R3729934-6 11/16/21 10:07

| Analyte | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|---------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Arsenic | 100                   | 1.90                     | 83.9               | 88.3                | 82.0         | 86.4          | 5        | 75.0-125         |              |               | 5.09     | 20              |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3730309-2 11/16/21 15:13

| Analyte                            | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| TPH (GC/FID) Low Fraction          | 0.0309             | ⬇            | 0.0217          | 0.100           |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 90.1               |              |                 | 77.0-120        |

Laboratory Control Sample (LCS)

(LCS) R3730309-1 11/16/21 14:20

| Analyte                            | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| TPH (GC/FID) Low Fraction          | 5.50                  | 4.60                | 83.6          | 72.0-127         |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                     | 109           | 77.0-120         |               |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3729535-3 11/10/21 14:20

| Analyte                   | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>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            | 106                |              |                 | 75.0-131        |
| (S) 4-Bromofluorobenzene  | 99.0               |              |                 | 67.0-138        |
| (S) 1,2-Dichloroethane-d4 | 93.4               |              |                 | 70.0-130        |

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

(LCS) R3729535-1 11/10/21 13:02 • (LCSD) R3729535-2 11/10/21 13:22

| Analyte                   | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCSD Result<br>mg/kg | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | LCS Qualifier | LCSD Qualifier | RPD<br>% | RPD Limits<br>% |
|---------------------------|-----------------------|---------------------|----------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Benzene                   | 0.125                 | 0.134               | 0.140                | 107           | 112            | 70.0-123         |               |                | 4.38     | 20              |
| Ethylbenzene              | 0.125                 | 0.126               | 0.136                | 101           | 109            | 74.0-126         |               |                | 7.63     | 20              |
| Toluene                   | 0.125                 | 0.128               | 0.136                | 102           | 109            | 75.0-121         |               |                | 6.06     | 20              |
| 1,2,4-Trimethylbenzene    | 0.125                 | 0.106               | 0.112                | 84.8          | 89.6           | 70.0-126         |               |                | 5.50     | 20              |
| 1,3,5-Trimethylbenzene    | 0.125                 | 0.102               | 0.106                | 81.6          | 84.8           | 73.0-127         |               |                | 3.85     | 20              |
| Xylenes, Total            | 0.375                 | 0.385               | 0.410                | 103           | 109            | 72.0-127         |               |                | 6.29     | 20              |
| (S) Toluene-d8            |                       |                     |                      | 101           | 106            | 75.0-131         |               |                |          |                 |
| (S) 4-Bromofluorobenzene  |                       |                     |                      | 95.8          | 98.9           | 67.0-138         |               |                |          |                 |
| (S) 1,2-Dichloroethane-d4 |                       |                     |                      | 98.9          | 99.1           | 70.0-130         |               |                |          |                 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3730410-1 11/16/21 22:22

| Analyte                 | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|-------------------------|--------------------|--------------|-----------------|-----------------|
| C10-C28 Diesel Range    | 2.86               | J            | 1.61            | 4.00            |
| C28-C36 Motor Oil Range | 4.18               |              | 0.274           | 4.00            |
| (S) o-Terphenyl         | 96.7               |              |                 | 18.0-148        |

Laboratory Control Sample (LCS)

(LCS) R3730410-2 11/16/21 22:35

| Analyte              | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------------------|-----------------------|---------------------|---------------|------------------|---------------|
| C10-C28 Diesel Range | 50.0                  | 33.6                | 67.2          | 50.0-150         |               |
| (S) o-Terphenyl      |                       |                     | 113           | 18.0-148         |               |

L1427867-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1427867-06 11/17/21 01:10 • (MS) R3730410-3 11/17/21 01:23 • (MSD) R3730410-4 11/17/21 01:36

| Analyte              | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|----------------------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| C10-C28 Diesel Range | 49.2                  | 9.88                     | 37.8               | 52.3                | 56.7         | 85.7          | 1        | 50.0-150         |              | J3            | 32.2     | 20              |
| (S) o-Terphenyl      |                       |                          |                    |                     | 98.8         | 117           |          | 18.0-148         |              |               |          |                 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3729712-2 11/15/21 14:18

| Analyte                | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>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    | 57.6               |              |                 | 14.0-149        |
| (S) 2-Fluorobiphenyl   | 76.1               |              |                 | 34.0-125        |
| (S) p-Terphenyl-d14    | 102                |              |                 | 23.0-120        |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3729712-1 11/15/21 13:58

