



VIA ELECTRONIC MAIL –

May 17, 2024

Jake Janicek
EH&S Specialist
Environmental Health and Safety
Caerus Piceance LLC
143 Diamond Avenue
Parachute, Colorado 81635

**Subject: Report of Work Completed
 N36NWB Dumpline Release
 Mamm Creek Field
 Garfield County, Colorado**

Dear Mr. Janicek:

WSP USA Inc. (WSP), on behalf of Caerus Piceance LLC (Caerus), completed subsequent subsurface investigative activities following the initial point of release (POR) characterization at the BENZEL-66S93W/36SESWN36NWB (Facility ID: 334967) (N36NWB) pad location (Site). Investigative work was completed in response to a release that was discovered by a Caerus lease operator while conducting routine route services at the Site on January 30, 2024. The release was observed pooling at the pad surface from the vertical section of dumpline on the south end of the tank battery containment. The initial release characterization information can be referenced under Supplemental Form 27 Document Number (DN) 403685297. All field characterization work was completed per the State of Colorado Energy and Carbon Management Commission (ECMC) Rule 913.C.(3) *Remediation of Spill and Releases pursuant to Rule 912*. This report of work completed (ROWC) documents the subsequent characterization field investigative work completed on March 25 and 26, 2024 at the Site under Remediation Project Number (RPN) 34374. The Site is in the Caerus' Mamm Creek area of operation in Garfield County, Colorado (Figure 1).

SOIL SAMPLING ACTIVITIES – N36NWB DUMPLINE RELEASE

Between March 25 and 26, 2024, WSP personnel advanced a total of five investigative potholes (soil borings) using a hydro-vacuum truck (hydro-vac) operated by Western Slope Oilfield Services, Inc. (WCO), contracted by Caerus. One soil boring was advanced immediately adjacent to the point of release (POR) location (SBC) to a total depth of 13 feet below ground surface (bgs). Four subsequent soil borings were advanced in each cardinal direction of the POR location outside of the metal secondary tank containment. All investigative soil boring locations were advanced to total depths ranging from 10 feet bgs to 13.5 feet bgs. Using a hand auger, soils were field screened by a geologist for the presence or absence of hydrocarbon odor or staining at every 5-foot interval including the boring terminus. Soil headspaces were also field screened using a photo-ionization detector (PID) to screen for the presence of volatile organic compounds (VOCs). The below table summarizes the screened intervals and the associated field screening results.

WSP USA
820 MEGAN AVENUE, UNIT B
RIFLE CO 81650

Tel.: 970-285-9985
wsp.com



Field Soil Screening Results – March 25 and 26, 2024

| Sample ID | PID (ppm) | Notes | Submitted for Analysis |
|-----------------------------|-----------|---------------------|------------------------|
| 20240325-N36NWB-(SBC)@5 | 2,465 | Odor/no staining | Not submitted |
| 20240325-N36NWB-(SBC)@10 | 423.5 | Odor/no staining | Reduced suite |
| 20240325-N36NWB-(SBC)@13 | 12.5 | Odor/no staining | Reduced suite |
| 20240325-N36NWB-(SBE)@5 | 0.0 | No odor/no staining | Not submitted |
| 20240325-N36NWB-(SBE)@10 | 0.0 | No odor/no staining | Reduced suite |
| 20240325-N36NWB-(SBE)@12.5 | 0.1 | No odor/no staining | Reduced suite |
| 20240325-N36NWB-(SBN)@5 | 0.2 | No odor/no staining | Not submitted |
| 20240325-N36NWB-(SBN)@10 | 0.0 | No odor/no staining | Reduced suite |
| 20240325-N36NWB-(SBN)@13.5 | 0.1 | No odor/no staining | Reduced suite |
| 20240325-N36NWB-(SBW)@5 | 0.0 | No odor/no staining | Not submitted |
| 20240325-N36NWB-(SBW)@10 | 0.1 | No odor/no staining | Reduced suite |
| 20240326-N36NWB-(SBS2)@5 | 12.4 | Odor/no staining | Reduced suite |
| 20240326-N36NWB-(SBS2)@10.5 | 0.2 | No odor/no staining | Reduced suite |

Key:

ppm – parts per million

PID – photo-ionization detector

Two confirmation soil samples were submitted from each soil boring location except for the western perimeter boring [20240325-N36NWB-(SBW)] as refusal was encountered at 10 feet bgs. The 5-foot sample interval was not submitted due to low sample recovery volume. All nine confirmation soil samples were packaged into laboratory prepared containers and submitted to Pace Analytical of Mt. Juliet, Tennessee for analysis of constituents listed under the approved reduced suite (ECMC DN 403685297) that includes total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, total xylenes (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1 & 2 methylnaphthalene, naphthalene, barium, and sodium adsorption ratio (SAR). A photolog illustrating the soil sampling activities is provided in Enclosure A. The soil boring locations and associated soil sample IDs are shown on Figure 2.

ANALYTICAL RESULTS – N36NWB DUMPLINE RELEASE

Laboratory analytical results of the investigative confirmation soil samples collected on March 25 and 26, 2024 indicate exceedances of ECMC Table 915-1 PGSSLCs. The documented soil exceedances are summarized, compared, and evaluated under both Protection of Groundwater Soil Screening Level Concentrations (PGSSLCs) and Residential Soil Screening Level Concentrations (RSSLCs) in the table below.



Summary of Confirmation Soil Analytical Exceedances – March 25 and 26, 2024

| Confirmation Soil Sample ID | ECMC Table 915-1 Contaminants of Concern | Units | ECMC PGSSLCs | ECMC RSSLCs | Confirmation Soil Sample Concentration |
|-----------------------------|--|-------|--------------|-------------|--|
| 20240325-N36NWB-(SBC)@10 | Barium | mg/kg | 82 (M) | 15,000 (M) | 351 |
| 20240325-N36NWB-(SBC)@13 | Benzene | mg/kg | 0.0026 (M) | 1.2 (M) | 0.00793 |
| 20240325-N36NWB-(SBE)@10 | Barium | mg/kg | 82 (M) | 15,000 (M) | 149 |
| 20240325-N36NWB-(SBE)@12.5 | Barium | mg/kg | 82 (M) | 15,000 (M) | 512 |
| 20240325-N36NWB-(SBN)@10 | Barium | mg/kg | 82 (M) | 15,000 (M) | 169 |
| 20240325-N36NWB-(SBN)@13.5 | Barium | mg/kg | 82 (M) | 15,000 (M) | 219 |
| 20240325-N36NWB-(SBW)@10 | Barium | mg/kg | 82 (M) | 15,000 (M) | 626 |
| 20240326-N36NWB-(SBS2)@5 | Barium | mg/kg | 82 (M) | 15,000 (M) | 163 |

Key:

ECMC – Colorado Energy and Carbon Management Commission

mg/kg – milligram per kilogram

PGSSLC – Protection of Groundwater Soil Screening Level Concentrations

RSSLC – Residential Soil Screening Level Concentrations

< – less than M

M – method based value

R – risk based value

BOLD – indicates exceeding ECMC standard

All other analytes were either below the laboratory reporting detection limit (RDL) or within the ECMC Table 915-1 PGSSLCs. The laboratory analytical report is included in Enclosure B. The results are summarized in Table 1 and the attached Figure 3.

CONCLUSIONS – N36NWB DUMPLINE RELEASE

Based on the analytical data provided herein, there are remaining Table 915-1 exceedances of barium and benzene under ECMC PGSSLCs associated with the confirmation soil samples collected at the Site on March 25 and 26, 2024. There are no exceedances remaining under ECMC RSSLCs.

Per ECMC Rule 913.b. (2), WSP recommends that Caerus address the shallow exceedances observed at the dumpline POR location during the initial investigation efforts on January 30, 2024, through mechanical excavation via source removal. Field soil screening and confirmation soil sampling will be conducted simultaneously with the physical removal of the source to assure all impacts associated with the release have been confirmed removed. WSP recommends Caerus temporarily relocate the tank battery secondary containment and associated equipment so the release extent can be fully addressed. Soil impacts associated with the dumpline release have been vertically and laterally delineated surrounding the tank battery secondary containment. The extent of impacts beneath the lined secondary tank battery containment is unknown. Based on current investigative characterization data, WSP estimates an approximate volume of 307 cubic yards of impacted soil to be removed associated with the dumpline release (Figure 3). All investigative derived waste will be transported and disposed of at Greenleaf Environmental Services, LLC.

Prior to source removal activities, WSP recommends that Caerus request that the Director consider relief concerning the assessment of a potential pathway to groundwater per ECMC Table 915-1, Footnote 7, and provide a determination to continue evaluating this project using Residential Soil Screening Level Concentrations (RSSLCs) based on the information provided in the “Remediation Summary” section of ECMC Supplemental Site



Investigation and Remediation Workplan DN 403751164. WSP also recommends that Caerus request the ECMC Director for permission to collect all future soil samples under a further reduced analytical suite to include SAR, TPH, BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1& 2-methylnaphthalene, and naphthalene, as all other analytes from site investigative activities were detected with concentrations below the ECMC Table 915-1 RSSLCs or were previously addressed under ECMC Rule 915-1, Footnote 1, in DN 403685297.