| Analyte               | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|-----------------------|-----------------------|---------------------|---------------|------------------|---------------|
| Anthracene            | 0.0800                | 0.0593              | 74.1          | 50.0-126         |               |
| Acenaphthene          | 0.0800                | 0.0595              | 74.4          | 50.0-120         |               |
| Acenaphthylene        | 0.0800                | 0.0629              | 78.6          | 50.0-120         |               |
| Benzo(a)anthracene    | 0.0800                | 0.0595              | 74.4          | 45.0-120         |               |
| Benzo(a)pyrene        | 0.0800                | 0.0485              | 60.6          | 42.0-120         |               |
| Benzo(b)fluoranthene  | 0.0800                | 0.0559              | 69.9          | 42.0-121         |               |
| Benzo(g,h,i)perylene  | 0.0800                | 0.0576              | 72.0          | 45.0-125         |               |
| Benzo(k)fluoranthene  | 0.0800                | 0.0570              | 71.3          | 49.0-125         |               |
| Chrysene              | 0.0800                | 0.0620              | 77.5          | 49.0-122         |               |
| Dibenz(a,h)anthracene | 0.0800                | 0.0557              | 69.6          | 47.0-125         |               |
| Fluoranthene          | 0.0800                | 0.0636              | 79.5          | 49.0-129         |               |

Laboratory Control Sample (LCS)

(LCS) R3729712-1 11/15/21 13:58

| Analyte                | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| Fluorene               | 0.0800                | 0.0582              | 72.8          | 49.0-120         |               |
| Indeno(1,2,3-cd)pyrene | 0.0800                | 0.0582              | 72.8          | 46.0-125         |               |
| Naphthalene            | 0.0800                | 0.0595              | 74.4          | 50.0-120         |               |
| Phenanthrene           | 0.0800                | 0.0593              | 74.1          | 47.0-120         |               |
| Pyrene                 | 0.0800                | 0.0635              | 79.4          | 43.0-123         |               |
| 1-Methylnaphthalene    | 0.0800                | 0.0640              | 80.0          | 51.0-121         |               |
| 2-Methylnaphthalene    | 0.0800                | 0.0570              | 71.3          | 50.0-120         |               |
| 2-Chloronaphthalene    | 0.0800                | 0.0562              | 70.3          | 50.0-120         |               |
| (S) Nitrobenzene-d5    |                       |                     | 62.9          | 14.0-149         |               |
| (S) 2-Fluorobiphenyl   |                       |                     | 82.7          | 34.0-125         |               |
| (S) p-Terphenyl-d14    |                       |                     | 104           | 23.0-120         |               |

L1428773-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1428773-01 11/15/21 19:37 • (MS) R3729712-3 11/15/21 19:57 • (MSD) R3729712-4 11/15/21 20:17