Please contact us at (970) 618-4514 or (970) 658-7025 if you have any questions regarding this report or require additional information.

Kind regards,

A handwritten signature in blue ink, appearing to read 'D. Held'.

Dustin Held
Lead Consultant, Environmental Geologist

A handwritten signature in blue ink, appearing to read 'Parker Coit'.

Parker Coit, P.G.
Lead Consultant, Geologist

Encl.

FIGURES

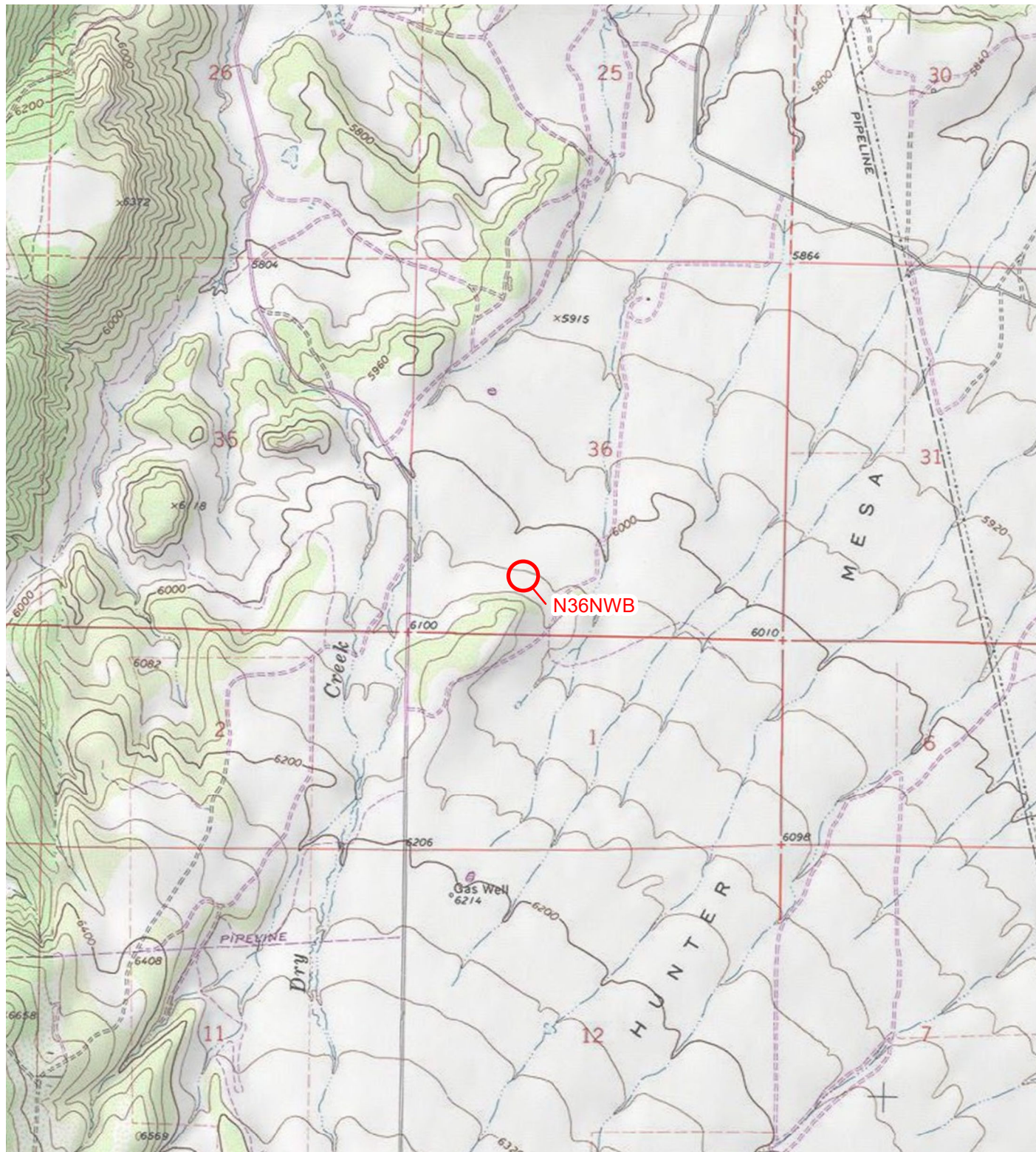
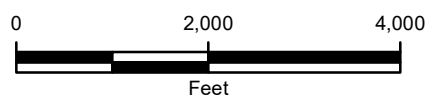


IMAGE COURTESY OF ESRI/USGS

LEGEND

○ SITE LOCATION



COLORADO

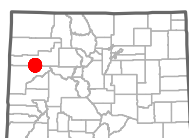
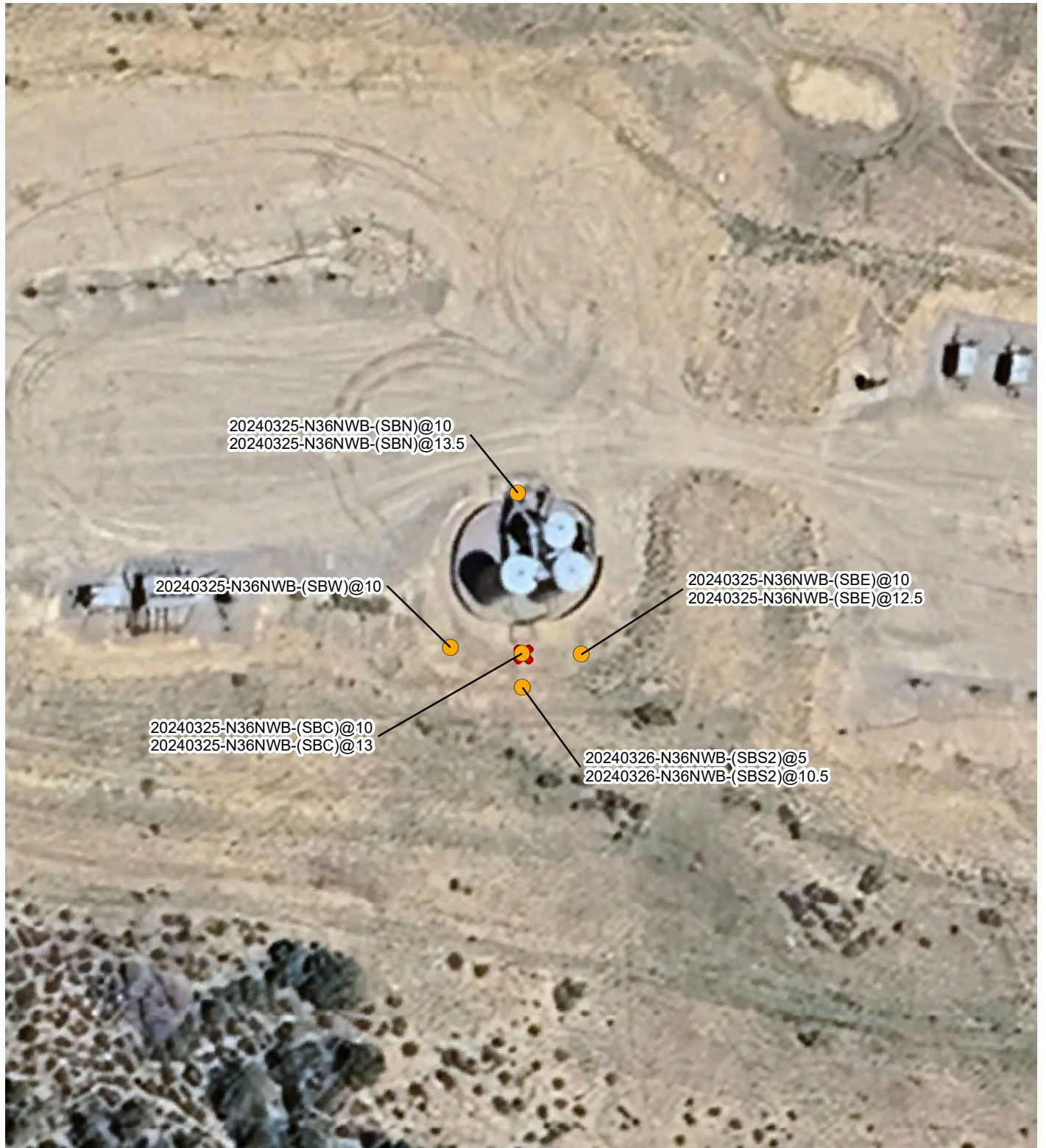


FIGURE 1
SITE LOCATION MAP
N36NWB
SESW SEC 36 T6S R93W
GARFIELD COUNTY, COLORADO
CAERUS PICEANCE LLC





BACKGROUND IMAGERY COURTESY OF GOOGLE EARTH (2023)