| Analyte                | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|------------------------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Anthracene             | 0.0784                | U                        | 0.140              | 0.141               | 38.3         | 39.5          | 1        | 10.0-145         |              |               | 0.712    | 30              |
| Acenaphthene           | 0.0784                | 0.0269                   | 0.0944             | 0.0916              | 86.1         | 82.5          | 1        | 14.0-127         |              |               | 3.01     | 27              |
| Acenaphthylene         | 0.0784                | U                        | 0.0695             | 0.0629              | 88.6         | 80.2          | 1        | 21.0-124         |              |               | 9.97     | 25              |
| Benzo(a)anthracene     | 0.0784                | U                        | 0.0633             | 0.0598              | 80.7         | 76.3          | 1        | 10.0-139         |              |               | 5.69     | 30              |
| Benzo(a)pyrene         | 0.0784                | U                        | 0.0538             | 0.0501              | 68.6         | 63.9          | 1        | 10.0-141         |              |               | 7.12     | 31              |
| Benzo(b)fluoranthene   | 0.0784                | 0.00316                  | 0.0518             | 0.0485              | 62.0         | 57.8          | 1        | 10.0-140         |              |               | 6.58     | 36              |
| Benzo(g,h,i)perylene   | 0.0784                | U                        | 0.0469             | 0.0432              | 59.8         | 55.1          | 1        | 10.0-140         |              |               | 8.21     | 33              |
| Benzo(k)fluoranthene   | 0.0784                | U                        | 0.0513             | 0.0485              | 65.4         | 61.9          | 1        | 10.0-137         |              |               | 5.61     | 31              |
| Chrysene               | 0.0784                | 0.00803                  | 0.0710             | 0.0694              | 80.3         | 78.3          | 1        | 10.0-145         |              |               | 2.28     | 30              |
| Dibenz(a,h)anthracene  | 0.0784                | U                        | 0.0468             | 0.0435              | 59.7         | 55.5          | 1        | 10.0-132         |              |               | 7.31     | 31              |
| Fluoranthene           | 0.0784                | 0.0202                   | 0.0818             | 0.0804              | 78.6         | 76.8          | 1        | 10.0-153         |              |               | 1.73     | 33              |
| Fluorene               | 0.0784                | 0.228                    | 0.317              | 0.304               | 114          | 96.9          | 1        | 11.0-130         |              |               | 4.19     | 29              |
| Indeno(1,2,3-cd)pyrene | 0.0784                | U                        | 0.0497             | 0.0455              | 63.4         | 58.0          | 1        | 10.0-137         |              |               | 8.82     | 32              |
| Naphthalene            | 0.0784                | 0.00821                  | 0.0642             | 0.0624              | 71.4         | 69.1          | 1        | 10.0-135         |              |               | 2.84     | 27              |
| Phenanthrene           | 0.0784                | 0.294                    | 0.382              | 0.393               | 112          | 126           | 1        | 10.0-144         |              |               | 2.84     | 31              |
| Pyrene                 | 0.0784                | 0.0138                   | 0.0840             | 0.0818              | 78.6         | 75.8          | 1        | 10.0-148         |              |               | 2.65     | 35              |
| 1-Methylnaphthalene    | 0.0784                | 0.118                    | 0.200              | 0.191               | 105          | 93.1          | 1        | 10.0-142         |              |               | 4.60     | 28              |
| 2-Methylnaphthalene    | 0.0784                | 0.0106                   | 0.0774             | 0.0690              | 85.2         | 74.5          | 1        | 10.0-137         |              |               | 11.5     | 28              |
| 2-Chloronaphthalene    | 0.0784                | U                        | 0.0461             | 0.0439              | 58.8         | 56.0          | 1        | 29.0-120         |              |               | 4.89     | 24              |
| (S) Nitrobenzene-d5    |                       |                          |                    |                     | 76.5         | 81.2          |          | 14.0-149         |              |               |          |                 |
| (S) 2-Fluorobiphenyl   |                       |                          |                    |                     | 80.7         | 75.3          |          | 34.0-125         |              |               |          |                 |
| (S) p-Terphenyl-d14    |                       |                          |                    |                     | 101          | 94.4          |          | 23.0-120         |              |               |          |                 |

1

Cp

2

Tc

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Ss

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Cn

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Sr

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Qc

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Gl

8

Al

9

Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

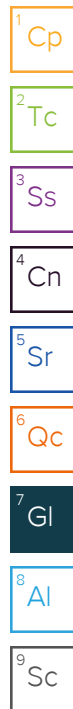
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

### Abbreviations and Definitions

|                              |  |
|------------------------------|--|
| MDL                          | Method Detection Limit.  |
| 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.   |
| J2        | Surrogate recovery limits have been exceeded; values are outside lower control limits.  |
| J3        | The associated batch QC was outside the established quality control range for precision.  |
| J5        | The sample matrix interfered with the ability to make any accurate determination; spike value is high.  |
| O1        | The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference. |
| P1        | RPD value not applicable for sample concentrations less than 5 times the reporting limit.   |
| T8        | Sample(s) received past/too close to holding time expiration.   |
| V         | The sample concentration is too high to evaluate accurate spike recoveries.   |