LEGEND

- ✖ POINT OF RELEASE
- SOIL BORING LOCATION

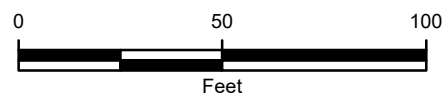
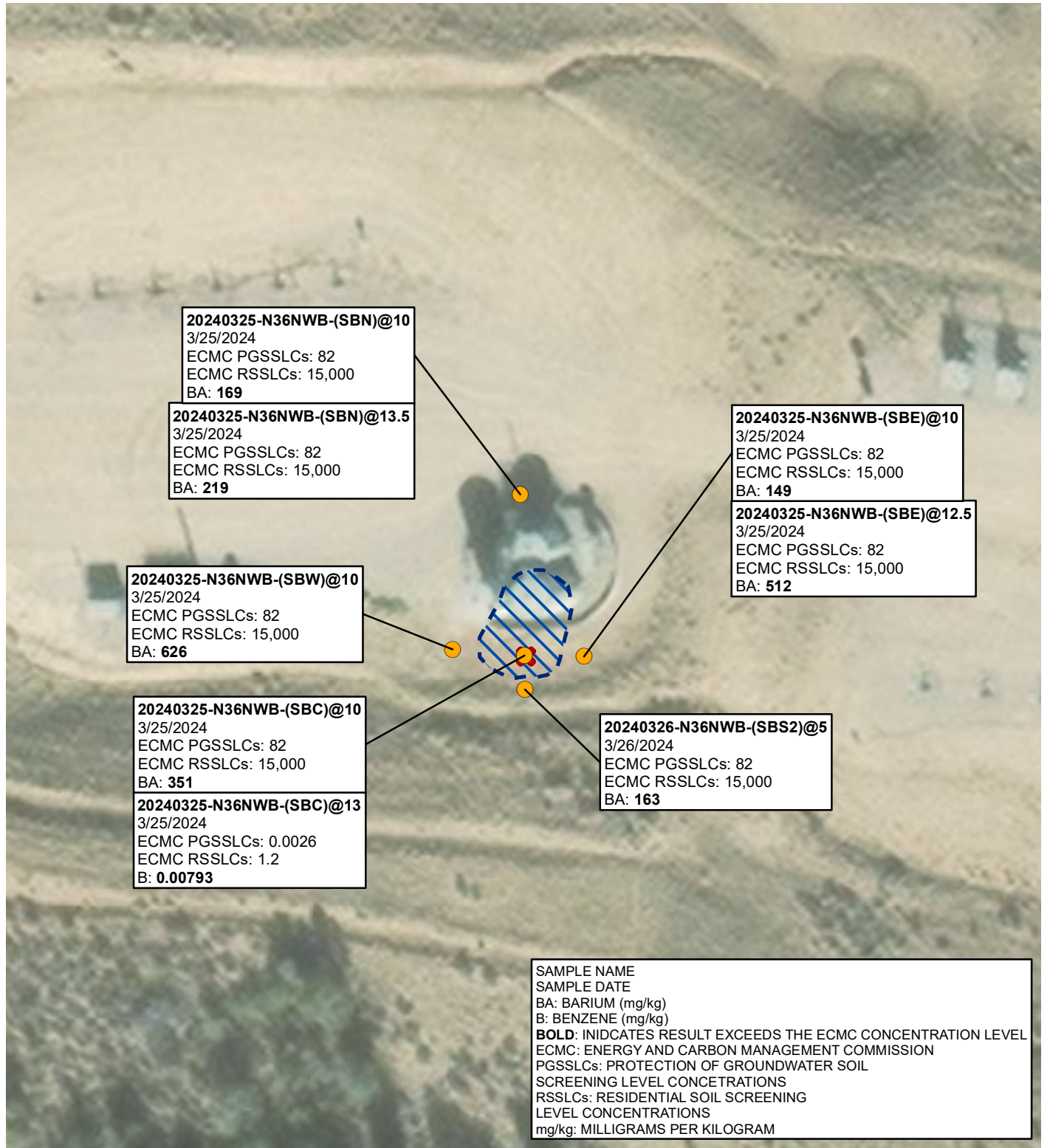


FIGURE 2
SOIL BORING MAP
N36NWB
SESW SEC 36 T6S R93W
GARFIELD COUNTY, COLORADO
CAERUS PICEANCE LLC





BACKGROUND IMAGERY COURTESY OF GOOGLE EARTH (2023)

LEGEND

- POINT OF RELEASE
- SOIL BORING LOCATION

APPROXIMATE AREA OF IMPACT (307.32 CUBIC YARDS)

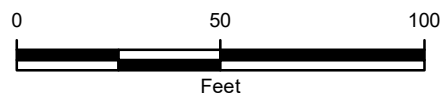


FIGURE 3
SOIL ANALYTICAL MAP
N36NWB
SESW SEC 36 T6S R93W
GARFIELD COUNTY, COLORADO
CAERUS PICEANCE LLC



ENCLOSURE A – SOIL SCREENING PHOTOLOG



PHOTOGRAPHIC LOG

| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|


| Photo No. | Date | |
|--|-----------|---|
| 1 | 3/25/2024 | |
| Potholing location 20240325-N36NWB-(SBC) View east | |  |

| Photo No. | Date | |
|---|-----------|--|
| 2 | 3/25/2024 | |
| Hand auger sample 20240325-N36NWB-(SBC)@13 | |  |

PHOTOGRAPHIC LOG

| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|


| Photo No. | Date | |
|--------------------------|-----------|---|
| 3 | 3/25/2024 | |
| 20240325-N36NWB-(SBC)@13 | |  |


| Photo No. | Date | |
|---|-----------|--|
| 4 | 3/25/2024 | |
| Hand auger sample 20240325-N36NWB-(SBS)@13 | |  |



PHOTOGRAPHIC LOG

| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|

| Photo No. | Date | |
|--|-----------|---|
| 5 | 3/25/2024 | |
| Potholing location 20240325-N36NWB-(SBE) View east | |  |

| Photo No. | Date | |
|---|-----------|--|
| 6 | 3/25/2024 | |
| Hand auger sample 20240325-N36NWB-(SBE)@12.5 | |  |



PHOTOGRAPHIC LOG


| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|

| Photo No. | Date | |
|---|-----------|--|
| 7 | 3/25/2024 | |
| 20240325-N36NWB-(SBE)@12.5 | | |
|  | | |

| Photo No. | Date | |
|--|-----------|--|
| 8 | 3/25/2024 | |
| Potholing location 20240325-N36NWB-(SBN) View east | | |
|  | | |

PHOTOGRAPHIC LOG

| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|


| Photo No. | Date | |
|---|-----------|---|
| 9 | 3/25/2024 | |
| Hand auger sample 20240325-N36NWB-(SBN)@13.5 | |  |

| Photo No. | Date | |
|----------------------------|-----------|--|
| 10 | 3/25/2024 | |
| 20240325-N36NWB-(SBN)@13.5 | |  |

PHOTOGRAPHIC LOG

| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|


| Photo No. | Date | |
|--|-----------|---|
| 11 | 3/25/2024 | |
| Potholing location 20240325-N36NWB-(SBW) View east | |  |


| Photo No. | Date | |
|---|-----------|--|
| 12 | 3/25/2024 | |
| Hand auger sampling 20240325-N36NWB-(SBW)@10 | |  |



PHOTOGRAPHIC LOG


| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|

| Photo No. | Date | |
|--|-----------|---|
| 13 | 3/25/2024 | |
| SBC, SBS, and SBE were backfilled before leaving site. View southwest | |  |

| Photo No. | Date | |
|---|-----------|--|
| 14 | 3/26/2024 | |
| Potholing location 20240326-N36NWB-(SBS2) View east | |  |

PHOTOGRAPHIC LOG

| | | |
|---------------------|---------------------------|---------------|
| Caerus Piceance LLC | N36NWB – Dumpline Release | 31403501.6283 |
|---------------------|---------------------------|---------------|

| Photo No. | Date | |
|--|-----------|---|
| 15 | 3/26/2024 | |
| Hand auger sampling 20240326-N36NWB-(SBS2)@10.5 | |  |

| Photo No. | Date | |
|-----------------------------|-----------|--|
| 16 | 3/26/2024 | |
| 20240326-N36NWB-(SBS2)@10.5 | |  |

TABLE



TABLE 1

SOIL ANALYTICAL RESULTS
N36NWB DUMPLINE
GARFIELD COUNTY, COLORADO
CAERUS PICEANCE LLC

| Analyte | | | Soil Analytical Results | | | | | | | | | | | | | |
|-----------------------------|-------------|------------|-------------------------|---------|------|-------|---------|--------|---------|-------------|--------|-------|--------|----------|---------|-------|
| | | | EC | SAR | pH | Boron | Arsenic | Barium | Cadmium | Chromium VI | Copper | Lead | Nickel | Selenium | Silver | Zinc |
| 915-1 PROTECTION OF GW | | | 4000 | 6 | 8.3 | 2 | 0.29 | 82 | 0.38 | 0.00067 | 46 | 14 | 26 | 0.26 | 0.8 | 370 |
| 915-1 RESIDENTIAL SOIL | | | 4000 | 6 | 8.3 | 2 | 0.68 | 15000 | 71 | 0.3 | 3100 | 400 | 1500 | 390 | 390 | 23000 |
| Units | | | umhos/cm | No Unit | SU | mg/L | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Sample Name | Sample Date | Lab Report | | | | | | | | | | | | | | |
| 20240130-N36NWB-(POR)@7.5 | 01/30/2024 | L1701342 | 2760 | 44.8 | 7.93 | 1.24 | 4.65 | 196 | < 1.00 | < 1.00 | 8.83 | 9.17 | 11.9 | < 2.50 | < 0.500 | 44.2 |
| 20240325-N36NWB-(SBC)@10 | 03/25/2024 | L1719327 | NA | 1.45 | NA | NA | NA | 351 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240325-N36NWB-(SBC)@13 | 03/25/2024 | L1719327 | NA | 1.18 | NA | NA | NA | 61.1 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240325-N36NWB-(SBE)@10 | 03/25/2024 | L1719327 | NA | 2.16 | NA | NA | NA | 149 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240325-N36NWB-(SBE)@12.5 | 03/25/2024 | L1719327 | NA | 2.27 | NA | NA | NA | 512 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240325-N36NWB-(SBN)@10 | 03/25/2024 | L1719327 | NA | 2.63 | NA | NA | NA | 169 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240325-N36NWB-(SBN)@13.5 | 03/25/2024 | L1719327 | NA | 3.74 | NA | NA | NA | 219 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240325-N36NWB-(SBW)@10 | 03/25/2024 | L1719327 | NA | 2.16 | NA | NA | NA | 626 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240326-N36NWB-(SBS2)@5 | 03/26/2024 | L1719327 | NA | 1.72 | NA | NA | NA | 163 | NA | NA | NA | NA | NA | NA | NA | NA |
| 20240326-N36NWB-(SBS2)@10.5 | 03/26/2024 | L1719327 | NA | 1.90 | NA | NA | NA | 40.0 | NA | NA | NA | NA | NA | NA | NA | NA |

Key:
EC - electrical conductivity
SAR - sodium adsorption ratio
umhos/cm - micromhos per centimeter
SU - standard units
mg/kg - milligram per kilogram
mg/l - milligram per liter

GRO - gasoline range organics
DRO - diesel range organics
ORO - oil range organics
TMB - trimethylbenzene
< - less than laboratory minimum detection limit
NA - not assessed



TABLE 1

SOIL ANALYTICAL RESULTS
N36NWB DUMPLINE
GARFIELD COUNTY, COLORADO
CAERUS PICEANCE LLC

| Analyte | | | Soil Analytical Results | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|-------------|------------|-------------------------|--------|--------|-----------|-----------|--------------|---------------|-----------|-----------|--------------|------------|-------------------|----------------------|----------------------|----------------|-----------|----------------------|--------------|-----------|----------------------|---------------------|---------------------|-------------|--------|
| | | | GRO | DRO | ORO | Benzene | Toluene | Ethylbenzene | Total Xylenes | 1,2,4-TMB | 1,3,5-TMB | Acenaphthene | Anthracene | Benz(a)anthracene | Benzo(b)fluoranthene | Benzo(k)fluoranthene | Benzo(a)pyrene | Chrysene | Dibenz(a,h)anthracen | Fluoranthene | Fluorene | Indeno(1,2,3-cd)Pyre | 1-Methylnaphthalene | 2-Methylnaphthalene | Naphthalene | Pyrene |
| 915-1 PROTECTION OF GW | | | 500 | 500 | 500 | 0.0026 | 0.69 | 0.78 | 9.9 | 0.0081 | 0.0087 | 0.55 | 5.8 | 0.011 | 0.3 | 2.9 | 0.24 | 9 | 0.096 | 5.9 | 0.54 | 0.98 | 0.006 | 0.019 | 0.0038 | 1.3 |
| 915-1 RESIDENTIAL SOIL | | | 500 | 500 | 500 | 1.2 | 490 | 5.8 | 58 | 30 | 27 | 360 | 1800 | 1.1 | 1.1 | 11 | 0.11 | 110 | 0.11 | 240 | 240 | 1.1 | 18 | 24 | 2 | 180 |
| Units | | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Sample Name | Sample Date | Lab Report | | | | | | | | | | | | | | | | | | | | | | | | |
| 20240130-N36NWB-(POR)@7.5 | 01/30/2024 | L1701342 | 6890 | 698 | < 20.0 | 6.94 | 122 | 31.9 | 565 | 85.7 | 68.5 | < 0.00600 | < 0.00600 | < 0.00600 | < 0.00600 | < 0.00600 | < 0.00600 | < 0.00600 | < 0.00600 | 0.0262 | < 0.00600 | 0.527 | 1.56 | 0.779 | < 0.00600 | |
| 20240325-N36NWB-(SBC)@10 | 03/25/2024 | L1719327 | 0.135 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | 0.00817 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240325-N36NWB-(SBC)@13 | 03/25/2024 | L1719327 | 0.389 | < 4.00 | < 4.00 | 0.00793 | 0.0369 | < 0.00250 | 0.0197 | < 0.00500 | 0.00782 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240325-N36NWB-(SBE)@10 | 03/25/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240325-N36NWB-(SBE)@12.5 | 03/25/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240325-N36NWB-(SBN)@10 | 03/25/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240325-N36NWB-(SBN)@13.5 | 03/25/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240325-N36NWB-(SBW)@10 | 03/25/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240326-N36NWB-(SBS2)@5 | 03/26/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |
| 20240326-N36NWB-(SBS2)@10.5 | 03/26/2024 | L1719327 | < 0.100 | < 4.00 | < 4.00 | < 0.00100 | < 0.00500 | < 0.00250 | < 0.00650 | < 0.00500 | < 0.00500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.0200 | < 0.0200 | < 0.0200 | NA |

Key:
EC - electrical conductivity
SAR - sodium adsorption ratio
umhos/cm - micromhos per centimeter
SU - standard units
mg/kg - milligram per kilogram
mg/l - milligram per liter

GRO - gasoline range organics
DRO - diesel range organics
ORO - oil range organics
TMB - trimethylbenzene
< - less than laboratory minimu
NA - not assessed

ENCLOSURE B – LABORATORY ANALYTICAL RESULTS

Caerus Oil and Gas

Sample Delivery Group: L1719327
Samples Received: 03/27/2024
Project Number: N36NWB
Description: N36NWB Dumpline Release
Site: N36NWB
Report To: Jake J. / Brett M. / Blair R. / Andy V.
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

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SAMPLE SUMMARY

20240325-N36NWB-(SBC)@10 L1719327-01 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 09:45
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:06 | 04/01/24 17:06 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 11:28 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 05:21 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257539 | 1 | 03/30/24 13:34 | 03/31/24 16:08 | ACG | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 01:46 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 04:44 | MKM | Mt. Juliet, TN |

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

20240325-N36NWB-(SBC)@13 L1719327-02 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 10:10
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:09 | 04/01/24 17:09 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 11:31 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 05:45 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257539 | 1 | 03/30/24 13:34 | 03/31/24 16:28 | ACG | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 01:59 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 05:01 | MKM | Mt. Juliet, TN |

20240325-N36NWB-(SBE)@10 L1719327-03 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 11:45
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:13 | 04/01/24 17:13 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255629 | 1 | 03/28/24 09:09 | 03/29/24 08:58 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 06:09 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257539 | 1 | 03/30/24 13:34 | 03/31/24 16:51 | ACG | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 02:12 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 05:19 | MKM | Mt. Juliet, TN |

20240325-N36NWB-(SBE)@12.5 L1719327-04 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 12:00
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:23 | 04/01/24 17:23 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255629 | 1 | 03/28/24 09:09 | 03/29/24 09:00 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 06:34 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257539 | 1 | 03/30/24 13:34 | 03/31/24 17:11 | ACG | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 02:25 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 05:36 | MKM | Mt. Juliet, TN |

20240325-N36NWB-(SBN)@10 L1719327-05 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 12:30
Received date/time 03/27/24 09:30

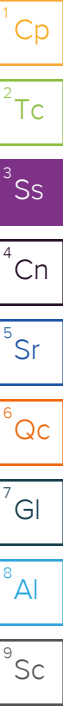
| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:26 | 04/01/24 17:26 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 11:10 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 06:58 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257539 | 1 | 03/30/24 13:34 | 03/31/24 17:30 | ACG | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 02:38 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 06:10 | MKM | Mt. Juliet, TN |

SAMPLE SUMMARY

20240325-N36NWB-(SBN)@13.5 L1719327-06 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 12:45
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:30 | 04/01/24 17:30 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 10:13 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 07:23 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257583 | 1 | 03/30/24 13:34 | 03/31/24 20:11 | JAH | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 02:52 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 06:28 | MKM | Mt. Juliet, TN |



20240325-N36NWB-(SBW)@10 L1719327-07 Solid

Collected by Ben Herrmann
Collected date/time 03/25/24 13:25
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:33 | 04/01/24 17:33 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 10:16 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 07:47 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257583 | 1 | 03/30/24 13:34 | 03/31/24 20:30 | JAH | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 03:05 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 06:45 | MKM | Mt. Juliet, TN |

20240326-N36NWB-(SBS2)@10.5 L1719327-08 Solid

Collected by Ben Herrmann
Collected date/time 03/26/24 09:45
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:36 | 04/01/24 17:36 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 10:19 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2257355 | 1 | 03/30/24 13:34 | 03/31/24 08:12 | CDD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257584 | 1 | 03/30/24 13:34 | 03/31/24 15:23 | JAH | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 03:18 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 07:02 | MKM | Mt. Juliet, TN |