# 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 <sup>1</sup>     | TN00003          |
| Colorado                       | TN00003     | New York                    | 11742            |
| Connecticut                    | PH-0197     | North Carolina              | Env375           |
| Florida                        | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                        | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>           | 923         | North Dakota                | R-140            |
| Idaho                          | TN00003     | Ohio--VAP                   | CL0069           |
| Illinois                       | 200008      | Oklahoma                    | 9915             |
| Indiana                        | C-TN-01     | Oregon                      | TN200002         |
| Iowa                           | 364         | Pennsylvania                | 68-02979         |
| Kansas                         | E-10277     | Rhode Island                | LA000356         |
| Kentucky <sup>1 6</sup>        | KY90010     | South Carolina              | 84004002         |
| Kentucky <sup>2</sup>          | 16          | South Dakota                | n/a              |
| Louisiana                      | AI30792     | Tennessee <sup>1 4</sup>    | 2006             |
| Louisiana                      | LA018       | Texas                       | T104704245-20-18 |
| Maine                          | TN00003     | Texas <sup>5</sup>          | 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 <sup>5</sup> | 1461.02     | DOD                         | 1461.01          |
| Canada                         | 1461.01     | USDA                        | P330-15-00234    |
| EPA--Crypto                    | TN00003     |                             |                  |

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

\* 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

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

|   |   |   |  |
|---|---|---|--|
| Company: Caerus Oil and Gas LLC                         |   | Billing Information:                        |  |
| Address: Info on file                                   |   | 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: Federal 25-95-16-22CP     |   | State: County/City: Time Zone Collected:    |  |
| Facility Decommissioning                                |   | CO / Rio Blanco [ ] PT [X] MT [ ] CT [ ] ET |  |
| Phone:  | Site/Facility ID #: Federal 25-95-16-22CP | Compliance Monitoring?                      |  |
| Email:  |   | [ ] Yes [X] No                              |  |
| Collected By (print):                                   | Purchase Order #:                         | DW PWS ID #:                                |  |
| Andrew Smith  | Quote #:                                  | DW Location Code:                           |  |
| Collected By (signature):                               | Turnaround Date Required: Standard 5-day  | Immediately Packed on Ice:                  |  |
|   |   | [X] Yes [ ] No                              |  |
| Sample Disposal:  | Rush: (Expedite Charges Apply)            | Field Filtered (if applicable):             |  |
| [ ] Dispose as appropriate                              | [ ] Same Day [ ] Next Day                 | [ ] Yes [ ] No                              |  |
| [ ] Return  | [ ] 2 Day [ ] 3 Day                       |   |  |
| [ ] Archive:  | [ ] 4 Day [ ] 5 Day                       | Analysis:                                   |  |
| [ ] Hold:   |   |   |  |

\* 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) |      | Composite End |      | Res Cl | # of Ctns | Container Type: Plastic (P) or Glass (G) |
|---|----------|-------------|--------------------------------|------|---------------|------|--------|-----------|--|
|   |          |             | Date                           | Time | Date          | Time |        |           |  |
| 20211104-Fed 2S-95-16-22CP-TANK_ESW@3'  | SL       | G           | 11/4/2021                      | 1330 |               |      |        | 2         | G  |
| 20211104-Fed 2S-95-16-22CP-DEHY@8"      | SL       | G           | 11/4/2021                      | 1345 |               |      |        | 2         | G  |
| 20211104-Fed 2S-95-16-22CP-TANK_BASE@7' | SL       | G           | 11/4/2021                      | 1335 |               |      |        | 2         | G  |
|   |          |             |                                |      |               |      |        |           |  |
|   |          |             |                                |      |               |      |        |           |  |
|   |          |             |                                |      |               |      |        |           |  |
|   |          |             |                                |      |               |      |        |           |  |
|   |          |             |                                |      |               |      |        |           |  |

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

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

MTJL Log-in Number Here

J183

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

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

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: Y N NA  
pH Strips: Y N NA  
Sulfide Present Y N NA  
Lead Acetate Strips: Y N NA

LAB USE ONLY:

Lab Sample # / Comments:

L1428773

-01

-02

-03

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

Lab Tracking #:

50161232-2058

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: °C

Cooler 1 Therm Corr. Factor: °C

Cooler 1 Corrected Temp: °C

Comments:

1. Bt a=1.8 ATBA

Trip Blank Received: Y N NA  
HCL MeOH TSP Other

Non Conformance(s):

YES / NO

Page:

of:

Relinquished by/Company: (Signature)

Date/Time:

11-8-21/1100

Received by/Company: (Signature)

Date/Time:

11/8 1200

MTJL LAB USE ONLY

Relinquished by/Company: (Signature)

Date/Time:

11/8 21 1500

Received by/Company: (Signature)

Date/Time:

Relinquished by/Company: (Signature)

Date/Time:

Received by/Company: (Signature)

Date/Time:

11/9/21 930

PM:

PB:



**Caerus Oil and Gas**

Sample Delivery Group: L1441011  
Samples Received: 12/10/2021  
Project Number:  
Description: Federal 2S-95-16-22CP  
Site: 316604  
Report To: Brett Middleton  
143 Diamond Avenue  
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward  
Project Manager

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

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



# TABLE OF CONTENTS

|  |    |
|--|----|
| Cp: Cover Page                                       | 1  |
| Tc: Table of Contents                                | 2  |
| Ss: Sample Summary                                   | 3  |
| Cn: Case Narrative                                   | 4  |
| Sr: Sample Results                                   | 5  |
| 20211209-FED2S-95-16-22TANK EWALL@4.5' L1441011-01   | 5  |
| 20211209-FED2S-95-16-22TANK NWALL@4' L1441011-02     | 6  |
| 20211209-FED2S-95-16-22TANK SWALL@5' L1441011-03     | 7  |
| 20211209-FED2S-95-16-22TANK BASE@7' L1441011-04      | 8  |
| 20211209-FED2S-95-16-22STOCK L1441011-05             | 9  |
| Qc: Quality Control Summary                          | 10 |
| Volatile Organic Compounds (GC) by Method 8015D/GRO  | 10 |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | 11 |
| Gl: Glossary of Terms                                | 12 |
| Al: Accreditations & Locations                       | 13 |
| Sc: Sample Chain of Custody                          | 14 |

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

# SAMPLE SUMMARY

## 20211209-FED2S-95-16-22TANK EWALL@4.5' L1441011-01 Solid

Collected by  
Adam Roll

Collected date/time  
12/09/21 11:10

Received date/time  
12/10/21 09:30

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|--|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method 8015D/GRO  | WG1788212 | 1        | 12/11/21 20:24        | 12/13/21 10:11     | BMB     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG1789383 | 1        | 12/15/21 15:45        | 12/15/21 23:20     | TJD     | Mt. Juliet, TN |

## 20211209-FED2S-95-16-22TANK NWALL@4' L1441011-02 Solid

Collected by  
Adam Roll

Collected date/time  
12/09/21 11:15

Received date/time  
12/10/21 09:30

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|--|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method 8015D/GRO  | WG1788212 | 1        | 12/11/21 20:24        | 12/13/21 10:32     | BMB     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG1789383 | 1        | 12/15/21 15:45        | 12/15/21 23:06     | TJD     | Mt. Juliet, TN |

## 20211209-FED2S-95-16-22TANK SWALL@5' L1441011-03 Solid

Collected by  
Adam Roll

Collected date/time  
12/09/21 11:35

Received date/time  
12/10/21 09:30

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|--|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method 8015D/GRO  | WG1788212 | 1        | 12/11/21 20:24        | 12/13/21 10:54     | BMB     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG1789383 | 1        | 12/15/21 15:45        | 12/15/21 23:58     | TJD     | Mt. Juliet, TN |

## 20211209-FED2S-95-16-22TANK BASE@7' L1441011-04 Solid

Collected by  
Adam Roll

Collected date/time  
12/09/21 11:36

Received date/time  
12/10/21 09:30

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|--|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method 8015D/GRO  | WG1788212 | 1        | 12/11/21 20:24        | 12/13/21 11:15     | BMB     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG1789383 | 1        | 12/15/21 15:45        | 12/15/21 23:33     | TJD     | Mt. Juliet, TN |

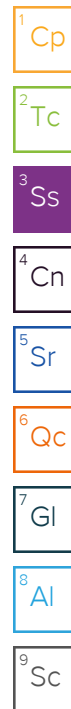
## 20211209-FED2S-95-16-22STOCK L1441011-05 Solid

Collected by  
Adam Roll

Collected date/time  
12/09/21 12:05

Received date/time  
12/10/21 09:30

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|--|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method 8015D/GRO  | WG1788212 | 1        | 12/11/21 20:24        | 12/13/21 11:37     | BMB     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG1789383 | 1        | 12/15/21 15:45        | 12/15/21 23:46     | TJD     | 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