20240326-N36NWB-(SBS2)@5 L1719327-09 Solid

Collected by Ben Herrmann
Collected date/time 03/26/24 09:10
Received date/time 03/27/24 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Calculated Results | WG2256734 | 1 | 04/01/24 17:40 | 04/01/24 17:40 | ZSA | Mt. Juliet, TN |
| Metals (ICP) by Method 6010B | WG2255805 | 1 | 03/28/24 10:38 | 03/29/24 10:22 | JTM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015D/GRO | WG2258502 | 1 | 03/30/24 13:34 | 04/02/24 15:29 | NCD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG2257584 | 1 | 03/30/24 13:34 | 03/31/24 15:43 | JAH | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015M | WG2257424 | 1 | 04/01/24 12:02 | 04/02/24 03:31 | KKS | Mt. Juliet, TN |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM | WG2257954 | 1 | 04/01/24 17:00 | 04/02/24 07:19 | MKM | 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

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 | 1.45 | | 1 | 04/01/2024 17:06 | WG2256734 |

Metals (ICP) by Method 6010B

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium | 351 | | 0.500 | 1 | 03/29/2024 11:28 | WG2255805 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------------|--------------|-------------------|-----------|----------|----------------------|---------------------------|
| TPH (GC/FID) Low Fraction | 0.135 | B | 0.100 | 1 | 03/31/2024 05:21 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 90.0 | | 77.0-120 | | 03/31/2024 05:21 | WG2257355 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 16:08 | WG2257539 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 16:08 | WG2257539 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 16:08 | WG2257539 |
| Xylenes, Total | 0.00817 | | 0.00650 | 1 | 03/31/2024 16:08 | WG2257539 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 16:08 | WG2257539 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 16:08 | WG2257539 |
| (S) Toluene-d8 | 101 | | 75.0-131 | | 03/31/2024 16:08 | WG2257539 |
| (S) 4-Bromofluorobenzene | 103 | | 67.0-138 | | 03/31/2024 16:08 | WG2257539 |
| (S) 1,2-Dichloroethane-d4 | 106 | | 70.0-130 | | 03/31/2024 16:08 | WG2257539 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|-------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 01:46 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 01:46 | WG2257424 |
| (S) o-Terphenyl | 52.0 | | 18.0-148 | | 04/02/2024 01:46 | WG2257424 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|----------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 04:44 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 04:44 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 04:44 | WG2257954 |
| (S) p-Terphenyl-d14 | 73.0 | | 23.0-120 | | 04/02/2024 04:44 | WG2257954 |
| (S) Nitrobenzene-d5 | 64.8 | | 14.0-149 | | 04/02/2024 04:44 | WG2257954 |
| (S) 2-Fluorobiphenyl | 68.6 | | 34.0-125 | | 04/02/2024 04:44 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|-------------------------|-----------|
| Analyte | SAR | | | | |
| Sodium Adsorption Ratio | 1.18 | | 1 | 04/01/2024 17:09 | WG2256734 |

Metals (ICP) by Method 6010B

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------|--------|-----------|-------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| Barium | 61.1 | | 0.500 | 1 | 03/29/2024 11:31 | WG2255805 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------------------------------|--------|-------------------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| TPH (GC/FID) Low Fraction | 0.389 | B | 0.100 | 1 | 03/31/2024 05:45 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 90.3 | | 77.0-120 | | 03/31/2024 05:45 | WG2257355 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------------------------|---------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| Benzene | 0.00793 | | 0.00100 | 1 | 03/31/2024 16:28 | WG2257539 |
| Toluene | 0.0369 | | 0.00500 | 1 | 03/31/2024 16:28 | WG2257539 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 16:28 | WG2257539 |
| Xylenes, Total | 0.0197 | | 0.00650 | 1 | 03/31/2024 16:28 | WG2257539 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 16:28 | WG2257539 |
| 1,3,5-Trimethylbenzene | 0.00782 | | 0.00500 | 1 | 03/31/2024 16:28 | WG2257539 |
| (S) Toluene-d8 | 101 | | 75.0-131 | | 03/31/2024 16:28 | WG2257539 |
| (S) 4-Bromofluorobenzene | 107 | | 67.0-138 | | 03/31/2024 16:28 | WG2257539 |
| (S) 1,2-Dichloroethane-d4 | 103 | | 70.0-130 | | 03/31/2024 16:28 | WG2257539 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 01:59 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 01:59 | WG2257424 |
| (S) o-Terphenyl | 45.2 | | 18.0-148 | | 04/02/2024 01:59 | WG2257424 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|----------------------|--------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:01 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:01 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:01 | WG2257954 |
| (S) p-Terphenyl-d14 | 59.6 | | 23.0-120 | | 04/02/2024 05:01 | WG2257954 |
| (S) Nitrobenzene-d5 | 63.6 | | 14.0-149 | | 04/02/2024 05:01 | WG2257954 |
| (S) 2-Fluorobiphenyl | 65.8 | | 34.0-125 | | 04/02/2024 05:01 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.16 | | 1 | 04/01/2024 17:13 | WG2256734 |

Metals (ICP) by Method 6010B

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium | 149 | | 0.500 | 1 | 03/29/2024 08:58 | WG2255629 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 03/31/2024 06:09 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 90.7 | | 77.0-120 | | 03/31/2024 06:09 | WG2257355 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 16:51 | WG2257539 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 16:51 | WG2257539 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 16:51 | WG2257539 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 16:51 | WG2257539 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 16:51 | WG2257539 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 16:51 | WG2257539 |
| (S) Toluene-d8 | 102 | | 75.0-131 | | 03/31/2024 16:51 | WG2257539 |
| (S) 4-Bromofluorobenzene | 108 | | 67.0-138 | | 03/31/2024 16:51 | WG2257539 |
| (S) 1,2-Dichloroethane-d4 | 102 | | 70.0-130 | | 03/31/2024 16:51 | WG2257539 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|-------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 02:12 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 02:12 | WG2257424 |
| (S) o-Terphenyl | 54.3 | | 18.0-148 | | 04/02/2024 02:12 | WG2257424 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|----------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:19 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:19 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:19 | WG2257954 |
| (S) p-Terphenyl-d14 | 64.5 | | 23.0-120 | | 04/02/2024 05:19 | WG2257954 |
| (S) Nitrobenzene-d5 | 64.5 | | 14.0-149 | | 04/02/2024 05:19 | WG2257954 |
| (S) 2-Fluorobiphenyl | 64.5 | | 34.0-125 | | 04/02/2024 05:19 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.27 | | 1 | 04/01/2024 17:23 | WG2256734 |

Metals (ICP) by Method 6010B

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium | 512 | | 0.500 | 1 | 03/29/2024 09:00 | WG2255629 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 03/31/2024 06:34 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 88.3 | | 77.0-120 | | 03/31/2024 06:34 | WG2257355 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 17:11 | WG2257539 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 17:11 | WG2257539 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 17:11 | WG2257539 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 17:11 | WG2257539 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 17:11 | WG2257539 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 17:11 | WG2257539 |
| (S) Toluene-d8 | 101 | | 75.0-131 | | 03/31/2024 17:11 | WG2257539 |
| (S) 4-Bromofluorobenzene | 103 | | 67.0-138 | | 03/31/2024 17:11 | WG2257539 |
| (S) 1,2-Dichloroethane-d4 | 105 | | 70.0-130 | | 03/31/2024 17:11 | WG2257539 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|-------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 02:25 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 02:25 | WG2257424 |
| (S) o-Terphenyl | 61.5 | | 18.0-148 | | 04/02/2024 02:25 | WG2257424 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|----------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:36 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:36 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 05:36 | WG2257954 |
| (S) p-Terphenyl-d14 | 75.2 | | 23.0-120 | | 04/02/2024 05:36 | WG2257954 |
| (S) Nitrobenzene-d5 | 56.2 | | 14.0-149 | | 04/02/2024 05:36 | WG2257954 |
| (S) 2-Fluorobiphenyl | 62.3 | | 34.0-125 | | 04/02/2024 05:36 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 2.63 | | 1 | 04/01/2024 17:26 | WG2256734 |

Metals (ICP) by Method 6010B

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium | 169 | | 0.500 | 1 | 03/29/2024 11:10 | WG2255805 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 03/31/2024 06:58 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 88.8 | | 77.0-120 | | 03/31/2024 06:58 | WG2257355 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 17:30 | WG2257539 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 17:30 | WG2257539 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 17:30 | WG2257539 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 17:30 | WG2257539 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 17:30 | WG2257539 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 17:30 | WG2257539 |
| (S) Toluene-d8 | 99.1 | | 75.0-131 | | 03/31/2024 17:30 | WG2257539 |
| (S) 4-Bromofluorobenzene | 99.7 | | 67.0-138 | | 03/31/2024 17:30 | WG2257539 |
| (S) 1,2-Dichloroethane-d4 | 103 | | 70.0-130 | | 03/31/2024 17:30 | WG2257539 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|-------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 02:38 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 02:38 | WG2257424 |
| (S) o-Terphenyl | 48.0 | | 18.0-148 | | 04/02/2024 02:38 | WG2257424 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|----------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:10 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:10 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:10 | WG2257954 |
| (S) p-Terphenyl-d14 | 72.3 | | 23.0-120 | | 04/02/2024 06:10 | WG2257954 |
| (S) Nitrobenzene-d5 | 59.8 | | 14.0-149 | | 04/02/2024 06:10 | WG2257954 |
| (S) 2-Fluorobiphenyl | 65.5 | | 34.0-125 | | 04/02/2024 06:10 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 3.74 | | 1 | 04/01/2024 17:30 | WG2256734 |