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

| Analyte                            | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|------------------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| TPH (GC/FID) Low Fraction          | U               |           | 0.0217       | 0.100        | 1        | 12/13/2021 10:11        | <a href="#">WG1788212</a> |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 108             |           |              | 77.0-120     |          | 12/13/2021 10:11        | <a href="#">WG1788212</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 2.65            | J         | 1.61         | 4.00         | 1        | 12/15/2021 23:20        | <a href="#">WG1789383</a> |
| C28-C36 Motor Oil Range | 7.14            |           | 0.274        | 4.00         | 1        | 12/15/2021 23:20        | <a href="#">WG1789383</a> |
| (S) o-Terphenyl         | 70.3            |           |              | 18.0-148     |          | 12/15/2021 23:20        | <a href="#">WG1789383</a> |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

| Analyte                                    | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|--|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| TPH (GC/FID) Low Fraction                  | U               |           | 0.0217       | 0.100        | 1        | 12/13/2021 10:32        | <a href="#">WG1788212</a> |
| (S)<br><i>a,a,a</i> -Trifluorotoluene(FID) | 108             |           |              | 77.0-120     |          | 12/13/2021 10:32        | <a href="#">WG1788212</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 3.54            | J         | 1.61         | 4.00         | 1        | 12/15/2021 23:06        | <a href="#">WG1789383</a> |
| C28-C36 Motor Oil Range | 8.79            |           | 0.274        | 4.00         | 1        | 12/15/2021 23:06        | <a href="#">WG1789383</a> |
| (S) <i>o</i> -Terphenyl | 81.1            |           |              | 18.0-148     |          | 12/15/2021 23:06        | <a href="#">WG1789383</a> |

1  
Cp2  
Tc3  
Ss4  
Cn5  
Sr6  
Qc7  
Gl8  
Al9  
Sc

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

| Analyte                            | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|------------------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| TPH (GC/FID) Low Fraction          | 1.25            |           | 0.0217       | 0.100        | 1        | 12/13/2021 10:54        | <a href="#">WG1788212</a> |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 109             |           |              | 77.0-120     |          | 12/13/2021 10:54        | <a href="#">WG1788212</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 259             |           | 1.61         | 4.00         | 1        | 12/15/2021 23:58        | <a href="#">WG1789383</a> |
| C28-C36 Motor Oil Range | 60.5            |           | 0.274        | 4.00         | 1        | 12/15/2021 23:58        | <a href="#">WG1789383</a> |
| (S) o-Terphenyl         | 81.4            |           |              | 18.0-148     |          | 12/15/2021 23:58        | <a href="#">WG1789383</a> |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

| Analyte                                    | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|--|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| TPH (GC/FID) Low Fraction                  | 0.142           |           | 0.0217       | 0.100        | 1        | 12/13/2021 11:15        | <a href="#">WG1788212</a> |
| (S)<br><i>a,a,a</i> -Trifluorotoluene(FID) | 108             |           |              | 77.0-120     |          | 12/13/2021 11:15        | <a href="#">WG1788212</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 58.5            |           | 1.61         | 4.00         | 1        | 12/15/2021 23:33        | <a href="#">WG1789383</a> |
| C28-C36 Motor Oil Range | 26.2            |           | 0.274        | 4.00         | 1        | 12/15/2021 23:33        | <a href="#">WG1789383</a> |
| (S) <i>o</i> -Terphenyl | 57.1            |           |              | 18.0-148     |          | 12/15/2021 23:33        | <a href="#">WG1789383</a> |

1  
Cp2  
Tc3  
Ss4  
Cn5  
Sr6  
Qc7  
Gl8  
Al9  
Sc



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

| Analyte                            | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|------------------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| TPH (GC/FID) Low Fraction          | 10.3            |           | 0.0217       | 0.100        | 1        | 12/13/2021 11:37        | <a href="#">WG1788212</a> |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 101             |           |              | 77.0-120     |          | 12/13/2021 11:37        | <a href="#">WG1788212</a> |

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

| Analyte                 | Result<br>mg/kg | Qualifier | MDL<br>mg/kg | RDL<br>mg/kg | Dilution | Analysis<br>date / time | Batch                     |
|-------------------------|-----------------|-----------|--------------|--------------|----------|-------------------------|---------------------------|
| C10-C28 Diesel Range    | 273             |           | 1.61         | 4.00         | 1        | 12/15/2021 23:46        | <a href="#">WG1789383</a> |
| C28-C36 Motor Oil Range | 37.1            |           | 0.274        | 4.00         | 1        | 12/15/2021 23:46        | <a href="#">WG1789383</a> |
| (S) o-Terphenyl         | 40.0            |           |              | 18.0-148     |          | 12/15/2021 23:46        | <a href="#">WG1789383</a> |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3740244-2 12/13/21 04:53

| Analyte                            | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| TPH (GC/FID) Low Fraction          | U                  |              | 0.0217          | 0.100           |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 109                |              |                 | 77.0-120        |