Metals (ICP) by Method 6010B

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium | 219 | | 0.500 | 1 | 03/29/2024 10:13 | WG2255805 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 03/31/2024 07:23 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 89.2 | | 77.0-120 | | 03/31/2024 07:23 | WG2257355 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 20:11 | WG2257583 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 20:11 | WG2257583 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 20:11 | WG2257583 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 20:11 | WG2257583 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 20:11 | WG2257583 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 20:11 | WG2257583 |
| (S) Toluene-d8 | 101 | | 75.0-131 | | 03/31/2024 20:11 | WG2257583 |
| (S) 4-Bromofluorobenzene | 106 | | 67.0-138 | | 03/31/2024 20:11 | WG2257583 |
| (S) 1,2-Dichloroethane-d4 | 90.2 | | 70.0-130 | | 03/31/2024 20:11 | WG2257583 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|-------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 02:52 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 02:52 | WG2257424 |
| (S) o-Terphenyl | 50.3 | | 18.0-148 | | 04/02/2024 02:52 | WG2257424 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|----------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:28 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:28 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:28 | WG2257954 |
| (S) p-Terphenyl-d14 | 75.1 | | 23.0-120 | | 04/02/2024 06:28 | WG2257954 |
| (S) Nitrobenzene-d5 | 60.5 | | 14.0-149 | | 04/02/2024 06:28 | WG2257954 |
| (S) 2-Fluorobiphenyl | 66.9 | | 34.0-125 | | 04/02/2024 06:28 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|-------------------------|-----------|
| Analyte | SAR | | | | |
| Sodium Adsorption Ratio | 2.16 | | 1 | 04/01/2024 17:33 | WG2256734 |

Metals (ICP) by Method 6010B

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------|--------|-----------|-------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| Barium | 626 | | 0.500 | 1 | 03/29/2024 10:16 | WG2255805 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------------------------------|--------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 03/31/2024 07:47 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 90.8 | | 77.0-120 | | 03/31/2024 07:47 | WG2257355 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------------------------|--------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 20:30 | WG2257583 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 20:30 | WG2257583 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 20:30 | WG2257583 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 20:30 | WG2257583 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 20:30 | WG2257583 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 20:30 | WG2257583 |
| (S) Toluene-d8 | 103 | | 75.0-131 | | 03/31/2024 20:30 | WG2257583 |
| (S) 4-Bromofluorobenzene | 107 | | 67.0-138 | | 03/31/2024 20:30 | WG2257583 |
| (S) 1,2-Dichloroethane-d4 | 89.8 | | 70.0-130 | | 03/31/2024 20:30 | WG2257583 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 03:05 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 03:05 | WG2257424 |
| (S) o-Terphenyl | 42.2 | | 18.0-148 | | 04/02/2024 03:05 | WG2257424 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|----------------------|--------|-----------|----------|----------|-------------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:45 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:45 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 06:45 | WG2257954 |
| (S) p-Terphenyl-d14 | 76.1 | | 23.0-120 | | 04/02/2024 06:45 | WG2257954 |
| (S) Nitrobenzene-d5 | 62.7 | | 14.0-149 | | 04/02/2024 06:45 | WG2257954 |
| (S) 2-Fluorobiphenyl | 63.2 | | 34.0-125 | | 04/02/2024 06:45 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| Analyte | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Sodium Adsorption Ratio | 1.90 | | 1 | 04/01/2024 17:36 | WG2256734 |

Metals (ICP) by Method 6010B

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Barium | 40.0 | | 0.500 | 1 | 03/29/2024 10:19 | WG2255805 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 03/31/2024 08:12 | WG2257355 |
| (S) a,a,a-Trifluorotoluene(FID) | 89.3 | | 77.0-120 | | 03/31/2024 08:12 | WG2257355 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|---------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 15:23 | WG2257584 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 15:23 | WG2257584 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 15:23 | WG2257584 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 15:23 | WG2257584 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 15:23 | WG2257584 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 15:23 | WG2257584 |
| (S) Toluene-d8 | 111 | | 75.0-131 | | 03/31/2024 15:23 | WG2257584 |
| (S) 4-Bromofluorobenzene | 99.0 | | 67.0-138 | | 03/31/2024 15:23 | WG2257584 |
| (S) 1,2-Dichloroethane-d4 | 96.1 | | 70.0-130 | | 03/31/2024 15:23 | WG2257584 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|-------------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 03:18 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 03:18 | WG2257424 |
| (S) o-Terphenyl | 44.5 | | 18.0-148 | | 04/02/2024 03:18 | WG2257424 |

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

| Analyte | Result mg/kg | Qualifier | RDL mg/kg | Dilution | Analysis date / time | Batch |
|----------------------|--------------|-----------|-----------|----------|----------------------|---------------------------|
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 07:02 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 07:02 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 07:02 | WG2257954 |
| (S) p-Terphenyl-d14 | 73.7 | | 23.0-120 | | 04/02/2024 07:02 | WG2257954 |
| (S) Nitrobenzene-d5 | 58.8 | | 14.0-149 | | 04/02/2024 07:02 | WG2257954 |
| (S) 2-Fluorobiphenyl | 65.0 | | 34.0-125 | | 04/02/2024 07:02 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

| | Result | Qualifier | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------------------|-----------|
| Analyte | SAR | | | | |
| Sodium Adsorption Ratio | 1.72 | | 1 | 04/01/2024 17:40 | WG2256734 |

Metals (ICP) by Method 6010B

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------|--------|-----------|-------|----------|----------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| Barium | 163 | | 0.500 | 1 | 03/29/2024 10:22 | WG2255805 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------------------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| TPH (GC/FID) Low Fraction | ND | | 0.100 | 1 | 04/02/2024 15:29 | WG2258502 |
| (S) a,a,a-Trifluorotoluene(FID) | 87.6 | | 77.0-120 | | 04/02/2024 15:29 | WG2258502 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|---------------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| Benzene | ND | | 0.00100 | 1 | 03/31/2024 15:43 | WG2257584 |
| Toluene | ND | | 0.00500 | 1 | 03/31/2024 15:43 | WG2257584 |
| Ethylbenzene | ND | | 0.00250 | 1 | 03/31/2024 15:43 | WG2257584 |
| Xylenes, Total | ND | | 0.00650 | 1 | 03/31/2024 15:43 | WG2257584 |
| 1,2,4-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 15:43 | WG2257584 |
| 1,3,5-Trimethylbenzene | ND | | 0.00500 | 1 | 03/31/2024 15:43 | WG2257584 |
| (S) Toluene-d8 | 112 | | 75.0-131 | | 03/31/2024 15:43 | WG2257584 |
| (S) 4-Bromofluorobenzene | 97.8 | | 67.0-138 | | 03/31/2024 15:43 | WG2257584 |
| (S) 1,2-Dichloroethane-d4 | 91.6 | | 70.0-130 | | 03/31/2024 15:43 | WG2257584 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|-------------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| C10-C28 Diesel Range | ND | | 4.00 | 1 | 04/02/2024 03:31 | WG2257424 |
| C28-C36 Motor Oil Range | ND | | 4.00 | 1 | 04/02/2024 03:31 | WG2257424 |
| (S) o-Terphenyl | 58.3 | | 18.0-148 | | 04/02/2024 03:31 | WG2257424 |

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

| | Result | Qualifier | RDL | Dilution | Analysis date / time | Batch |
|----------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Analyte | mg/kg | | mg/kg | | | |
| 1-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 07:19 | WG2257954 |
| 2-Methylnaphthalene | ND | | 0.0200 | 1 | 04/02/2024 07:19 | WG2257954 |
| Naphthalene | ND | | 0.0200 | 1 | 04/02/2024 07:19 | WG2257954 |
| (S) p-Terphenyl-d14 | 69.9 | | 23.0-120 | | 04/02/2024 07:19 | WG2257954 |
| (S) Nitrobenzene-d5 | 60.5 | | 14.0-149 | | 04/02/2024 07:19 | WG2257954 |
| (S) 2-Fluorobiphenyl | 66.5 | | 34.0-125 | | 04/02/2024 07:19 | WG2257954 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4051607-1 03/29/24 09:05

| | MB Result | MB Qualifier | MB MDL | MB RDL |
|---------|-----------|--------------|--------|--------|
| Analyte | mg/kg | | mg/kg | mg/kg |
| Barium | U | | 0.0852 | 0.500 |

Laboratory Control Sample (LCS)

(LCS) R4051607-2 03/29/24 09:06

| | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---------|--------------|------------|----------|-------------|---------------|
| Analyte | mg/kg | mg/kg | % | % | |
| Barium | 100 | 99.0 | 99.0 | 80.0-120 | |

L1719152-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1719152-01 03/29/24 09:08 • (MS) R4051607-5 03/29/24 09:13 • (MSD) R4051607-6 03/29/24 09:14

| | 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 | % | % | | % | | | % | % |
| Barium | 99.6 | 122 | 224 | 206 | 102 | 83.8 | 1 | 75.0-125 | | | 8.40 | 20 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4051519-1 03/29/24 11:04

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---------|--------------------|--------------|-----------------|-----------------|
| Barium | U | | 0.0852 | 0.500 |

Laboratory Control Sample (LCS)

(LCS) R4051519-2 03/29/24 11:07

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---------|-----------------------|---------------------|---------------|------------------|---------------|
| Barium | 100 | 102 | 102 | 80.0-120 | |

L1719327-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1719327-05 03/29/24 11:10 • (MS) R4051519-5 03/29/24 11:19 • (MSD) R4051519-6 03/29/24 11:22

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Barium | 100 | 169 | 254 | 262 | 85.1 | 93.3 | 1 | 75.0-125 | | | 3.19 | 20 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4052108-2 03/30/24 22:10

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| TPH (GC/FID) Low Fraction | 0.0731 | ⬇ | 0.0217 | 0.100 |
| (S) a,a,a-Trifluorotoluene(FID) | 91.3 | | | 77.0-120 |

Laboratory Control Sample (LCS)

(LCS) R4052108-1 03/30/24 20:39

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|------------------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| TPH (GC/FID) Low Fraction | 5.00 | 4.59 | 91.8 | 72.0-127 | |
| (S) a,a,a-Trifluorotoluene(FID) | | | 98.1 | 77.0-120 | |

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4052968-3 04/02/24 13:58

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| TPH (GC/FID) Low Fraction | U | | 0.0217 | 0.100 |
| (S) a,a,a-Trifluorotoluene(FID) | 95.4 | | | 77.0-120 |

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

(LCS) R4052968-1 04/02/24 12:35 • (LCSD) R4052968-2 04/02/24 13:20

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|------------------------------------|-----------------------|---------------------|----------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| TPH (GC/FID) Low Fraction | 5.00 | 4.95 | 5.07 | 99.0 | 101 | 72.0-127 | | | 2.40 | 20 |
| (S) a,a,a-Trifluorotoluene(FID) | | | | 106 | 107 | 77.0-120 | | | | |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4053320-3 03/31/24 10:53

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---------------------------|--------------------|--------------|-----------------|-----------------|
| Benzene | U | | 0.000467 | 0.00100 |
| Toluene | U | | 0.00130 | 0.00500 |
| Ethylbenzene | U | | 0.000737 | 0.00250 |
| Xylenes, Total | U | | 0.000880 | 0.00650 |
| 1,2,4-Trimethylbenzene | U | | 0.00158 | 0.00500 |
| 1,3,5-Trimethylbenzene | U | | 0.00200 | 0.00500 |
| (S) Toluene-d8 | 99.7 | | | 75.0-131 |
| (S) 4-Bromofluorobenzene | 99.7 | | | 67.0-138 |
| (S) 1,2-Dichloroethane-d4 | 112 | | | 70.0-130 |

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

(LCS) R4053320-1 03/31/24 09:11 • (LCSD) R4053320-2 03/31/24 09:31

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---------------------------|-----------------------|---------------------|----------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Benzene | 0.125 | 0.134 | 0.136 | 107 | 109 | 70.0-123 | | | 1.48 | 20 |
| Toluene | 0.125 | 0.138 | 0.134 | 110 | 107 | 75.0-121 | | | 2.94 | 20 |
| Ethylbenzene | 0.125 | 0.140 | 0.142 | 112 | 114 | 74.0-126 | | | 1.42 | 20 |
| Xylenes, Total | 0.375 | 0.433 | 0.426 | 115 | 114 | 72.0-127 | | | 1.63 | 20 |
| 1,2,4-Trimethylbenzene | 0.125 | 0.133 | 0.134 | 106 | 107 | 70.0-126 | | | 0.749 | 20 |
| 1,3,5-Trimethylbenzene | 0.125 | 0.133 | 0.137 | 106 | 110 | 73.0-127 | | | 2.96 | 20 |
| (S) Toluene-d8 | | | | 102 | 103 | 75.0-131 | | | | |
| (S) 4-Bromofluorobenzene | | | | 108 | 106 | 67.0-138 | | | | |
| (S) 1,2-Dichloroethane-d4 | | | | 108 | 112 | 70.0-130 | | | | |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4053124-3 03/31/24 13:37

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---------------------------|--------------------|--------------|-----------------|-----------------|
| Benzene | U | | 0.000467 | 0.00100 |
| Toluene | U | | 0.00130 | 0.00500 |
| Ethylbenzene | U | | 0.000737 | 0.00250 |
| Xylenes, Total | U | | 0.000880 | 0.00650 |
| 1,2,4-Trimethylbenzene | U | | 0.00158 | 0.00500 |
| 1,3,5-Trimethylbenzene | U | | 0.00200 | 0.00500 |
| (S) Toluene-d8 | 103 | | | 75.0-131 |
| (S) 4-Bromofluorobenzene | 105 | | | 67.0-138 |
| (S) 1,2-Dichloroethane-d4 | 88.4 | | | 70.0-130 |

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

(LCS) R4053124-1 03/31/24 12:02 • (LCSD) R4053124-2 03/31/24 12:21

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---------------------------|-----------------------|---------------------|----------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Benzene | 0.125 | 0.125 | 0.128 | 100 | 102 | 70.0-123 | | | 2.37 | 20 |
| Toluene | 0.125 | 0.127 | 0.128 | 102 | 102 | 75.0-121 | | | 0.784 | 20 |
| Ethylbenzene | 0.125 | 0.123 | 0.125 | 98.4 | 100 | 74.0-126 | | | 1.61 | 20 |
| Xylenes, Total | 0.375 | 0.364 | 0.371 | 97.1 | 98.9 | 72.0-127 | | | 1.90 | 20 |
| 1,2,4-Trimethylbenzene | 0.125 | 0.129 | 0.131 | 103 | 105 | 70.0-126 | | | 1.54 | 20 |
| 1,3,5-Trimethylbenzene | 0.125 | 0.129 | 0.130 | 103 | 104 | 73.0-127 | | | 0.772 | 20 |
| (S) Toluene-d8 | | | | 99.9 | 100 | 75.0-131 | | | | |
| (S) 4-Bromofluorobenzene | | | | 106 | 105 | 67.0-138 | | | | |
| (S) 1,2-Dichloroethane-d4 | | | | 95.5 | 95.9 | 70.0-130 | | | | |

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R4052543-3 03/31/24 13:38

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---------------------------|--------------------|--------------|-----------------|-----------------|
| Benzene | U | | 0.000467 | 0.00100 |
| Toluene | U | | 0.00130 | 0.00500 |
| Ethylbenzene | U | | 0.000737 | 0.00250 |
| Xylenes, Total | U | | 0.000880 | 0.00650 |
| 1,2,4-Trimethylbenzene | U | | 0.00158 | 0.00500 |
| 1,3,5-Trimethylbenzene | U | | 0.00200 | 0.00500 |
| (S) Toluene-d8 | 114 | | | 75.0-131 |
| (S) 4-Bromofluorobenzene | 97.2 | | | 67.0-138 |
| (S) 1,2-Dichloroethane-d4 | 95.0 | | | 70.0-130 |

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

(LCS) R4052543-1 03/31/24 12:02 • (LCSD) R4052543-2 03/31/24 12:21

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---------------------------|-----------------------|---------------------|----------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Benzene | 0.125 | 0.124 | 0.121 | 99.2 | 96.8 | 70.0-123 | | | 2.45 | 20 |
| Toluene | 0.125 | 0.134 | 0.129 | 107 | 103 | 75.0-121 | | | 3.80 | 20 |
| Ethylbenzene | 0.125 | 0.144 | 0.132 | 115 | 106 | 74.0-126 | | | 8.70 | 20 |
| Xylenes, Total | 0.375 | 0.408 | 0.386 | 109 | 103 | 72.0-127 | | | 5.54 | 20 |
| 1,2,4-Trimethylbenzene | 0.125 | 0.112 | 0.109 | 89.6 | 87.2 | 70.0-126 | | | 2.71 | 20 |
| 1,3,5-Trimethylbenzene | 0.125 | 0.114 | 0.113 | 91.2 | 90.4 | 73.0-127 | | | 0.881 | 20 |
| (S) Toluene-d8 | | | | 110 | 109 | 75.0-131 | | | | |
| (S) 4-Bromofluorobenzene | | | | 95.9 | 93.5 | 67.0-138 | | | | |
| (S) 1,2-Dichloroethane-d4 | | | | 96.4 | 96.8 | 70.0-130 | | | | |

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R4052555-1 04/02/24 01:20

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|-------------------------|--------------------|--------------|-----------------|-----------------|
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C36 Motor Oil Range | U | | 0.274 | 4.00 |
| (S) o-Terphenyl | 43.7 | | | 18.0-148 |

Laboratory Control Sample (LCS)

(LCS) R4052555-2 04/02/24 01:33

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|----------------------|-----------------------|---------------------|---------------|------------------|---------------|
| C10-C28 Diesel Range | 50.0 | 47.5 | 95.0 | 50.0-150 | |
| (S) o-Terphenyl | | | 74.5 | 18.0-148 | |

L1719368-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1719368-05 04/02/24 04:36 • (MS) R4052555-3 04/02/24 04:50 • (MSD) R4052555-4 04/02/24 05:03

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|----------------------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| C10-C28 Diesel Range | 48.8 | ND | 43.5 | 34.3 | 89.1 | 70.6 | 1 | 50.0-150 | | J3 | 23.7 | 20 |
| (S) o-Terphenyl | | | | | 62.6 | 50.9 | | 18.0-148 | | | | |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4052659-2 04/01/24 22:26

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|----------------------|--------------------|--------------|-----------------|-----------------|
| 1-Methylnaphthalene | U | | 0.00449 | 0.0200 |
| 2-Methylnaphthalene | U | | 0.00427 | 0.0200 |
| Naphthalene | U | | 0.00408 | 0.0200 |
| (S) p-Terphenyl-d14 | 78.9 | | | 23.0-120 |
| (S) Nitrobenzene-d5 | 51.0 | | | 14.0-149 |
| (S) 2-Fluorobiphenyl | 68.5 | | | 34.0-125 |

Laboratory Control Sample (LCS)

(LCS) R4052659-1 04/01/24 22:09

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|----------------------|-----------------------|---------------------|---------------|------------------|---------------|
| 1-Methylnaphthalene | 0.0800 | 0.0738 | 92.3 | 51.0-121 | |
| 2-Methylnaphthalene | 0.0800 | 0.0724 | 90.5 | 50.0-120 | |
| Naphthalene | 0.0800 | 0.0675 | 84.4 | 50.0-120 | |
| (S) p-Terphenyl-d14 | | | 82.4 | 23.0-120 | |
| (S) Nitrobenzene-d5 | | | 72.9 | 14.0-149 | |
| (S) 2-Fluorobiphenyl | | | 76.7 | 34.0-125 | |

L1719246-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1719246-31 04/02/24 03:35 • (MS) R4052659-3 04/02/24 03:52 • (MSD) R4052659-4 04/02/24 04:10

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|----------------------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| 1-Methylnaphthalene | 0.0800 | ND | 0.0666 | 0.0657 | 83.3 | 82.1 | 1 | 10.0-142 | | | 1.36 | 28 |
| 2-Methylnaphthalene | 0.0800 | ND | 0.0642 | 0.0640 | 80.3 | 80.0 | 1 | 10.0-137 | | | 0.312 | 28 |
| Naphthalene | 0.0800 | ND | 0.0608 | 0.0606 | 76.0 | 75.8 | 1 | 10.0-135 | | | 0.329 | 27 |
| (S) p-Terphenyl-d14 | | | | | 75.9 | 75.9 | | 23.0-120 | | | | |
| (S) Nitrobenzene-d5 | | | | | 51.4 | 60.6 | | 14.0-149 | | | | |
| (S) 2-Fluorobiphenyl | | | | | 59.0 | 66.8 | | 34.0-125 | | | | |

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

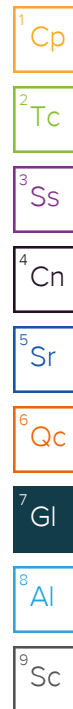
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

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

Qualifier Description

| | |
|----|--|
| B | The same analyte is found in the associated blank. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |



ACCREDITATIONS & LOCATIONS

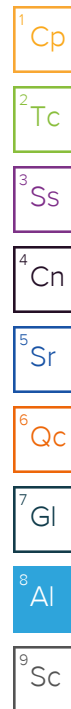
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


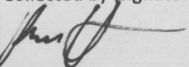
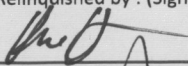
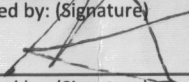
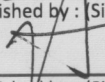
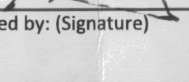
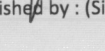
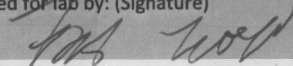
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|-------------------------------|-------------|-----------------------------|------------------|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469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

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

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

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



| | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|----------|---|-----------|--|-------|--------------------|----------------------------|--|-------------|--------|-----|------------------------|--|--|---------|---------------------|--|--|--|---|--|
| Caerus Piceance LLC 143 Diamond Avenue Parachute, CO 81635 970-285-9606 | | | | Billing Information: Same as above | | | | Pres Chk | | Analysis / Container / Preservative | | | | | | | | | | | | Chain of Custody Page ____ of ____ | |
| Report to: bmiddleton@caerusoilandgas.com | | | | Email To: bmiddleton@caerusoilandgas.com | | | | | | | | | | | | | | | | | |  12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 | |
| Project Description: N36NWB Dumpline Release | | | | City/State Collected: West Mamm Creek, CO | | | | | | | | | | | | | | | | | | | |
| Phone: Fax: | | Client Project # N36NWB | | Lab Project # N36NWB | | | | | | | | | | | | | | | | | | L # A213 | |
| Collected by (print): Ben Herrmann | | Site/Facility ID # N36NWB | | P.O. # N36NWB | | | | | | | | | | | | | | | | | | Acctnum: | |
| Collected by (signature):  | | Rush? (Lab MUST Be Notified) ____ Same Day ____ Five Day ____ Next Day ____ 5 Day (Rad Only) ____ Two Day ____ 10 Day (Rad Only) ____ Three Day | | Quote # | | | | | | | | | | | | | | | | | | Template: | |
| Immediately Packed on Ice N ____ Y ____ X | | | | Date Results Needed Standard TAT | | | | | | | | | | | | | | | | | | Prelogin: | |
| | | | | | | | | | | | | | | | | | | | | | | TSR: | |
| | | | | | | | | | | | | | | | | | | | | | | PB: | |
| | | | | | | | | | | | | | | | | | | | | | | Shipped Via: | |
| Sample ID | | Comp/Grab | Matrix * | Depth | Date | Time | Cntrs | TPH- GRO, DRO, ORO | BTEX, 1,2,4-TMB, 1,3,5-TMB | 1 & 2 - Methyl naphthalene | Naphthalene | Barium | SAR | | | | Remarks | Sample # (lab only) | | | | | |
| 20240325-N36NWB-(SBC)@10 | | Grab | SS | 10 | 3/25/2024 | 945 | 2 | X | X | X | X | X | X | | | | | -01 | | | | | |
| 20240325-N36NWB-(SBC)@13 | | Grab | SS | 13 | 3/25/2024 | 1010 | 2 | X | X | X | X | X | X | | | | | -02 | | | | | |
| 20240325-N36NWB-(SBE)@10 | | Grab | SS | 10 | 3/25/2024 | 1145 | 2 | X | X | X | X | X | X | | | | | -03 | | | | | |
| 20240325-N36NWB-(SBE)@12.5 | | Grab | SS | 13 | 3/25/2024 | 1200 | 2 | X | X | X | X | X | X | | | | | -04 | | | | | |
| 20240325-N36NWB-(SBN)@10 | | Grab | SS | 10 | 3/25/2024 | 1230 | 2 | X | X | X | X | X | X | | | | | -05 | | | | | |
| 20240325-N36NWB-(SBN)@13.5 | | Grab | SS | 12.5 | 3/25/2024 | 1245 | 2 | X | X | X | X | X | X | | | | | -06 | | | | | |
| 20240325-N36NWB-(SBW)@10 | | Grab | SS | 10 | 3/25/2024 | 1325 | 2 | X | X | X | X | X | X | | | | | -07 | | | | | |
| 20240326-N36NWB-(SBS2)@10.5 | | Grab | SS | 10.5 | 3/26/2024 | 945 | 2 | X | X | X | X | X | X | | | | | -08 | | | | | |
| 20240326-N36NWB-(SBS2)@5 | | Grab | SS | 5 | 3/26/2024 | 910 | 2 | X | X | X | X | X | X | | | | | -09 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| * Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other | | Remarks: pH ____ Temp ____ Flow ____ Other ____ | | | | | | | | | | | | | | | | | | | | | |
| Samples returned via: ____ UPS ____ FedEx ____ Courier | | Tracking # 6425 8306 8344 | | | | | | | | | | | | | | | | | | | | | |
| Relinquished by : (Signature)  | | Date: 3-26-24 | | Time: 1230 | | Received by: (Signature)  | | | | Trip Blank Received: Yes / No HCL / MeOH TBR | | | | | | | | | | | | | |
| Relinquished by : (Signature)  | | Date: 3-26-24 | | Time: 1500 | | Received by: (Signature)  | | | | Temp: °C OPAG 2.840-2.7 | | | | Bottles Received: 2 | | | | | | | | | |
| Relinquished by : (Signature)  | | Date: | | Time: | | Received for lab by: (Signature)  | | | | Date: 3-27-24 | | | | Time: 2:30 | | | | | | | | | |
| | | | | | | | | | | Hold: | | | | Condition: NCF / OK | | | | | | | | | |

[illegible]