Laboratory Control Sample (LCS)

(LCS) R3740244-1 12/13/21 03:58

| Analyte                            | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| TPH (GC/FID) Low Fraction          | 5.50                  | 4.44                | 80.7          | 72.0-127         |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                     | 96.5          | 77.0-120         |               |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3741216-1 12/15/21 22:27

| Analyte                 | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|-------------------------|--------------------|--------------|-----------------|-----------------|
| C10-C28 Diesel Range    | U                  |              | 1.61            | 4.00            |
| C28-C36 Motor Oil Range | 0.516              | ⬇            | 0.274           | 4.00            |
| (S) o-Terphenyl         | 75.1               |              |                 | 18.0-148        |

Laboratory Control Sample (LCS)

(LCS) R3741216-2 12/15/21 22:40

| Analyte              | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------------------|-----------------------|---------------------|---------------|------------------|---------------|
| C10-C28 Diesel Range | 50.0                  | 43.9                | 87.8          | 50.0-150         |               |
| (S) o-Terphenyl      |                       |                     | 108           | 18.0-148         |               |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

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

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

## Abbreviations and Definitions

|                              |  |
|------------------------------|--|
| MDL                          | Method Detection Limit.  |
| 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.  |
| Qualifier                    | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.  |
| Result                       | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma.   |
| Case Narrative (Cn)          | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.  |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.  |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.  |
| Sample Results (Sr)          | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.   |
| Sample Summary (Ss)          | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.  |

## Qualifier Description

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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# 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 <sup>1</sup>     | TN00003          |
| Colorado                       | TN00003     | New York                    | 11742            |
| Connecticut                    | PH-0197     | North Carolina              | Env375           |
| Florida                        | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                        | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>           | 923         | North Dakota                | R-140            |
| Idaho                          | TN00003     | Ohio--VAP                   | CL0069           |
| Illinois                       | 200008      | Oklahoma                    | 9915             |
| Indiana                        | C-TN-01     | Oregon                      | TN200002         |
| Iowa                           | 364         | Pennsylvania                | 68-02979         |
| Kansas                         | E-10277     | Rhode Island                | LA000356         |
| Kentucky <sup>1 6</sup>        | KY90010     | South Carolina              | 84004002         |
| Kentucky <sup>2</sup>          | 16          | South Dakota                | n/a              |
| Louisiana                      | AI30792     | Tennessee <sup>1 4</sup>    | 2006             |
| Louisiana                      | LA018       | Texas                       | T104704245-20-18 |
| Maine                          | TN00003     | Texas <sup>5</sup>          | 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 <sup>5</sup> | 1461.02     | DOD                         | 1461.01          |
| Canada                         | 1461.01     | USDA                        | P330-15-00234    |
| EPA--Crypto                    | TN00003     |                             |                  |

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

\* 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


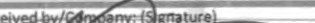
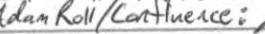


Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>  
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

|  |  |  |  |
|--|--|--|--|
| Company: <b>Caerus Oil and Gas LLC</b>   |  | Billing Information:<br><b>Info on file (Caerus)</b>   |  |
| Address: <b>Info on file</b>   |  |  |  |
| Report To: <b>Jake Janicek, Brett Middleton, Blair Rollins</b>                   |  | Email To: <b>Info on file</b>  |  |
| Copy To: <b>Chris McKisson, remediation@confluence-cc.com</b>                    |  | Site Collection Info/Address:<br><b>Federal 25-95-16-22CP</b>  |  |
| Customer Project Name/Number:<br><b>Federal 25-95-16-22CP</b>                    |  | State: _____ County/City: _____ Time Zone Collected:<br><b>CO / RIO BLANCO [ ] PT [X] MT [ ] CT [ ] ET</b> |  |
| Phone:   | Site/Facility ID #:  | Compliance Monitoring?   |  |
| Email:   | <b>316604</b>  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  |  |
| Collected By (print):  | Purchase Order #:  | DW PWS ID #:   |  |
| <b>Adam Roll</b>   | Quote #:   | DW Location Code:  |  |
| Collected By (signature):  | Turnaround Date Required:  | Immediately Packed on Ice:   |  |
|  | <b>Standard</b>  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |  |
| Sample Disposal:   | Rush: (Expedite Charges Apply)   | Field Filtered (if applicable):  |  |
| <input checked="" type="checkbox"/> Dispose as appropriate                       | <input type="checkbox"/> Same Day <input type="checkbox"/> Next Day      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  |  |
| <input type="checkbox"/> Return  | <input type="checkbox"/> 2 Day <input checked="" type="checkbox"/> 3 Day | <b>N/A</b>   |  |
| <input type="checkbox"/> Archive: _____  | <input type="checkbox"/> 4 Day <input checked="" type="checkbox"/> 5 Day | Analysis: _____  |  |
| <input type="checkbox"/> Hold: _____   |  |  |  |

Plastic (P) or Glass (G)

\* 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)

[illegible]

|   |  |   |  |  |  |                              |  |
|---|--|---|--|--|--|------------------------------|--|
| Customer Remarks / Special Conditions / Possible Hazards:   |  | Type of Ice Used: Wet Blue Dry None           |  | SHORT HOLDS PRESENT (<72 hours): Y N N/A   |  | LAB Sample Temperature Info: |  |
|   |  | Packing Material Used:                        |  | Lab Tracking #: 501612320125   |  | Temp Blank Received: Y N NA  |  |
|   |  | Radchem sample(s) screened (<500 cpm): Y N NA |  | Samples received via: FEDEX UPS Client Courier Pace Courier  |  | Therm ID#: _____             |  |
| Relinquished by/Company: (Signature)<br>Adam Roll/Confluence:  |  | Date/Time: 12/9/21 1600                       |  | Received by/Company: (Signature)<br> |  | MTJL LAB USE ONLY            |  |
| Relinquished by/Company: (Signature)<br>                        |  | Date/Time: 12/9/21 1700                       |  | Received by/Company: (Signature)<br> |  | Table #: _____               |  |
| Relinquished by/Company: (Signature)<br>                        |  | Date/Time: _____                              |  | Received by/Company: (Signature)<br> |  | Acctnum: _____               |  |
|   |  |   |  |  |  | Template: _____              |  |
|   |  |   |  |  |  | Prelogin: _____              |  |
|   |  |   |  |  |  | PM: _____                    |  |
|   |  |   |  |  |  | PB: _____                    |  |
|   |  |   |  |  |  | Trip Blank Received: Y N NA  |  |
|   |  |   |  |  |  | HCL MeOH TSP Other           |  |
|   |  |   |  |  |  | Non Conformance(s): _____    |  |
|   |  |   |  |  |  | YES / NO                     |  |
|   |  |   |  |  |  | Page: _____                  |  |
|   |  |   |  |  |  | of: _____                    |  |

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

B239

**ALL BOLD OUTLINED AREAS are for LAB USE ONLY**

| Container Preservative Type **   |  |  |  |  |  |  |  |  |                            | Lab Project Manager:                |
|--|--|--|--|--|--|--|--|--|----------------------------|-------------------------------------|
| ** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate,<br>(6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate,<br>(C) ammonium hydroxide, (D) TSP, (E) Unpreserved, (O) Other _____ |  |  |  |  |  |  |  |  |                            |                                     |
| Analyses   |  |  |  |  |  |  |  |  |                            | Lab Profile/Line:                   |
| X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X<br>X  |  |  |  |  |  |  |  |  |                            | Lab Sample Receipt Checklist:       |
|  |  |  |  |  |  |  |  |  |                            | Custody Seals Present/Intact Y N NA |
|  |  |  |  |  |  |  |  |  |                            | Custody Signatures Present Y N NA   |
|  |  |  |  |  |  |  |  |  |                            | Collector Signatures 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:<br><div style="font-size: 1.5em; margin-top: 10px;">L1441011</div> <div style="margin-top: 10px;">-01</div> <div style="margin-top: 10px;">-02</div> <div style="margin-top: 10px;">-03</div> <div style="margin-top: 10px;">-04</div> <div style="margin-top: 10px;">-05</div>           |  |  |  |  |  |  |  |  |                            |                                     |

LAB USE ONLY:  
Lab Sample # / Comments: